THE BOOK WAS DRENCHED

UNIVERSAL
LIBRARY

FLOWERS AND GARDENS IN INDIA

MRS. TEMPLE-WRIGHT'S

FLOWERS AND GARDENS IN INDIA

EIGHTH EDITION

Revised and Edited

BY

W. BURNS, D.Sc. (Edin.)
Director of Agriculture, Bombay Presidency

With Special Chapters on
LAWNS AND ROSE CULTIVATION

BY

H. J. DAVIS, F.L.S., F.R.S.A., F.R.H.S
Superintendent, Government Horticultural Gardens, Lucknow

and

A HINDUSTANI VOCABULARY OF
GARDENING AND BOTANICAL TERMS

CALCUTTA
THACKER, SPINK & CO. (1933), LTD
1934

Printed by Thacker's Press & Directories, Ltd., 6, Mangoe Lane, Calcu
and Published by R. S. Carter of Thacker, Spink & Co. (1933), L
3, Esplanade, Calcutta.

PUBLISHERS' NOTE TO EIGHTH EDITION.

THIS little book on gardening has been published by us for many years, and appears to gain in popularity as time goes on. In response to many requests from the public that more space should be devoted to the cultivation of lawns and roses, we obtained, from the talented pen of Mr. H. J. Davis of Lucknow, two special chapters on these popular subjects, which we feel have greatly added to the usefulness of the book. The present edition has been edited and brought up to date by Dr. Burns, now Director of Agriculture, Bombay Presidency. We would like to pay a tribute to the manner in which this gentleman has carried out the work of revision. Without in any way interfering with the popular character of the book, which is one of its features, he has added greatly to the store of information contained in its pages.

PREFACE TO THE FOURTH EDITION.

IN preparing this fourth edition for the press, I wish to thank those whose enthusiastic reception of the preceding editions has led to the speedy necessity for a fourth.

Even in its present form—which has grown considerably since the first edition—it does not presume to be more than a manual for beginners, but the importance of a *good beginning* lies in the fact of its being the best assurance of a successful ending, so once again I have great pleasure in encouraging everyone to *begin* to garden. After that, industry, taste and imagination will open to you the gates of an earthly paradise.

R. T.-W.

MY GARDEN.

A garden is a lovesome thing, God wot,
Rose plot,
Fringed pool,
Ferned grot—
The veriest school
Of peace ; and yet the fool
Contends that God is not—
Not God ! in gardens
When the eve is cool ?
Nay, but I have a sign ;
'Tis very sure God walks in mine.

T. E. Brown.

FLOWERS AND GARDENS.

Pleasures of gardening.

"Gardening has been the inclination of kings, the choice of philosophers, the common favourite of public and private men; a pleasure of the greatest, and the care of the meanest; and indeed, an employment and a possession for which no man is too high or too low."

SIR WILLIAM TEMPLE.

A little talk about gardening.—If you were to receive a letter, the envelope of which was dirty, torn and disreputable, would you not feel disgusted? And would your disgust disappear entirely if, inside that dirty envelope, you found a letter written on dainty, scented paper?

At least, you could not get over the incongruity between the covering and its contents. In the same way, only to a much greater degree, does one feel the difference of attention bestowed on the outside and on the inside of many of the bungalows in which we live in India. Let us, then, try to make the exterior of our houses a little more in keeping with the interior, let the beauty of the garden harmonise with the dainty taste of the drawing-room.

The general excuse all over India is—

"Oh! but we may be here such a short time, so what is the use of bothering?" Yes, we are all moved about more or less, but, if on Virgil's principle—"Sow you, not for yourselves"—each of us improved the look of the ground outside our doors, and did even a little gardening, we should leave behind for our successors in one station only what they would have got ready for us in the other to which we are transferred, so, you see, we should give no more than we mean to take! Well, now that we are agreed the outside of our dwellings shall not illustrate the well-known lines—

> "I passed by his garden and saw the wild brier,
> The thorns and the thistles grow broader and higher,"

let us set to work and make a beginning. Decide how much of your ground you can afford to cultivate as a flower

garden, then you will find the love of gardening grow upon you, and you will by-and-by want to enlarge your boundary, so it will be best, at the very first, to leave a margin of ground for this after-enlargement. At the same time mark where your lawn, shrubbery, rosary, etc., are to be, and clear these places as recommended under those heads. The time to do all this is in the hot weather when little else can be done.

Laying out the ground.—We must do this in the *quickest,* the least expensive and the simplest way.

Let us see whether there is any ground to make a garden and then let us "clean up" round the house *first.* One or two coolies must be got to clear away every bit of grass and weed from ten feet of the ground round the house—uproot, scrape, or hoe it all away, and then smooth over, and level with the hand or a rammer all the surface of the ground that has been so cleared. Next cover this ground with the powdered brickbats called "*soorkee*", or, better, with gravel, if available. If you sprinkle the ground with water before and after laying the *soorkee* it will stick all the better. The next step will be the lawn.

A lawn, an absolute necessity.—The shape and size of this will depend very much on how your carriage-drive lies. Many houses have a carriage-drive, straight from the road to within a few yards of the front of the house. The road then divides and forms itself into a semi-circular loop to the right and to the left, uniting under the porch, or if there is no porch, at the front door. It is much too expensive to make a new carriage-drive, so, however it may go, we shall leave the drive alone and first attend to the circular, semi-circular, pear-shaped, oblong, or square bit of ground which it surrounds, just in front of the house. Most probably it has a high *mehndee* hedge, enclosing the mali's inevitable patch-work garden; a crowding up of innumerable little patches of plants, with pathways, nine inches wide, intersecting the arrangement with painful precision. Now, if you decide to let that eyesore remain where it is, then you need not trouble to read any more of this manual! Stay, we have already agreed to *improve* our outside surroundings, so there is no objection to taking away the mali's

patch-work garden; but, before we do this, let us see whether it is

A suitable time of year for beginning.—From June to February is the best time for gardening. But March, April and May may be occupied in many little directions mentioned further on. We will consider that you have decided to begin your garden in June. If the front of your house *has* an enclosure like that described above, it must be cleared away. *It really must!* If you leave it as it is, the effect of whatever else you may do will be entirely spoiled. The beauty of the finest picture would be greatly marred if it were badly framed and badly hung; in the same way, the beautiful effect of your flowers will be lost if you don't place them where they can look their best. So, as it is a good time of year, let us clear away the ground in front, level it, and plant it with *doob* grass, in the way described further on. See what is best amongst the plants you are clearing away, and reserve them for other places, such as

Shrubberies and side-walks.—As we are going to have a garden only on a small scale, and as I cannot in a small manual like this give you any diagram, you must decide for yourself where you are going to have your lawn (I have said a lawn is an absolute necessity!), then, on either side of your lawn, have a shrubbery for massing plants that grow from three to ten feet high. When you have decided where you will have these, then from the space you have cleared in front, transplant anything you think worth keeping. If there is a *mehndee* hedge encircling the mali's patch-work garden, this hedge must be taken up and planted somewhere at the back of your house, or in any convenient spot that is well shaded and not conspicuous, because this is where you are to have your

Work-yard enclosure.—You must have this sort of shut-in place to do all your work of seed-sowing, transplanting, and general messing. Mixing of soils is very messy work; and broken flower-pots and withered leaves, which you will find most useful, must be stowed away in this workshop enclosure or *karkhana*. If you have no *mehndee* hedge to clear away, some sort of screen, just temporarily,

will do, until you decide with what sort of hedge you will conceal your *karkhana*. Now let us go back to the space you have cleared. Stand at your front door and look at the ground spread just before you and imagine how nice it would be if you had an emerald green sward to rest your aching eyes upon—open, clear from all obstruction, so as to give you fresh sweet air to breathe. Then turn your eyes to the left and to the right and imagine beds and banks of sweet bright flowers, that "solace for humanity" as Ruskin calls them, and you will, I'm sure, be quite determined that such enjoyment *shall* be put within your own reach and that of your friends.

However large or small the immediate space just in front of your house may be, grass it over and have the carriage-drive sprinkled with red *soorkee*, or gravel. If this is to be your only lawn, then let your shrubberies lie on the outer sides of your carriage-drive, leaving eight or nine feet of space all along between the carriage-drive and shrubbery for the massing and arrangement of flowers only. So if you stand on the grassy space in front of your house, the arrangement on each side will be, red or grey carriage-drive, bordered all along with a flower-bed eight or nine feet wide, composed of flowers, and this flower border banked up with a background of shrubs and foliage plants. Even this small extent of gardening will be a "joy for ever". As you read to the end of this manual you will see what you can have in bloom from one year's end to another. Let creepers twine round the pillars or posts of your porch, if you *have* a porch, but not so as to shut out the air or the view. Let flower-pots stand along the edge of your verandah, if you have a verandah, and along the nice ten feet of clearance, that first act of yours to "clean up" the outside of your house. There are no end of pretty creepers recommended to you, but these must not be trained anywhere on to your roof, or your walls, for three reasons; first, creepers on a house provide harbour for snakes (oh, horror!); second, creepers obstrúct ventilation and harbour mosquitoes (again, horror); third, nothing makes a house look more untidy than draggled, unkept creepers. So, please, grow your pretty creepers where they will be a pleasure—not a pain.

Mali.—The expense for keeping up this small garden will vary according to the local rate of pay for such labour. In populous centres, where industrial and other concerns employ many hands, you may have to pay twenty rupees or more for a mali, and then you will probably have to train him.

If you keep a house bhistie and a grass-cutter, give the former an extra two rupees for watering your grass-plot every evening, and one rupee per month extra to the latter for cutting your grass-plot once a week with the shears you will provide for him (*see* "Garden Tools"), and keeping your carriage-drive free from weeds. Any grass-cutter will be very glad of those extra monthly eight annas for doing a few minutes' work every day. Your mali, if he looks properly after your flowers and draws the water for watering them, will not have time for the work the bhistie and grass-cutter engage to do. If you have rather a large lot of plants, dispense with the bhistie and grass-cutter at Rs. 3 and keep one of the mali's many "bhaies", a *chokra,* on Rs. 7 to help the mali all round. I do not venture to say a word about the culture of vegetables, but as I am anxious we should keep on good terms with the mali, let me advise you to allow him to grow a patch of vegetables on his own account near his hut. The produce of this little patch will realise just enough to compensate him for the disappointment he felt on being engaged to look after a flower garden pure and simple. Malis like to live well (like most persons!), so, though it is a foregone conclusion that your flowers will be stolen, and the deft fingers of the mali's wife will weave them into garlands to sell to the devotees at the nearest temple, your mali will remain a discontented man and not take the care you expect him to take of your flowers, till you give him that vegetable patch for his *very own,* then all will go well. After making this small garden, if you think you will, in addition, venture on a

Garden on a larger scale, say, a lawn a little larger than a tennis-court, or suitable to hold a garden-party, also a "rosary", or rose-walks and conservatory like what you will find described later on, the expense will then increase by engaging more men, and may be taken to stand thus:—

Mali on Rs. 20 a month; three assistants for drawing water, etc., on Rs. 7 each; total Rs. 41. I take it for granted you have a well, or more than one, so your mali's three assistants will make the water-channels to suit all the purposes of watering, and (I hope you won't mind) you will have to make three reservoirs—one in the conservatory, one near your lawn, and one near your shrubbery that borders your carriage-drive. These reservoirs must be made thoroughly *pucca*, of bricks and cement, and so will last for many years. If your landlord is made to understand how much the value of his property will be enhanced and his ground improved by all you are doing in the way of gardening, he, most probably, will defray the cost of those reservoirs himself, since they will remain his property when you vacate his house.

Preparing ground for the lawn.—Have your ground ploughed up, or thoroughly well dug up in the hot weather—May would be a good month. Let the clods lie open for a few days, to air the ground. Then have the clods broken into small pieces, and all the grass, weeds and roots picked out. Level it as perfectly as you can, raking it over and over again. This will occupy several weeks, but as your men will not have anything particular to do in the garden in the hot weather, their attention can very well be devoted to the making of the lawn, which is to be the chief feature in your garden. Indeed, if you can't make a garden, make *only a lawn*, or grass-plot, and this, with cleanly-kept *soorkee* paths and a few plants in the pots, will be sufficient to keep up the degree of harmony you intend to maintain between the outside and inside appearance of your abode. After there has been a good fall of rain, you will find your ground *settle*, and you will then be able to detect the inequalities of the surface and repair them. Rake over and remove all weeds not observed before.

Grass for your lawn should be *doob* grass, which is procurable everywhere, at all events near stables. The grass-cutters bring *doob* for the horses, and as they always beat it to free the grass from the earth round the roots, the seeds of the *doob* fall with the earth, and germinate directly the rains begin. I can't in any other way account

for the constant supply of *doob* grass to be found growing round about the stables. However, you will get it from any place most convenient. Have it dug up, roots and all, then have it chopped, *not shorter than three inches.* Bunches of it should be put together by one man and handed to another man to be chopped, bunch by bunch, into pieces *three inches long.* My reason for emphasizing the method of cutting is this—if the cutter just clutches at a heap and chops away inch by inch, more than half the grass will be destroyed, and this will account for many bare patches appearing, even where the grass has been planted quite as thickly as any other part of the lawn. When your grass is all chopped up, then mix it into a paste of these proportions—two baskets of chopped grass, one basket of earth, one basket of cow-dung, one shovelful of wood ashes. Add as much water as will form it into a consistency thick enough to admit of its being spread on your ground like paste one inch thick. Your mali will call this process *leepna.* If it is not raining, water it with a watering-can. The next day roll it with a *bailan* or

Stone-roller.—This can be had at any quarry, and the size should be such as one man can pull easily, say, two feet long and one foot thick. A roller of this size, without its iron fixings, will cost you about Rs. 12, according to the distance of the quarry from whence it may be brought. As I am giving only my own experiences and talking to you only about small gardens, you must not be surprised if I tell you that a lawn, about double the size of a tennis-court, is better if watered by the hand than if it were flooded. So, as soon as the rains are over, let your men water your lawn exactly as they water your plants, with a watering-can every evening. You can't have a lawn kept like velvet without a

Lawn-mower.—This most necessary implement has for years been a crux in lawn-making, the price being prohibitive. Lawn-mowers can be had of various prices from Rs. 25 upwards. They have to be imported from Europe and America, but they *are* available. So now no garden-lovers need sigh in vain for a lawn! Well, when you have got it, please see that the grass is cut twice or

thrice a week in the rains, and at least once a week during the rest of the year. One little bit of advice I must give you here; insist on your mali cleaning the mower when he has done with it, and bringing it to you so that you can see for yourself that it is *clean*. Keep it where it will be safe from the mali's enterprising children, who can never resist the temptation of using it for their own playful purposes. To avoid ridges in the grass, have it mown first one way, then right across the other way, and immediately the mowing is done, have the lawn *swept up*. Never omit the sweeping up if you wish your grass to have a good colour. The day after mowing, the grass should be well rolled. Paley, writing about grasses, says:—"They thrive under a treatment by which other plants are destroyed. *The more their leaves are consumed, the more their roots increase*". The last sentence I have put in italics, because I want you to remember that the more like velvet you wish your lawn to appear, the more you must

Mow, sweep, roll, water.—You may have heard of the American gentleman who was amazed at the wonderful beauty of the lawns of a certain College at Oxford, and enquired what was the secret of their treatment. "Oh, it has been cut and rolled, cut and rolled." The American, expecting to have much more difficult processes disclosed towards the attainment of such perfection, said: "Yes, and then?" The reply was—"Oh! then just go on cutting and rolling for five hundred years, and you will see the result!"

Rosaries and rose-walks.—Where you have a shrubbery, reserve some space for a rosary, for roses that are climbers and ramblers, like Maréchal Niel, Gloire de Dijon, etc. (*see* "Roses"), look their best where they are not cramped. The dwarfs, or roses that do not grow very high, look best on either side of a walk, with twelve or eighteen inches of space reserved in front for annuals, and also a six or seven-inch border for grass. Along two sides of my lawn I had roses, annuals and grass planted in this manner, with a *soorkee*-coloured walk six feet wide running between, and the result was delightfully satisfactory. I hope you will have plenty of room, so that none of your

walks should be *less* than six feet wide. They may be wider, but certainly not narrower. See that your roses get all the sunshine there is; roses that get only the morning or only the afternoon sun will not bloom perfectly. The same advice applies also to foliage shrubs and plants of bright colouring.

Treatment of roses.—For each rose-bush, have a hole dug *at least* eighteen inches deep and eighteen inches wide, fill these holes with soil composed as follows:—Two parts common earth, one part leaf-mould, one part old cow-dung (*gobur*) or sheep-dung (cow-dung is best).

Roses may be planted from 10th October to 10th November in the plains of India, and in the hill stations during the months of February and June. Over great parts of the Deccan, the break of the rains is the best time to plant. If they have travelled a long way, shield them after you have planted them from the mid-day sun only, for two or three days. When you see that they have recovered from their journey, snip off only the ends of their branches. It does not do to prune your newly-planted roses to the same extent as the roses that have been in your garden for years. Your old roses must be treated differently. In the plains change the soil from 10th October to 15th November, the earlier date for the southern parts and the later date for the northern parts of India. In the hills the transplanting is best done before the rains set in, and in the month of February mulching and manuring will give you a second crop of roses during the summer. Open out the roots, remove the old soil, and replace with fresh soil *at once*. I don't at all approve of exposing rose-roots for several days, for in my experience the results have been disastrous. I tried it in the Central Provinces and in the North-West Provinces, and lost most of my best roses in consequence.

After you have renewed the soil, and your roses have rested for three or four days, prune them well. At this season they must get water every day. In December you will find the buds begin to form, then mulch, that is, *stir up the surface of the soil* and give liquid cow-dung once a week, and continue doing this all the time they are in flower, which ought to be till the middle of March.

Through the hot months you need not do anything but water them in the evening (*see* "Flowers in the Hills").

Rose cuttings.—Of course, you want a great many rose-bushes, and you don't wish to go to much expense about them. Well, choose cuttings of the roses you like best, twelve inches long, make holes as directed above, but to the soil of each hole add a good handful of powdered charcoal and one of sand; into the middle of each hole sink *four together* of your cuttings, and see that quite six inches of them are well beneath the soil, leaving six inches above. Over these clusters of cuttings that have been planted in full sunshine, you must keep grass cones during the day only, until you see that their new leaves are all well out; then they need no further protection but to be watered. Cuttings put down in October and November, in groups of four, in the manner described, look quite decent shrubs the following year, and much time is saved by planting them in this way from the very beginning just where they are to remain. *Remember the grass cones during the day, else the cuttings will wither.* The rest of your cuttings plant in your "reserve patch". Put these down in lines, each sort in its own line, four inches apart. Climbing roses need not be so much pruned as those which do not climb (*see* "Roses").

Articles necessary for garden use.—The lawn-mower and stone-roller I have already mentioned. You will require a pair of garden shears with blades nine inches long, in wooden handles, price Rs. 4-8. All your hedges will need constant trimming, your shrubs will need clipping, and this work can't be done except with the big shears mentioned. Then another most useful kind, a pair of garden spring shears, price Re. 1-8. This you can make use of yourself, and if, as I suggested in paragraph "Mali", your grass-cutter is to cut your small grass-plot, this is the best shears he can use, and with this your grass borders must be clipped. In addition you must have a pair of pruning shears (often called sécateurs) priced about Rs. 3-8. The mali needs to be taught how to use these, and must be prevented from using them on branches too thick for this instrument. Keep them well oiled, especially the

spring. For your own use have one large and one small English watering can, price Rs. 6 to Rs. 8. For the mali's use, *see* paragraph "Kerosene Tins".

Galvanized wire netting, two inches mesh, at 3 annas per square yard, is most useful, especially in stations where white-ants abound. Galvanized wire "for horticultural purposes" is sold at 6 annas per pound, and nails of all sizes 4 annas per pound, both *absolutely necessary*. Two things your mali will ask you for are a knife and a pair of scissors for pruning purposes. I have always found it best to let him suit himself with these from the bazar.

Each of your men must have a *koorpee;* for yourself you will want a large and a small trowel and a fork, for you will see that I ask you to look after your ferns yourself. Ironmongers sell all the above-mentioned articles.

Then you will want some baskets, also twine and small wooden pegs and some chalk for marking.

The many uses of kerosene tins.—You will smile when you read this paragraph, but in the end you will allow satisfaction to take the place of amusement, for you know we are to do all our gardening in the most economical way.

Pails.—Let a blacksmith take off the tops of six or eight tins, fix a band of hoop-iron round the edge of the tins, and then fix a handle of thick iron wire similar to the English galvanized pails.

Seed boxes.—Cut some of the tins lengthwise; as a kerosene tin is about ten inches in diameter, it will give you two seed boxes five inches deep; this is only one and a half inches less in depth than the ordinary wine boxes generally used for sowing seed. Have the bottom of these tin seed boxes perforated with four holes half an inch wide to admit of drainage. These tin boxes are much less likely to harbour insects and ants than wooden boxes. Have three or four of these tin seed boxes perforated with holes a quarter of an inch square closely all over the bottom, to use as sieves for sifting your soils and your powdered *soorkee.*

Watering cans.—Cut off, diagonally, half the top of a tin, have an iron band put round the top similar to that put round the pails. At the open corner have a wire *ring*

instead of a handle, at the closed corner have the spout fixed, at the top of the tin have a wire handle (like those on the pails) placed diagonally. When your pails and cans wear out, have the iron work transferred to fresh tins. In this age we are nothing if not economical.

For putting away your different kinds of bulbs, have a few tins with lids to shut down.

Conservatory is a grand word, but by using it I don't mean to conjure up visions of expensive glass-houses, and frighten you out of the hope of having one. No, you can make a beautiful conservatory without a single pane of glass. If you are fortunate enough to have one, two, three, or half a dozen big, shady trees, such as mango, jaman, loquat, or any trees that retain their foliage all the year round, there you are already provided with the roof of your conservatory. If you have a great many trees to choose from, select a group within view of your lawn and easy of access. If I tell you about my own conservatory and how I made it, you will more easily understand how to set about making your own. Well, on the furthest side of my lawn I happened to have one mango and four loquat trees, growing just so far from each other as to form a shade on an area of ground forty by thirty feet. Along the north and south side of these trees I put up screens of bamboo trellis, seven feet high and forty feet long, secured to poles driven into the ground at distances of six feet. To the east, facing the lawn, I left the entire side, thirty feet, quite open (*Note*—Ferns like early morning sun), so that from the lawn there was a pretty view of the interior of the conservatory. The west side, too, had the same height of trellis screen with an arched doorway. This arched doorway, though it faced the west, did not let in the afternoon sun, because fifteen feet away from the doorway was another trellis, which screened off the sun all the afternoon. These enclosures were made in May, and as soon as the rains began I planted Ipomea and Quisqualis (*see* I. and Q.) along the outer side of the trellis, and very soon it was entirely covered with green. Next came the making of rockeries and ferneries. These were in different forms against and around the trunks of the

trees, all stereotyped regularity being avoided. In one corner of my conservatory, on the side nearest the well in the garden, I built a *pucca* reservoir, four and a half feet square, and three feet deep. To hide this reservoir from view, I built on the edge of two sides of it two feet of wall with a flat top. On the top I keep pots of all sorts of pretty things, which are changed in their season, and against the wall, hiding it completely, is a fernery bordered with saxifrage and *Pilea muscosa* (*see* S. and P.). In the other ferneries I have kerosene tins (which were first tarred inside and outside to preserve them from rust) sunk here and there and kept filled with water, so that the evaporation may increase the moisture for the plants. You will notice I make use of two words fernery and rockery. Of course, rocks are used in the formation of both, but as mine is an open air sort of arrangement, in the ferneries I put nothing but ferns, and in the rockeries there are palms, lilies and foliage plants of sorts, some of them in pots sunk between the rocks, so that they can easily be changed in their seasons. Hanging baskets made of wood, wire, moss, etc., hang from the branches, and to make perches for hanging things on, some stout bamboos are placed across here and there neatly tied into the forks of the trees. The pretty drooping grass (*see* "Grasses") clothes the trunks of the trees, while ivy, *Pilea muscosa*, and saxifrage creep into all vacant spaces and thrive most comfortably. All the ground in this conservatory is raised a few inches above the level of the garden, so that water should not lodge here. It is kept scrupulously free from weeds, and an occasional renewal of the *soorkee* gravel makes it bright and clean. The plants here are all watered twice a day (except when it rains), morning and evening, with watering cans. This does not take long to do, as the water is close at hand in the reservoir. In the hot months, the grounds of this conservatory, as well as the plant, are watered twice a day. Rustic stands of different kinds, with pretty boxes of ferns, canes, etc., stand everywhere, leaving plenty of room to move about. I must tell you that the palms, canes, ferns and eucharis lilies remain in this place from one year's end to another. It is only such things as crotons, coleus, caladium, etc., that are removed hence when they are at rest,

or the weather is too frosty. The rocks or stones, of which these rockeries and ferneries are formed, are chiefly large and small lumps of brick refuse from kilns and of irregular blocks of *kunkur* from quarries. The brick refuse being porous retains moisture, and *kunkur* is what ferns take to most kindly. The great knots of gnarled bark formed on trees by parasites, and called by the natives *bandha-ka-girra,* form excellent receptacles for ferns, and white-ants do not find them palatable. In the rockeries I used leaf-mould. In the ferneries, soil prepared for ferns (*see* "Ferns"). For two years the bamboo screens round this conservatory stood very well, but at the end of that time all the creepers collapsed owing to white-ants having completely destroyed the posts and all the bamboo trellis. However, at a very small expense, I built up brick pillars eighteen inches square and seven feet high, at distances of six feet; tarred poles were connected from pillar to pillar, quite on the top, and to these I nailed wire netting three feet wide (*see* "Articles for garden use"). The fallen creepers were helped up to the netting with stout twine, and in a few days the screens were better than ever. This creeper-covered screen being only seven feet high admits plenty of light and air from the top, but it keeps off all the *hot winds* of summer and the *cold winds* of winter, and experience has taught me that it is the *hot winds* more than anything else that destroy delicate things in the plains. In this open air conservatory, which has the partial shade of trees on the top and which is protected at the sides from the hot winds by that dense screen of creepers, the ferns in the trays and the ferneries remain from year's end to year's end *in all weathers* and thrive wonderfully. Indeed, I can honestly tell you that, even in their mountain habitation, they don't grow much better than they do here. The palms, canes, and foliage plants, too, all grow here happily and healthily in the brightest luxuriance, sheltered from that arch-fiend, the hot wind. Let me persuade you to make even a small conservatory on my most simple plan. The trees, of course, add much to the beauty of this arrangement, and make it appear almost like a glade in a natural forest. If you have no trees, don't despair. I too have been equally destitute, but took care of my ferns, etc., by

making a shed twenty feet square, flat on the top, with a roof of coir-matting which could be drawn aside like a photographer's curtain. This shed had creepers twining round the outer poles, and ten feet away from the shed were trellis screens such as I have already described; but these screens were placed rather zig-zag, so as to dodge the sun and give this conservatory rather a *mazy* appearance. However, the wind was kept out, and my dear plants lived very happily.

Garden soils.—One of the very first things you must do when you begin gardening is to have a big hole dug by the side of your "work-yard enclosure". Make this hole ten or twelve feet square and six feet deep; the earth, dug out of this hole, carry over and store up in one corner of your workshop. Let all the dried leaves, weeds, grass, etc., cleaned up from your compound, be always thrown into this hole, impress it clearly on the memory of your cook's mate (*see* "Baker and Cook") that the couple of kerosene-tin pails kept in your kitchen for the purpose of collecting the solid refuse of the kitchen fireplace—as the wood and charcoal ashes should be daily and regularly emptied—the refuse into the leaf-pit, the ashes into your workshop, for you will want the ashes and bits of charcoal later on.

If the knight of the kitchen is fined once or twice for leaving refuse anywhere near your kitchen, he will become oh! so smart in placing that refuse where you so particularly want it! Now you have plain earth, ashes and some leaf-mould getting ready. You want besides cow-dung (or sheep-dung), a small heap of sand, a good big heap of brickbats, and a heap of *kunkur*. This is not the place to moralize, and you may not be particularly interested in the well-being of your servants' children; but allow me to say that, as your brickbats have to be pounded up into *soorkee*, you will help those children to "earn an honest livelihood" if you set them to work and pay them a few coppers for pounding your *soorkee*. If you can possibly manage it, make a channel from the bath-rooms of your house to the leaf-pit. All the soap water utilized in this way and mixed up with your leaves and refuse will soon give you excellent

leaf-mould. If the contents of the pit can be so watered and tossed about in the damp with a pole, your leaf-mould will be ready to use in six months; if not, you must wait for the rains to rot it, which it will do in two years. But if you want to plant your garden out at once, you can buy this leaf-mould (*puth-thee-ke-kâth*) from some native gardener your mali is sure to find for you, if you make it worth his while. Always sift your soils before mixing. If your cow- and sheep-dung can be partially rotted before using, so much the better, as it ought not to be used fresh except for surface-dressing where recommended later on.

Seed sowing.—For all your seeds of annuals, use the following mixture of soil: two parts leaf-mould, one part plain earth, and one part composed of half-burnt cow-dung and powdered charcoal. Mix these four parts together, and sift again (*see* "Garden Soils"). If you are going to use the seed-boxes of kerosene tins, put a flat crock over each hole at the bottom: if you use wine cases, place two inches of crocks all over the bottom. Fill up your seed-boxes with the prepared soil to within an inch of the top, water gently to enable it to settle; draw furrows across the earth with a pointed stick and sow the seeds in these. The depth of the little furrows and their distance apart is determined by the size of the seed. Large seeds like those of sweet pea and sunflower can be sown half to one inch deep and three inches apart. In dealing with minute seeds such as phlox, petunia or torenia, it is best to mix them with twice their bulk of fine sand, and sift the mixture into furrows one-eighth inch deep and two inches apart. Cover the whole surface of the seed-box at once with another one-eighth inch of fine sand or dust. In all cases some final covering of earth, sand or dust should be given and the surface pressed down by hand. It is much the best plan to sow seeds in lines leaving vacant spaces between, because when the seeds germinate and the seedlings are big enough to be transplanted, you can stick in your fork or trowel without breaking the tender roots, as you most certainly would, were the seeds sown promiscuously all over the box. Moreover, it is easy for even the most untrained mali to recognise flower seedlings from weeds, if the former are in regular

rows. Water your seeds the day after they are sown very gently with a *fine rose* to your watering can, continue to water every evening. With the minute seeds mentioned above there is considerable danger of exposing them or washing them out by too strong a shower of water. So break the force of the falling drops by putting feathery leaves, such as gold mohur leaves, over the surface of the soil and water freely on to them.

Keep your boxes where they will get diffuse sunshine from directly overhead all day. One-sided illumination causes seedlings to lean to one side. Too little light makes seedlings weak and leggy. The light shade found under a gold mohur or other feathery-leaved tree is ideal. If it rains, as it sometimes does even at the end of October, bring your boxes into the verandahs, or protect carefully with shelters of matting while the rain lasts, else your seeds will be all washed away! As your seedlings grow bigger, give a little more sunshine. When they are transplanted into pots and into the ground where they are to remain, protect them from the sun for a day or two by sticking in the ground large feathery leaves to cover them partially, and when fully established, let them have all the sunlight possible. You can save seeds of some things, and you can get acclimatised seeds from your nearest public gardens. Most large towns have now one or more dependable seedsmen, and Sutton and Sons have a branch in Park Street, Calcutta.

Flower-pots.—When you have read through this little manual and noted what you wish to have growing in pots, you will be able to form an idea of how many pots you will be likely to require and the different sizes. One thing you must remember, *the potter can't make pots during the rains, so you must lay in your stock beforehand.* You will want them from five to twelve inches in diameter; the five-inch pots are very nice for small ferns and single specimens of annuals, such as pansies, asters, etc.; eight-inch pots are suitable for oxalis, balsams, etc.; ten- and twelve-inch pots for lilies, palms, cannas, etc., and such things as you wish to bring inside your rooms. Such shrubs as roses should not have pots less than eighteen inches in diameter. When lilies and caladiums, etc., are taken out of pots, keep

the empty pots carefully piled upside down at one side of your work-yard. Always wash an old pot before using again. It will save trouble to order your potter to make holes for drainage at the bottom, when he is moulding the pots; if not, a good many of the pots will be cracked when the mali comes to drill the holes. According to the size of your pots, you must fill the bottom with crocks from one to three inches before you fill up with soil, to prevent the earth from being water-logged. *Hirmajee* is the native name of the red earth that gives the pots such a bright rich colour. If you don't mind the expense, a little kerosene oil mixed with the earth is better than water, because when the pots are painted with it, grubs and ants are less likely to creep up. The smell is objectionable, but it soon passes off. A few saucer-like gumlas, *pir-ritch,* for standing lilies, etc., in water, must be procured, also some with holes in the bottom for planting your violets, achimenes, etc.

Gardening books.—These are without number, all valuable for the different kinds of information given to different kinds of gardeners, and when you and I, who are only *beginners* in the art, have mastered the rudiments and want to increase our knowledge, we must get some of these delightful books. Firminger for India generally; Macmillan for Ceylon and South India. There are, on the whole, few recent books dealing satisfactorily with Indian gardening. A welcome addition to these is "Cultivation of Bulbous Plants in India" by K. S. Gopalaswamienger (Madras: The Huxley Press). Watch the columns of your daily paper for gardening articles. The "Times of India" has had a useful series by an author who signs himself "Mali". We can glean many ideas from gardening books published in Europe or America. Such are the books of "The Present-day Gardening Series", published by T. C. & E. Jack, London. Cuthbertson's "Sweet Peas and Antirrhinums" and "Pansies, Violas, and Violets" are useful. We must remember, however, that these books are written for another country and use our local knowledge and our common sense in adapting the methods and plants described. "Ferns and Fern Culture", by J. Birkenhead, revised by J. Parsons, is a good book of its kind. Beddome's "Ferns" deals with Indian species, so does Blatter and

Almeida's "The Ferns of Bombay". Firminger's "Indian Gardening", now in its seventh edition, deals not only with Flowers, but also Fruits and Vegetables. Another excellent little book is Gollan's "Indian Vegetable Garden", which includes a chapter on Flowering annuals. Thacker, Spink & Co., Calcutta, can supply all the above-mentioned books.

Then another little book you must not go without is *your own note-book!* When you go into the garden in the morning, take this little book with you as a matter of course, as you would take your gloves or your sun hat! Opposite the date, pencil all you do, and leave a margin for additional remarks as you gain experience. You should enter what plants are bought and at what time, etc.

> The mali trembles when he sees
> You making notes about your trees;
> And should your note-book disappear,
> He'll steal your plants without a fear!

All I have told in this little book is gathered from notes made in my garden for seventeen years.

Garden stands of different kinds can be very easily made under your own direction; those of gnarled wood are most rustic and suitable. Buy, in the first instance, one or two cart-loads of firewood, just as it is brought in from the jungles: I mean, before the firewood vendors cut it up into billets. In any carpenter's workshop you are sure to find some "'prentice" boys; hire a smart lad on 5 or 6 annas a day, and set him to work at your "*thi-paics*", the one word by which they express *stands* of sorts. With soft wire, make *small* models of the sort of stands you want, and then set the lad to work to cut and nail the pieces of crooked wood together. Let us imagine a skeleton table without a top—four legs three feet high, held into a square shape with transverse bars at the top and at the bottom, the length of the bottom bars two feet, and of the top bars one foot, this will form a skeleton table, broad at the base and narrow at the top. Diagonally across the four *sides* of this table, let the boy-carpenter nail a rough, irregular lattice work of the thinnest and most crooked pieces of your firewood, and there you have a delightful rustic stand! Let him go on and make others in the same

way, varying the shapes sometimes by producing *three*-legged, triangular stands, and *six*-legged round stands, and so on, your own ingenuity furnishing other wire models for his guidance.

But you have not done with your carpenter-boy yet! The wooden cases in which your kerosene tins come can be cut up into

Trays, hanging baskets, etc.—All odds and ends of deal-boxes, too, can be utilized for this purpose. Let the boy saw them into strips half an inch wide, and cut these strips into lengths of six, ten, or twelve inches. He will do several hundreds in a day, and you will not have too many. All these pieces ought to have a hole bored through them within an inch of each end. The six-inch pieces to be strung with wire for hanging baskets, and the ten and twelve-inch ones to be strung in the same way for the trays, and formed into six, eight, or ten-cornered receptacles, according to your requirements. These nests or receptacles need not to be more than five or six strips deep, and your tinman must fit them with tin bottoms, and see that the pieces cut for these bottoms are large enough to have half an inch turned up all round. The horticultural wire should be laced underneath the tin so as to support the weight of soil, *kunkur*, etc., which are to be put into it. The boy may cut boards to fit the bottom of the nests if you prefer it, and the tin lining may rest on these boards instead of on the wire lacing. I prefer the wire lacing, as the boards are apt to swell and warp.

The pieces of wire used for stringing the strips together should be twisted off into a loop; you will fix your suspending wires into these loops when you come to hang up your baskets.

Each kerosene tin has a ring of strong iron wire by which it is lifted. Tell your tinman to bend these into hooks in the form of an open **S**, for you will find them most useful for all the nests, baskets, and pots you wish to suspend with wire.

Pillar stands, roughly made of bricks, I find very useful and convenient. Place three bricks flat on the ground, letting the corners touch each other, so as to leave

a triangular space in the middle; place three more bricks on the first three, letting each brick *lie across the corners of the lower ones.* Pile them in this three-cornered style till you have a pillar from twenty-four to thirty inches high. The outside will present a honeycomb appearance, and in the little triangular cells you can plant small ferns, like maidenhair. The centre of the pillar fill up with earth, and on the top place a tray or pot of ferns, etc. These pillars keep damp a long time, and are really very nice for conservatories. If not required after a certain time, they can easily be removed.

Tradescantia ("Wandering Jew") trained up these pillars will take root and clothe them very prettily; of course, you can make these pillars of a larger circumference than three bricks, but you will find an odd number, 5, 7, and so on, gives a prettier appearance than if made with an even number.

Insecticides.—There are two main classes of insect pests, those that bite and those that suck. To the biting class belong caterpillars, grasshoppers and beetles. To the sucking class belong bugs, scale insects, and greenfly (aphis). To combat these two classes, there are therefore two kinds of remedies. Against the biting class are used "stomach poisons". These are sprayed or dusted on the plant, and the insect eats the poison along with the leaf and so dies. Against sucking insects, one uses a "contact poison" which acts directly on the insect itself.

Stomach poisons often contain arsenic and hence should not be used on things like vegetables that are to be eaten by human beings or on fodder plants for animals.

Lead chromate has been recommended as a substitute for arsenical poisons, and as being equally effective and less dangerous. It is used in a strength of one pound to 30 gallons of water. It is sold as a paste. The best all round contact poison is fish-oil-resin soap costing about 6 annas a pound. Use ½ lb. to 4 gallons of water.

Fungicides.—Against mildews on grapes, roses, etc., dusting with sulphur powder (very finely powdered) is the

best remedy. To apply this fine powder one can now buy "dust guns", at Rs. 40 or above.

Other fungicides contain copper in some form. The old remedy "Bordeaux mixture" is made by mixing 5 lbs. each of lime and copper sulphate in 50 gallons of water. The lime has first to be slaked, then mixed slowly with water in a wooden vessel. The copper sulphate is dissolved in water in another wooden vessel, and the two solutions mixed in a wooden barrel and well stirred. Soft soap or lime caseinate may be added to cause the spray to stick in wet weather. Some kind of spray pump is needed. Foot pumps for use with buckets can be got from Rs. 18 upwards, knapsack sprayers from Rs. 40 and pressure sprayers from Rs. 30.

We shall now proceed to consider our plants in alphabetical order.

Acalyphas are handsome foliage shrubs, suitable for shrubberies and for pots in verandahs; the cultivation of them gives no trouble. The rainy season is the time that these plants are in their glory. Begin with two kinds, *Acalypha Wilkesiana tricolor* and *Acalypha obovata*. Get cuttings a foot long, and plant them first in the shade, and when you see new leaves have sprouted, take them up and plant them where they are to remain. In the winter those in the ground will shed their leaves, and should then be pruned to within two or three feet of their base. Those in pots, if kept in verandahs, will not shed their leaves but change colour somewhat; prune these just before the rains begin. When the monsoon has well set in, put out those in pots to get as much rain as they can. At this time all your acalyphas will send out new shoots vigorously, and the beauty of their rich, glowing shades of red and brown will reward you well for the little trouble you have taken with them. Tubs of them, in porches where they can be seen against the sunlight, make a gorgeous show. Watering *over* the leaves suits them best.

Acalypha hispida is a plant with long brilliant red tassels of small closely-packed flowers, and is well worth cultivation as a pot plant.

Achimenes are small plants with exquisitely beautiful flowers, and must be grown in hanging baskets, in trays supported on stands, or in pots kept on good thick bricks. Send to the nearest Government gardens for two kinds to start with: *Achimene longiflora major,* a pale, mauve satin-like flower; and *Ambrose Verschaffelt,* flowers French grey. They are small tubers and are sold at a few annas per dozen. They increase three-fold each year, so a few dozens to start with will be sufficient. They do not require any *depth* of soil. Use the soil recommended for *seed-sowing,* adding a little more sand. Use the flat pots called *pir-ritch,* spread first a layer of dry grass, then a few small crocks, next fill up with soil—water the soil—make five holes with your finger about half an inch in depth, put one tuber in each, cover over each hole lightly, keep these saucer-pots on the edge of your verandahs where they will get plenty of light and air; *direct sun and rain spoil them.* For hanging up, here is a good way. Cut a square foot of your wire netting. spread it with moss, putting the pile or surface side of the moss next the wire, then a layer of coir or dried hay, spread over an inch of soil, sprinkle with water, plant five or six tubers, cover over with soil, make a ball by rolling up three or four crocks with moss, put this ball on the centre, then gently gather up the four corners of the wire netting and compress the whole into a round mass; suspend by wire and keep as moist as possible. When the flowers all die down, as they do when the rains are over, hang up these balls in a shed, or to a rafter in a godown. Next May—about the end—bring them out and sprinkle slightly with water, you will find shoots thrusting themselves out in all directions, and when the rain has fairly set in, these will form lovely globes of blossom. If you want to use the pots and saucers again, in which your achimenes are, stop watering when they die down, and when the soil is all but dry, turn out and carefully pick up the tubers, putting them away in dry sand till next May. Those in the round wire baskets are best left alone for two or three years, or till you think the moss wants renewing.

Agave.—Agaves are often called aloes, which is wrong. There are several species in India mostly used as hedges along railway lines, but one or two kinds, having

yellow stripes on their succulent green leaves, are really decorative. In poor shallow soil an agave here and there may help to relieve the monotony of the place. Agaves are grown from bulbils or suckers which can be got from any old plant. The bulbils grow on the "pole" or flowering stem, the suckers come from the roots. *Agave americana* is the species that usually shows the yellow striping of the leaves. *Fourcroya gigantea* is a big agave-like plant, also very decorative, and having a variety with striped leaves.

Alternanthera amabilis is the pretty variegated green and red and brown leaf edging so necessary for borders to flower-beds which you wish to have well defined and kept trim and tidy. It grows very quickly; you can probably get it for the asking from friends' gardens, or buy a few basketfuls from the nearest public garden. Plant at the beginning of the rains as follows:—Cut it all up into pieces four or five inches long, and plant these pieces three together, in a line, leaving a space of two inches between the groups. This is the most economical arrangement, but, if you have plenty and to spare, you may plant two or three lines of it for each border, for the thicker it is the better. In the rains, when it grows very fast, keep it trimmed with your grass shears, planting all you clip off in a corner of your reserve plot, to draw upon for future need. In the hot weather, if it looks shabby, watering will set it all right again.

Amaranthus.—There are different kinds of these charming foliage plants. Get seeds of *Amaranthus tricolor* and *Amaranthus salicifolius;* sow sparsely on leaf-mould; take up the plants carefully when two or three inches high, and then plant out in bright sunshine. After the rains begin is the best time. They are pretty in clumps with a border of balsams, or by themselves; some should be put singly into ten-inch pots. These two kinds droop away in the very cold weather, but there is another kind, *Amaranthus melancholicus ruber,* which lasts all the year round. It grows from both seed and cuttings; cuttings are best, as they take very readily. Put ten or twelve cuttings into boxes in the rains, and keep these boxes on stands, as the branches droop over very prettily. At the end of the rains bring

these stands into the verandahs where they will get the morning sun, or keep them under the trees in your conservatory. In December and January the plume-like sprays of flower come out and are very useful for decorations (*see* "Hints"). Increase by plentiful cuttings put down anywhere where they will be sheltered from frost. Amaranthus means *immortality,* and is devoted to St. Cajetan, 1547 A.D. (7th August).

Aristolochia is a climbing shrub recommended for many reasons: its flowers are extremely curious, it grows easily from layers, is of rapid growth, has foliage thick and evergreen, is very well adapted for twining round poles in conservatories or round pillars of porches, and its leaves, which are something like kidney-shaped ivy leaves, keep fresh for a long time after they are plucked, and are therefore most useful in foliage decorations. There are many kinds of *Aristolochia:* to begin with, ask for those with thickest foliage; plant in the rains. The flowers have at one period of their development a rather unpleasant odour, but this does not last long, and does not carry very far.

Arundo donax.—A tall, striped white and green grass, very effective if grown here and there in clumps of foliage plants in shrubberies, in rockeries with *Canna* and *Acalypha.* Get roots of it in the rains, and plant where it will get plenty of sunshine, but not where it will be subject to the force of the hot winds, which it does not like. It is very hardy when it once establishes itself, and grows all the better for being thinned of the side shoots, which you may detach and plant elsewhere. If any of these handsome grasses should appear to be fading away, water freely; if that does not revive it, leave it alone, you will find new plants sprouting in the rains the following season. Its flowering spikes should be preserved for decorations.

Arundo donax versicolor is a dwarf kind of the same grass. Grow it in borders in your open-air conservatories, and in small pots to use in trays and for indoor decoration. Increase by removing the suckers during the rains. If your part of India is frosty, these pretty grasses will die down in winter; then you must cover up the pots

with dry grass and leaves; when the rains begin they will all sprout again (*see* "Hints").

Asters have much to recommend them. They are easy of culture, make a lovely show, and the blooms, whether left on the plants or cut for decoration, last twice as long as other ordinary flowers. Sutton's varieties are splendid. Send for any or all of the following: Meteor, Comet, Victoria, Giant French, Queen of the Market (mixed colours). Sow in October in boxes, dropping seed by seed in lines. When four leaves have developed, plant singly in six-inch pots, keep in shade for four or five days, then place the pots in open sunshine. Water at the root; save the seed.

Balsams.—No garden should be without these most showy plants. If your garden is not very large, half an ounce of seed will be sufficient for you to start with. Get *best double mixed* varieties.

Sow at the break of the rains. Balsams want a lot of space. When sowing, drop each seed separately so that the seedlings may not crowd too closely. As soon as four leaves have developed on each plant, take them up and plant them in borders eight inches to one foot apart, or singly in pots, taking care to sink them up to the lower leaves. Put a good many in pots, as they make a delightful show indoors and in verandahs. If the plants throw out *side branches*, snip them off carefully, so that all the flowers should be borne on the centre stem only, to form quite a torch of bloom. Heavy rain spoils the flowers, so bring the pots under shelter if rain is continuous. Save the seed for the following year. Balsam means *impatience*, and is devoted to St. Lawrence, Martyr, 258 (10th August).

Bamboos are magnificently graceful! In a garden such as you and I are undertaking very few will be wanted. One or two here and there in the bare parts of your compound are greatly to be desired. Nothing can exceed the grace of the common bamboo—the vigorous kind—procurable everywhere.

There are many species of bamboo, and one of the prettiest from the gardening point of view is the yellow variety striped with green. There is a delightful irregularity about

the striping. These plants are propagated by cuttings. A part of an existing "stool" or clump, with young shoots appearing, if cut off and transplanted, gives a satisfactory plant. Bamboos like plenty of soil moisture. As they usually grow to a considerable height and spread themselves abroad by their numerous stems, it is desirable to have them at some distance from the bungalow. The creaking of the stems against one another at night is also an argument against planting them close to the dwelling.

There is a dwarf kind which you may grow in the centre of small grass-plots. Write to your nearest public garden for some *Bambusa nana*, they will increase largely each year, and you can multiply them by dividing the roots in the rains.

Mix a little sand with the ordinary garden soil and give your bamboos plenty of room to expand. When first planted water plentifully, after that only occasionally in the hot weather. Always cut away those stems that are fully developed and show scant leaves; the fuller greener shoots will grow all the better. In a small garden the single bamboos grown on grass-plots need not be allowed to grow higher than ten or twelve feet. Those at a distance in your compound may grow as tall as they like; but if you want it to add to the beauty of the view, you must cut away the old stems and prevent them spreading into a jungle. Plant and transplant in the rains. If large full-grown bamboos are to be transplanted, see that you dig well down, so as to take up with it plenty of the soil in which the roots are embedded.

Bauhinia—Kuchnar.—This is more a tree than a shrub, but it is a lovely thing to have here and there in your compound, for, when in bloom in the hot months, its elegant azalea-like flowers will provide you with abundant decorations (*see* "Hints"). It can be propagated easily by seed sown at the beginning of the rains. Decide where they would look best, then have holes dug about three feet deep, fill them with good earth and twenty pounds of cow manure, and in the middle of these place four or five seeds. Protect the holes with some brambles or babul to prevent cattle going over them. The plants should be watered occasionally

during their first hot season, and may then be left to themselves. Leave only one strong plant in each hole. *B. variegata* bears lovely blossoms of a peach-like mauve, blended with purple: *B. candida* has white flowers which are exquisite! I would like to see in every station an entire avenue of these trees as at Bareilly, and when in bloom, I can imagine nothing more beautiful or more fragrant. There are several other species of Bauhinia, most of them decorative.

Beaumontia grandiflora.—I am sorry I can't give you any but the Latin name for this noble climber. You may have seen its grand branches of white lily-like flowers, and have naturally wished to have some for yourself. It can be grown from cuttings or seeds put down in the rains, and later on; but a better plan will be for you to buy a plant from the nearest Government garden, and when it is well established, make cuttings yourself. On an archway of brick, stone, or very strong poles to mark entrance from one part of the garden to another, this magnificent climber is a sight worth taking some trouble about. It needs poles or ropes to which to attach its tendrils and can be trained to the top of a three-storey building.

Begonia.—Do not confuse this plant with the next one (Bignonia). Begonias are pot plants, well known to all garden lovers. Propagate them in the rains from cuttings, and grow the rooted cuttings in light well drained soil, containing leaf-mould and sand (or fine gravel). Choose your varieties after you have seen what they look like in a friend's garden, or nurseryman's collection. They are admirable for verandah steps, or lightly shaded places.

Bignonia.—Beautiful, flowering creepers, blooming chiefly in the hot weather, or, more properly speaking, from February onwards. *Bignonia gracilis,* with pale lemon-coloured flowers, comes into bloom at the end of the rains in some places, Shahjehanpur for instance. This climber can be trained up bare stone walls, which it ascends without support, as each leaf has three hooked tendrils. Hence its other Latin name, *Bignonia unguis-cati* ("cat's-claw"). *B. incarnata* has flowers shaded lilac and purple; *B. venusta,* most brilliant orange. These are all easily propagated by

cuttings or layers in the rains and cold weather. *B. incarnata* and *B. venusta* are very vigorous and want strong support. I don't approve of verandahs being blocked up with creepers, and though I admit that a thatched roof covered with *Bignonia venusta* is a really glorious sight, I prefer to train it on screens to hide the view of servants' houses, on an ugly bit of outhouse wall, on old, almost leafless trees, etc. The flowering season of Bignonias is short, but their foliage lasts all the year.

Bombax malabaricus is a large indigenous tree, generally found somewhere in the compound of most houses, and known as the "silk cotton tree". If you have any, leave them where they are, as they don't bear transplanting, and flowers don't clash with other colours, as the raw magenta of the Bougainvillea does. The colour of the flowers is normally a deep velvety red, but there is a tawny variety as well. If your compound will admit of it, plant some seeds of this in June, in the way recommended for *Kuchnar;* but let me advise you to plant this beautiful flowering tree in one or two large clumps, the holes for the seeds being dug fifteen feet apart. If the trees thrive, you can later thin them out to thirty feet apart. The flowers which appear in the hot weather are very effective for decorations (*see* "Hints"). I hope you won't be impatient at my advising you to plant things you might not reap the benefit of yourself, but remember our generous motto—"*Sic vos non vobis*"—"Sow you, not for yourselves".

Bougainvillea, introduced into Europe by De Bougainville, the French navigator, will be found in almost every garden laid out by a mali. If you have got it, don't keep it in your front garden, for its magenta-coloured bloom kills by contrast the effect of all the other flowers in your garden. Transplant it at the end of January to some distance from your house near your outer gate or to hide servants' quarters, where, "alone in its glory", it will brighten up its surroundings. You must see this done yourself, for it is dear to the eyes of the mali, who will not banish it willingly, an unwillingness we must not be surprised at, for in an old French book on the subject of

flowers—on which Messrs. Saunders and Otley founded their charming "Language of Flowers" (and which I had advised you to read)—there is a story told of how "De Bougainville's South Sea Islander, on being taken to the Botanic gardens in Paris, knelt before this Otaheitan shrub, and kissed it as fondly as he would have kissed the lips of a beloved mistress".

There is a very considerable blue element in the colour of the Bougainvillea flowers. If you look at it through chlorophyll-green glasses, such as one uses to protect the eyes from the ultra-violet rays of the sun, the flower appears red.

A variety is known and occasionally cultivated in India which has the red without the blue tinge. The usual plant (*with* the blue) is *Bogainvillea spectabilis*. The red plant is a variety of this called *B. lateritia*. A ruby-red-flowered variety called "Mrs. Butt", is now available, and can be grown as a climber or pruned to form a shrub.

Box (Sumatra Box) (*Murraya exotica* and *sumatrana*), native name is *Kàminee*. Most desirable shrubs to have in your garden, both for their fragrant bridal-looking flowers and their dark shining foliage. Get cuttings in the rains, and put them in your shrubberies or in the centre of small beds cut out in grass-plots. As Sumatra Box is an evergreen, you may plant round it the following:—hot weather: amaryllis; rains: coleus, balsams, etc.; cold weather: coreopsis bordered with white candy-tuft, or marguerites bordered with dark-coloured nasturtiums. As your shrubs grow big and strong, prune the lower stems in the rains, and plant the prunings in your reserve plot for future use. You can't have *too* much of it.

Cacti.—The only cactus known to most people is the prickly-pear, and cacti are accordingly unpopular. There are, however, many interesting and grotesque forms easily grown as pot plants, and worth consideration especially by people living in arid regions. There are also climbing cacti such as some of the genus *Cereus* with lovely flowers that come out only at night. Cacti need a fairly rich, but *very*

well drained soil, and only moderate watering. The soil should have in it a third of its bulk of broken brickbats to ensure this drainage.

Caladiums are handsome foliage plants you know very well, and which are grown from bulbs. To begin with, write in the hot weather for some of the inexpensive kinds. They will make a fine show in the rains, and when you have learned how to treat them properly, you can venture on other varieties. I don't know why caladium bulbs should be dear, when they are very easily grown and increase and multiply tremendously. In gardener's phraseology caladiums begin to "*move*" in the hot weather. Put your smaller bulbs into 10-inch pots and the larger ones in 12-inch pots *in May, but don't water them.* If you do, they will outgrow their strength and look limp and "leggy" just when they ought to look their best. When the rains begin, they will get on splendidly and you can then water them freely. Plant them in the soil recommended for seed-sowing, adding a little powdered charcoal, and when you see they have put out some leaves fully, you must begin to give them liquid cow-dung (water in which cow-dung, two pounds to the gallon, has been kept for three days), once a week, or every ten days. When you plant the bulbs in May, keep the pots in verandahs, or under a shady hedge where they can be protected from the sun and hot winds. Once they have started, arrange the pots where you will probably allow them to remain, because they like to settle themselves *towards the light,* and the light side of their position will be the *showy side* of the caladiums. Sink some pots in your rockeries, for your stands use the trays mentioned in paragraph "Trays". These should be kept in your conservatory in places where they will get plenty of light from the *top*. In this way they will make an *all-round show,* different from the one-sided show their humbler brothers in low pots will make. Caladiums grown high grow better than those grown low. Those you will want for your fireplace should be grown in boxes; you will find wine or kerosene cases filled with bulbs of different kinds the best for this purpose. One dozen bulbs to a case will be sufficient for a grand display. As the rains cease, caladiums begin to droop: water them at this time only

occasionally and stop watering altogether when there are no leaves standing upright. If you require the pots for your chrysanthemums (which will want re-potting at this time), turn out your caladiums from the pots, but leave them as they are in their own soil for a day or two, to dry a bit. Then pick out the bulbs, and keep them in kerosene tins with plenty of dry sand or earth between the layers of bulbs. Keep the different kinds separately, so that you may know which is which the following May. If you can afford to let the caladiums remain in their pots, leave them standing in the sun for a month; then pile them one on top of the other in some safe place in your verandahs or godown, but beware of white-ants and rats! Beware also of the thieving malis who have spotted your best ones, and will quietly abstract the bulbs and tell you they rotted away. But, strange to say, the rotted away caladiums will bloom the following year in the verandahs of some other house.

Camphire (Mehndee) is one of the commonest yet most delightful of Indian shrubs. In that pearl of passion, the Song of Solomon (I., 14), occurs the passage—"My beloved is unto me as a cluster of camphire in the vineyards of Engedi". In the original of this Song, written about 1,000 years B. C., the word translated "camphire" is *copherius*, the Egyptian equivalent of which is *hennah*, called in India *mehndee*. In a most interesting lecture on "Camphire and Camphor", by J. C. Sawyer, F.L.S., in the *Scientific American* of 30th April, 1892, you will find all sorts of information about these two things; but I shall here quote just a little about camphire only. This camphire, or *hennah*, is Pliny's "Cypress of Egypt", and the women of Egypt and other Eastern countries stain not only the palms of their hands and the soles of their feet with a paste of *hennah* leaves, but also the tips of the fingers, the nails and the knuckles from which custom probably arises the designation of Aurora as "rosy" or "rosy-fingered". The word "cluster" found in the text refers to the flowers of this plant which are of a golden yellow, are borne in clusters and are remarkably fragrant. It is known to the Arabs as *hennealhennah*, has been cultivated from the earliest times, and is common throughout India, Kabul and Persia

as well as along the coast of the Mediterranean. Botanically it is known to us as the *Lawsonia inermis* of Linnæus (it was also called *Lawsonia alba* by Lamarck). It has been introduced in the West Indies, and is there known by the amazingly commonplace name of "Jamaica mignonette".

Yes, the common *mehndee* of India is a shrub you ought to treasure. Nothing grows so fast in the way of hedging. Nothing scents your garden so sweetly and delicately as its clustering blossoms, the pretty form and colour of which are something between myrtle blossoms and mignonette. Myrtle takes a long time to grow, and mignonette lasts only a few months, but the camphire of Solomon is with you always. As soon as the rains begin to fall, put down cuttings 18-inch long in ordinary soil; it will take root and grow at once. When wanted for a fence, put down three or four rows of the cuttings in a foot-wide furrow, and let it grow to a height of four feet. The top should be cut very evenly several times during the rains with your big garden shears and clipped along the sides so as to make the hedge from the top to bottom of one uniform width. Let me impress upon you the importance of keeping your hedges well and neatly trimmed, for, however nice your lawn and beds may be kept, an untidy hedge will spoil the effect in the same way as a battered and broken frame would detract from the look of a picture. And remember, a hedge must be kept well filled up with branches and leaves near the ground. It is not uncommon to see a hedge, spreading and leafy on top, scraggy and leafless at its base. The secret is to cut back early and to keep on cutting back.

Besides your *mehndee* in the hedge, let me advise a number of clumps of it to be grown as flowering shrubs; you will want all the flowers. The hedge being constantly clipped will not be able to put forth its blooms; but those on the clumps should be allowed to grow to its utmost height, and need only to be slightly trimmed so as to keep it in rather an oval form. Oh! this *mehndee* is a most lovely thing, and I am much surprised that its beauty is not more appreciated (*see* "Hints").

Candy-tuft.—A profusely flowering low-growing annual. It is, by itself, rather uninspiring, but good wide

borders of the white kind, next to other *bright* coloured annuals, look effective, especially if you will keep a perfect outline by pinning in stray stems with long pins made like huge hairpins out of your "horticultural" wire. Small diamond-shaped beds of white candy-tuft, with a centre and a narrow border of dark red phlox, are extremely pretty. It is, on the whole, to be regarded as a filler-up of spaces between more decorative plants. Decide where you will keep it, because (as it won't bear transplanting) you must sow it where it is to remain. Put some in 5- and 8-inch pots as you will find it a great addition to any mass of pretty flowers you may wish to put together for indoor temporary decoration. Sow in June and October in the soil recommended for annuals. I don't advise purple candy-tuft, as you will have plenty of other purple and mauve in your small garden.

Canes are well worth cultivating, for their graceful shining foliage makes them exceedingly ornamental for both outdoor and indoor purposes. If you are staying not far from swampy places where canes abound, you can easily procure clumps of them; if not, they do not cost much to buy at Government gardens; and if you treat them properly, they increase and multiply very satisfactorily. Procure them when the rains have set in. With me they have always thriven splendidly in the following soil:—One part ordinary earth, one part leaf-mould, one part sand, one part pounded *kunkur*. *Pray, don't give them any manure.* They will like living in your rockeries, especially if these are placed against trees, as described in "Conservatories": for then they will grow up right into the trees. Have as many as you can in 12-inch pots, planted singly, for indoor decoration, and keep these pots in any part of your conservatory where they will get plenty of light, but no sun directly on them. They don't like sun, and the beautiful *gloss* which is natural to them is lost in sunlight. Water at the root, and also all over. In the hot weather give them water twice a day if you can. In the winter, shelter them from frost. The year after they are planted you may increase them if you see new shoots all round the pot. As they are frightfully thorny, the best way to set about this is to fold sacking or a *kummul* (horse blanket) round the cane, and

tie loosely so as not to bruise the leaves. Dig round the roots, and cut away with a sharp knife those side shoots which you see have thrown out roots for themselves. Don't do this at any time but in the rains, and *at once* plant those you have separated. If you see any of the tall old stems turning yellow, cut them away: the new ones will grow all the better for it. Though canes like swampy places in the jungles, don't attempt to stand your pot canes in water: they will all become yellow-spotted and rot away if you do. Change your drawing-room canes every day, and don't keep them shut up at night (*see* "Palms"). During the monsoon keep them where they will get as much rain as possible, as this is their growing time.

Canna you may have known under the name of "shot-lily", a name ugly in itself and not particularly appropriate. No large foliage plant grows more easily than canna. There is scarcely a garden where you don't find the common kind, *Canna indica,* with broad green leaves and bright red and yellow flowers. Plant some of this by your well, where it will grow in wanton wildness, and provide you with endless material for indoor decoration. There are now available cannas of all colours, some of them weird, some gorgeous, and all desirable. Your best plan in adding to your own collection is to choose your favourites from gardens in bloom, and then beg, buy, borrow, or otherwise acquire the underground tubers of these when the flowering season is over.

Cannas require a rich, friable, and moist soil. Given this, and a liberal supply of manure, they will produce for weeks in succession a magnificent mass of colour. Flowers should be cut off immediately they wilt and before seed is set, to prolong the flowering period. Treat them like caladiums as to the care of their tubers. These tubers should be divided into pieces, each piece having one or two buds, and replanted in May. The seeds of the canna are very hard. It is best to pare a little bit off the hard shell, exposing the soft inside, to induce them to germinate. Cannas look their best in masses by the edge of ponds, tanks, wells, or water-channels. As pot plants they do well on the shady side of a house.

The flower is rather a botanical curiosity. You will find the pollen deposited on the side of the flat spatula-like central member, the style.

Castor-oil Plant.—There are varieties with red stems and red or pink fruits that are exceedingly decorative. They grow easily from seed planted at the beginning of the rains. Such plants are very useful for odd jungly parts of a garden or the back of a shrubbery. It is better to plant them yearly, though they *will* last more than one year if left in the ground.

Casuarina.—This tree, introduced from Australia, can be grown in a great variety of situations. The seeds are small and need to be sown carefully on the top of the soil in a pot covered with a light layer of fine soil, and *very* carefully watered. The transplanted seedlings thrive rapidly in pots and when two or three feet high can be transferred to the ground. The casuarina can also be used as a hedge and kept clipped.

Celosia.—The "cockscomb". This can now be got in red and yellow and in all shapes. It is easily grown from seed and is suitable for coarser colour effects. It is not so good in a small garden.

Chandnee.—By this I mean a common, large shrub bearing most exquisite white flowers with a faint odour, foliage of a brilliant shining green, and known by the long name of *Tabernamontana coronaria.* You very probably, have some old shrubs of it in your garden; the flowers of these thick, woody old shrubs are not as good as those of new young shrubs. So if you take my advice you will dig up your old bushes *in the rains,* and make new plants by separating the rooted stems or by cuttings. It grows very quickly, and you can get quantities of it in this way.

If you have none of your own, any neighbouring garden, I am sure, will be able to supply you with cuttings. When the flower-buds begin to form at the end of the stems, thin off the leaves. By so doing you improve the size of the flowers. When grown in partial shade the foliage of this plant becomes very dense, and the flowers sparse, so see that you give it all the sun and light you can. Each clump or shrubbery ought to have at least two or three

of these lovely bushes. If you look at this shrub on a moonlight night, the dazzling whiteness of the blossoms and the bright sheen of the glistening foliage will explain how it has got the Indian name of "*chandnee*", *i.e.*, "moonbeam". I don't think these moonbeams are valued as they deserve to be (*see* "Hints"). Prune your shrubs in oval form in the rains, and the branches pruned off should be planted in the shade till rooted; then taken up and transplanted where wanted. It does not require any particular soil.

Chrysanthemums are lovely flowers that reward all the care taken of them. I do not in the least wonder that the Japanese, keen lovers of the beautiful in nature and art, should hold these flowers in reverence, and introduce them so constantly in all their designs. Payne* mentions that about the year A.D. 900 the Emperor Uda of Japan first instituted the famous chrysanthemum show in the gardens of the Imperial Residence at Tokio. In A.D. 1186 the sword hilts of the Emperor were decorated with figures of the flower, and a conventionalized form of it is used, and has been for centuries past, as the crest and official seal of the Mikado.

A large number of excellent varieties are now available from all seed growers at prices ranging from four annas to one rupee per packet. If you can secure rooted cuttings, so much the better. Try to have these put down by *15th March* into soil composed of leaf-mould well-rotted, sand and powdered charcoal. The sand and charcoal are to prevent the soil from clogging. Chrysanthemums hate sticky soil; and when you see any plant looking yellow and sickly during the flowering season from October to March, turn it out, and put it into fresh soil with a little extra charcoal. When buds form, as they do about the beginning of October, snip away, with fine-pointed scissors, at least half of what you see at the end of each stem: your flowers will be all the finer in consequence. Where you are growing for mass effect, leave all the buds on. Where you want the biggest and best possible flower, select a bud near the

* *Chrysanthemums*, by Stevenson, Payne and Shea. Present-day Gardening Series. T. C. and E. C. Jack, London and Edinburgh.

tip of the shoot and remove all buds but this one. Cut off the stem above this selected bud. When the buds swell, they become very heavy, and the weight increases as the flowers expand and retain the dew, so you must support the stems by tying them to thin bamboo stakes. The stems are brittle, and if tied with twine, are easily cut. A good plan is to steep a yard or two of thin cotton cloth in green dye made by pounded leaves (mango, jamun, etc.), then tear the cloth into narrow strips and use for chrysanthemums. While the chrysanthemums are in bud and flower, give liquid manure twice a week. When the flowers fade, cut the flowering stems close to the soil. Dig up the plant, remove the earth, and divide the plant into its separate shoots and suckers. Plant them in mixture of light sandy soil and old manure a foot apart and water. In May these little plants will have grown sufficiently to be transplanted into moderate-sized pots where they should remain till October, when they can be finally transplanted into large pots. I advise you to have as many as you possibly can in *pots* of the 10- and 12-inch size, because you can move them where you want your best show of flowers, and, what is more important, move them out of the driving wind and rains. After the March transplanting, I keep all my pots on the two lower edges of my east verandah (*see* "Verandahs"); here they get all the morning sun, they are here sheltered from the hot winds of May and from excessive rain in the monsoons as the eaves of the verandah just prevent their being drowned. In this way I never lose a plant, not even a single branch! In the hot weather they should be watered all over the leaves plentifully with a watering-can. While they are in flower, water at the root only.

The chrysanthemum is a plant with a large literature of its own, almost as extensive as that of the rose. We have not, as yet, I believe, any special Indian book on its growing in this country, but from the writings of experts in other lands we can get a certain amount of help, always making allowances for the difference in climate and other conditions.

Remember that the chrysanthemum is not difficult to grow, but much skill can be exercised in getting the best possible results. In this case, as in the case of other similar

plants, the best results are obtained by selecting good cuttings, growing these in light soil of mixed sand and leaf-mould, and transferring to successively larger and larger pots with a gradually stronger and coarser soil. Top-dressing with manure in the last stage puts the finishing touch on the plant.

There are now various classes of chrysanthemums, each with its special beauty and purpose. The border chrysanthemums make a splendid display in beds and borders. Japanese chrysanthemums are excellent for the garden or for pots. The Incurved or Chinese chrysanthemum may be brought to great perfection as individual blooms. All may be effectively used in indoor decoration. As they are inexpensive, most prolific, and not difficult to rear, I strongly recommend you to undertake their culture (*see* "Hints"). Chrysanthemum is the flower for 7th and 28th October, and devoted to St. Simon the Apostle and Pope St. Mark, 336 A.D.

Coleus.—Beautiful foliage plants of immense variety. Among plants with coloured leaves, I know of nothing more easy to cultivate, more effective or more prolific than these, and therefore they are to be strongly recommended. Colours vary enormously. There is one variety with nearly black leaves, that looks most effective against a whitewashed wall. Get a bundle of cuttings at the beginning of the rains, and put them down at once in a partially shaded corner, in soil composed of equal parts of leaf-mould and stable litter, with a sprinkling of sand. But they will grow even in ordinary soil during the rains. Coleus cuttings will root either at the joints (nodes) or at the intervening spaces (internodes). In this they differ from many plants which root at the nodes only. This is why most gardening books tell you always to make the cut at a node when taking a cutting. Don't take the leaves off coleus cuttings. Let them stay on the stem. I shall take it for granted you are just beginning with your very first batch of coleus cuttings. Well, when those in the ground throw out three or four branches, which they are not long in doing, take of each plant as many cuttings as you can, five or six inches long, plant each in an 8-inch pot and see that you sink quite half the cutting beneath the soil. Keep these pots in

the shade of your conservatory where they will get plenty of light and rain. As soon as these have in their turn put out three or four branches, you may cut off these too, and increase your supply in the same way, and go on cutting through July and August without scruple. Each cutting will make a beautiful plant for you all through September, October and November. Of course, if you don't want hundreds of plants for clumps and borders, you need not cut so much. You will see the new leaves come out in pairs; with your finger and thumb pinch off here and there the newest pair appearing at the *end* of each spray. This makes them throw out more leaves underneath, and helps the plant to a bushy appearance. If the weather is frosty, bring all your coleus under shelter. If you want to have abundant supplies for next season, you must cut up all your pot plants into pieces, and plant them under some shady trees or close together in wooden boxes or big *nands*. Here they will grow *slowly* but *safely* through the cold and hot weather, and be ready to give you hundreds of cuttings again in the next rains. Don't imagine you will be able to keep any of your old plants or coleus in pots just as they are through the hot weather; these, by the time the rains begin (if they have not died altogether!) will be scraggy and almost leafless; and if you attempt *then* to make cuttings from them, none of them will strike; while those you had cut up in November and December and put into the ground and boxes, etc., will be flourishing plants ready to give you tenfold more cuttings when the rains begin (*see* "Hints").

During the rains you will often find a small green worm attack the tender leaves of your coleus plant, and this you must get rid of as soon as possible. Mix a wineglass of kerosene in a gallon of hot soapy water, and when cool, spray your plants freely with it. This should be done in the evening.

Coreopsis, "Love at first sight", recommends itself, as it is a bright yellow, or yellow and brown annual, The colour and extent of the brown "eye" varies a good deal, and you may select seed to perpetuate any special variation you like. Sowings may be made at the break of the rains in all places with a rainfall of 40 inches or under. In other places it may be better to sow in October. Sow in

boxes or pots and plant out when about three inches high. These plants are eminently suited for the centre of small beds or as the tier, in borders, between the lowly herbs and the tall background plants. Their colours go well with other yellows, or reds, and with whites, but do not mix well with blues. Coreopsis makes an excellent indoor decoration when cut and placed in vases. It practically arranges itself. It is very hardy. It sows itself and plants always appear in ground where it has been sown. Cut away old flowers before the seeds form (except in cases where you are deliberately saving seeds) and the plants will remain in bloom longer.

Cornflowers.—Their meaning in the Language of Flowers is *delicacy*. You can't do without their elegant blue blossoms, especially as further on you will come across its best companion, the poppy. The *blue* cornflower is what you want, so send for seeds of *Centaurea cyanus*, and sow towards the end of October just where they are to remain, because they won't bear transplanting. If you can spare a good big bit of ground about twenty feet square, sow poppies and cornflowers in lines two feet wide; if not, in small square beds, marking each bed into four smaller squares, and sow cornflowers and poppies in each alternate division. Some of these small squares ought to appear in the space left for annuals in front of your shrubberies. Water along the roots: they won't stand watering from above. But the heavy dews of the cold months keep them going so well that they don't require frequent watering. Save seeds of your cornflowers and let them dry thoroughly in loose muslin bags before putting them away in bottles. Cornflower is set down for 29th May and 28th June, and is devoted to St. Cyril, 275; St. Irenæus, 202 (*see* "Hints").

Crotons are the handsomest foliage plants one can cultivate. They are not difficult to propagate or cultivate, and form a perpetual supply of brilliant and varied colour.

You must remember they like a *moist* climate, so if you live in the North of India, you must have a glass-house, or a well-protected "chick" house, for keeping them. In the Southern parts of India they grow in great profusion

without the slightest trouble, almost anywhere in the open air.

Cuttings should be taken as follows: select a strongly growing plant with the top of its branches half ripe. Cut off the top of a branch about 8 inches below the end. Allow all the leaves to remain on. Plunge this cutting into moist sand in a warm shady place (inside a glass frame if you have one). Moist coconut fibre or even water can be used for rooting these cuttings, but water is not desirable. When roots have formed, as may be seen by gently removing a little sand or fibre, pot the rooted cuttings into small pots and gradually harden them off.

Cuttings take root quite easily *in the rains,* and should be put down in rich soil in a shady place. When they have rooted, take them up and plant them in pots or boxes so that you can remove them out of the cold (if you live in Northern India), or you may plant them in your shrubberies and open-air conservatories (if you live towards the South of India), where they will thrive all the year round in the ground.

Crotons should always be watered with a fine-rose watering pot, so that the dust being washed off, the leaves will be able to breathe freely and show their lovely colourings.

Crotons thrive either in pots or in the ground. In India, on the whole, it is better to give them some shade, and many of them will flourish in quite dense shadow. The soil should be well drained and rich. These two qualities are ensured by adding plenty of old stone rubbish or broken bricks to the soil and by giving plenty of coarse manure. In the early stages liquid manure is best.

"Freak" crotons may be made by grafting several kinds on to one tree.

Crotons in pots lend themselves to the production of fine effects in massing for colour.

When planted in pots or boxes, these should be banked up with grass in the winter, for the *roots need protection from the cold.* Public gardens in the Bengal, Madras and Bombay Presidencies will supply you with plants or cuttings. Don't forget that all your operations, planting or transplanting, are best performed *in the rains.*

The botanical name of croton is *Codiœum*. I mention this so that you may be prepared for the ultra-wise person who may endeavour to score off you by enquiring if you know the *real* name of croton.

Very delicate and rare plants may be propagated by the "gootee" instead of by cuttings. This is done by taking a ring of bark off the stem, and tying a pad of damp moss on it. This pad must be kept constantly wet by the drip from a suspended pot full of water.

Cyanotis.—Various species of cyanotis are common weeds of cultivation, especially in the rains, and in irrigated land. They are of a wandering, succulent habit, with delicate blue flowers. Tradescantia, which is a close relative of cyanotis, is invaluable in rockeries, and covers over ugly bare spaces at once. It does not require any attention, for it has wonderful vitality, and accommodates itself easily, almost too easily, wherever it is stuck in. In any shady place where a quick border is wanted, it looks very nice indeed, if you will pin it with pins of wire, and keep it growing in the right direction. You can't do without it in your conservatory, for its brown striped leaves make a pretty setting for many things there. It makes a capital groundwork in baskets where you wish to arrange pink, red, or scarlet cut flowers. People who prize it sufficiently to grow it in glass-houses in Europe would be surprised to see how common it is in India (*see* "Hints").

Cyperus.—Various species of cyperus are to be found in marshy spots everywhere in India. One of these is a pestilent weed of all tropical and subtropical land namely, *Cyperus rotundus*. It has various vernacular names, *Lavala* and *Nagarmotha* being two of them. Some of the larger species of cyperus are quite decorative. The roots should be dug up, wrapped in damp moss, grass, or leaves, and transplanted into a moist pocket of earth in a rockery, or on the bank of a pond.

Cyperus alternifolius is a large handsome plant sold by florists under the names of umbrella-palm, umbrella-grass, or similar names. It is neither a palm nor a grass, but a sedge; yet it has somewhat the effect of a dwarf palm.

For this species as for others (except that all-too-hardy *Cyperus rotundus*) the soil must be constantly moist. If the plant is grown in a pot, this is easily arranged for by having the pot set in a shallow earthen tray containing water.

Cyperus species are propagated by seed or by the division of the rootstock.

Dahlia.—This gorgeous plant should find a place in every garden. It is grown from seeds, tubers or cuttings. Sow at the beginning of the rains, in regions of moderate rainfall, and put down tubers at the same time. Flowering takes place in about four months. The plants may be grown either in pots or in the ground, and need rich well-drained soil and plenty of manuring. All florists' catalogues offer a tremendous range of colour and shapes.

Dodonea.—Another "common thing", but how beautiful and how useful! It will form a thick evergreen hedge which is just what you want for that *outer enclosure,* which is to guard the ground you are going to make into a flower garden. Dodonea is found wild in dry hot parts of India and hence, as one might expect, will get on with little water in a garden. But, naturally, like many of these plants of dry areas, it has no objection to a more liberal water supply, and increases in size and vigour accordingly. To make a hedge of it, dig the ground where you propose to place it to the depth of a foot and the breadth of 1½ feet during the hot weather. Make a slight ridge along the edges of this dug line to keep in the rain water. Sow seeds in quincunx fashion in two rows, the space between each seed being 1 foot and the space between the lines 1 foot. The seed of one line should come opposite the space in the other. It is as well to put in two seeds instead of one at each planting hole. Push them about an inch into the soil and press it down on top, protect with some spiny branches till the young plants reach 1 foot in height. Cut back persistently to ensure a good filling up of the basal part of the hedge. The new leaves that sprout along the pruned branches form a brilliant, bright green surface, that nothing can surpass in freshness. If you take my advice, this will make the best emerald framing for your garden. If you

already have a hedge of it, so much the better: only see that you fill up the *gaps* with fresh sown seed at the break of the rains. In the hot weather your "common" dodonea will bear abundant bunches of pale green seed-vessels, which you will find a very refreshing-looking decoration for your vases and baskets, or used as garniture for any pink, white, red or yellow flowers. Large bunches of it tied up form a pretty change from the dried grass bouquets we often tire of. Make sure that you gather ripe seed when available and keep it for your own use and for giving to your friends.

Dracenas are foliage plants well worth cultivating. They have an immense number of varieties, but as you are only a beginner, ask for the *robust* kinds first; later on you can get those that will need a little attention. They grow easily from cuttings; give them a *free* soil, that is, a good many crocks at the bottom of their pots, and some sand and powdered charcoal added to ordinary garden soil. When your pots have a number of new shoots coming up all round the old plant, wait till the rains begin, then turn out the contents of your pots, separate the new shoots, planting each in a 10-inch pot, sinking the stem into the soil right up to the lower leaves. These lower leaves that touch the surface of the soil will fall away by and by, but the others will expand and increase into a beautiful torch-like form. The old original plant, which has probably grown into a long, leggy stem, several feet high, cut into pieces about nine inches long and plant in boxes as cuttings for next year. If you wish your *new* shoot planted in the 10-inch pot to grow bigger, transplant it the following year into a bigger pot. Sink some of these pots into your rockeries, and as the hot months will try them, they will be all the better if you can dip the top of the plant into water, or hold the pot horizontally over your reservoir and pour a good stream of water over the leaves to give them a bath. This sort of bath is specially good for the pot you keep in verandahs. Dracenas tolerate being kept indoors as decorations for living rooms for quite a long time. *They will not bear frost*, so keep them sheltered in the cold months.

Duranta is a hardy, large flowering shrub, well worth having. If you haven't any, send for cuttings

in the rains, and plant in clumps in your shrubbery or make hedges of it. For hedges plant the cuttings (of well-ripened wood, 8 inches long) in the manner and at the distances recommended for the seeds of dodonea. They will grow in most soils where they will get plenty of sun; but will not tolerate water-logging, and they grow very poorly if grass and weeds are allowed to form a mat around them. In good conditions a seven-foot hedge can be secured. The hedge will want pruning; but those grown as shrubs need not have more than the extremity of their branches cut away in cold weather, only to form them a little into shape. One variety has light mauve flowers in large sprays; as these flowers fall, bright yellow berries form, which, when cut and used for indoor decoration, last a long time. This variety is very hardy and needs little care after it is established. The variety with white flowers is very pretty indeed and most useful for bridal decorations (*see* "Hints"). This white flowering variety does not grow quite as high as the mauve, and wants a little more water in the hot weather. When slightly pruned in winter it keeps in good shrub form. You will, I am sure, be delighted with it, and with the variety of decorations to which it lends itself.

Eglantine, *see* **"Sweet Briar".**

Euphorbia splendens.—This thorny plant bears beautiful red flowers and is easily propagated from cuttings. It needs plenty of sun and a well-drained soil. It makes a brilliant border to a big flower bed, and can be used in small clumps as well. A closely allied, and even more brilliant species, is *Euphorbia bojeri.*

Everlasting, the French "Immortelle", gives no trouble to cultivate and as it is very useful in dry grass bouquets, plant some of it in one or two small plots in October, just where you intend it to remain. Make holes with your finger, six inches apart, and drop two or three seeds into each. The flowers keep in bloom for months. Those which you intend to use in your dry bouquets should be cut when they have fully expanded. Send to Suttons, Calcutta, for a packet of Helichrysum, large-flowered, mixed. Save the seeds of the different colours, and

dry in loose muslin bags before putting away in bottles (*see* "Hints").

Ferns.—Everybody loves ferns, and everybody is anxious to have around them as many as possible of these refreshing ornaments of the forest glade. In Pliny's time ferns were considered of mysterious origin, for he says of them: "They bear neither flowers nor seed". In later years the idea was that fern-seed was visible only on St. John's Eve (Midsummer, *i.e.*, 24th June).

> "But on St. John's mysterious night
> Sacred to many a wizard's spell,
> The hour when, first to human sight
> Confest, the mystic fern-seed fell."

Ferns are put down to 29th January and 24th February, and are devoted to St. Ethelbert, King of Kent, St. Marcella, 410, and St. Francis of Sales, 1622.

Ferns will grow very well in the plains of India if you know how to take care of them. Year after year you see people coming from the hills with baskets of lovely ferns because they are under the impression that ferns, like geraniums, should be renewed by fresh stock from the mountains each successive season. A cruel mistake! To send out *jampanies* and coolies in all directions to wrench off and dig up ferns ruthlessly from their natural homes, and bring them to starve and die in the plains, is a barbarism that makes one shudder! As you are a beginner—and I don't pretend in this little work to give you more than the rudiments of simple flower-gardening—the most we can hope for with regard to ferns is that if you follow my instructions, you need not have on your conscience the sin of killing all the ferns you take in hand. August and September are the best months for bringing down ferns from the hills. Some of the kinds you see won't live in the plains, so if you can't recognize those that will bear being transferred, you will surely have some friend who will be able to tell you which are *Adiantum, Lastrea, Cystopteris, Polypodium* and *Blechnum*. Most of these will thrive down in the plains. Ferns are of two kinds, those that go to rest in the summer and those that remain green all the year round. I will suppose you have no friend to tell you

the classes of the ferns, so you might guide your choice in a small way by remembering one or two points about those you ought and ought not to bring away. The larger kind of ferns with *brown, hairy stem,* as a rule, does not like the plains, so choose those with stems that have silvery white hair and those whose stems have no hair at all. Then there is another class you must avoid, and that is very *fine, lace-like ferns.* These also won't bear living away from their mountain home. When you search for ferns and come across any creeping variety you may safely take it up. Now take notice what is meant by *creeping* ferns; those that let their leaves curve over and take root from the tip or point are pretty strong, and some of these are found in the plains, especially two, *Adiantum lunulatum* and *Adiantum caudatum.* In jungles that are shady and swampy you will be sure to find some beautiful varieties of creeping ferns, the best of which is *Goniopteries prolifera,* which will stand all weathers and provide you with the most elegant hanging baskets. The few ferns I have mentioned are to be found *all over India.* Collect your ferns in the afternoon (I mean those you intend to bring down) and leave them in the dew or rain all night; in the morning *shake* from the roots as much soil as will come off by shaking and pack them close together in a basket in layers, putting between the layers a light sprinkling of shreds of moss. Shut down the lid of the basket. In this manner, during the rains, your ferns will stand a journey of forty-eight hours. When they have arrived at their journey's end, get ready their pots and trays in this way: the pots should be well washed and the holes below should be opened properly; then small pieces of brick, about the size of hazel-nuts, filled in to almost half the depth of the pot; over these put a layer of coir fibre or old moss; then fill up to within an inch of the top with soil composed as follows:—Three parts leaf-mould, one part powdered charcoal, two parts *kunkur* broken up to the size of peas. Let this soil settle by sprinkling well with water. Your pots should be from five to twelve inches wide, according to the size of your ferns. In your trays, which should be lined with perforated tin at the bottom, you won't need more than one layer of brick, since the depth of the trays is not more than five or six inches

(*see* "Trays and Stands"); then add the coir and soil as already explained.

Now for the planting of your ferns. Have by you a tin of clean cold water, and as you take each root of fern out of the basket, cut away the bruised leaves and put them on one side, plunge each root into the cold water *for an instant only*, then place it on the top of your soil which is ready in the pots and trays. When you have thus disposed of all the roots, turn to the fronds or leaves which you have put aside; break up these into small pieces and spread over the roots that are still exposed on the surface of the soil. When you have covered up the roots with their own leaves, then add a layer of about half an inch of soil, and in the hollows left between the roots, put bits of *kunkur* and charcoal. It seems rather a troublesome process, but you will be rewarded by soon seeing new fronds peeping out. At first you must water these newly-planted ferns three times a day, and after they have established themselves, twice a day will be sufficient. With "maiden-hair fern" you must have something extra, that is, small *gurrahs* of water should be placed on your trays before you put the soil on, and the fine lacy rhizomes, or roots of the maiden-hair, should be spread over the sides of the *gurrahs*, and kept in their places by the weight of the *kunkur* and charcoal placed here and there.

"Silver fern" you know very well. This again has another kind of treatment. To the soil already mentioned, add a little sand and powdered *old lime*. Silver fern likes a dark place, so put the pots they are in under some overhanging shade. Silver fern grew with me to a height of eighteen inches under this treatment. I kept their pots in grass cylinders three feet high, so they were always cool in their grass-house, and got light *only* from the opening at the top of their house.

In the winter the ferns of the first class will go to rest. Remove the pots to the shade of a hedge where they will be thoroughly sheltered from the cold; tear up some moss, and spread a thick lace-work of it over these ferns. The dew in the winter will supply sufficient moisture in the air for them. In the hot weather water *very sparingly* once a

fortnight. If these ferns are in health, they will all sprout again on the approach of the rains. Don't throw away any fern as dead until you have tested its vitality for a year. If under all your care it shows no sign of life in that time, then you may say *good-bye* to it. Keep your ferns where they will be *quite sheltered from wind and sun.* They like air and rain, so an open-air conservatory is the place best suited to them. I have *Blechnum,* and maiden-hair, etc., in trays in my conservatory, standing in the same place in all weathers from one year's end to another, growing in the utmost luxuriance. They are at their best in winter. *Blechnum boreale* and *Adiantum caudatum* (creeping fern) are very good for hanging baskets, and if planted on the top of the brick pillars I have described (*see* "Stands"), they will throw out their sprays, which, if pinned into the cavities all round the sides, will soon entirely cover the pillars.

Your evergreen ferns will languish a little in the hot weather; never mind, give them plenty of water, three times a day if you can, and *leave them alone.* They will all come right when the rains set in. *Transplanting ferns in the hot weather means "sudden death".* The monsoon is the best time for all your fern work. Have, if possible, two sets of ferns—one set to keep undisturbed for show and decoration, the other as a resource to be drawn upon for making new boxes and baskets. All the ferns I have told you about increase and multiply tremendously: so if you have no second set of ferns in reserve you can easily abstract a root here and there from your "show", without any visible gaps. Caterpillars are very troublesome enemies of ferns. Dry ashes sprinkled plentifully are the only protection against them, and fumigation, which you will find described in "Hints". For drying and wiring ferns, also *see* "Hints".

If you wish your ferns to look perfectly healthy and bright, you must superintend the planting and transplanting of them yourself, for, as a rule, malis do not understand ferns. A bachelor friend of mine, fond of gardening, went to a good deal of trouble and expense to keep his garden nice and had a capital mali to look after his plants. The mali really took a great interest in everything committed

to his charge, *even ferns*. When the gentleman saw *my* maiden-hair fern, he said: "Good gracious! What do you do to make your ferns grow so well? *My* maiden-hair fern will not grow beyond an inch or two". The next morning this mali was sent to me with a basket of his ferns to have the mystery of their backwardness explained. There was a very good basket eighteen inches deep, and there was a *gurrah* of water, and there were signs, and signs only, of maiden-hair fern, fern that the mali in his excess of devotion had buried beneath a foot of *pure cow-dung* for soil! If you don't watch your mali, *he* also will manure your ferns, and they will at once perish.

Geraniums are very easily propagated by cuttings. In fact, it is possible to get cuttings to root by planting them directly into garden beds where they are wanted. But it is better to "root" them in the usual type of well-aerated soil (half leaf-mould, half sand) in boxes or pots and then transfer to the beds or pots where they are wanted. Tip-cuttings are best. Do not remove the leaves. Let the young cuttings have plenty of intermittent splotchy light such as is available under the outer branches of a feathery-leaved tree. Don't over-water the soil, or the cuttings will rot. After transplanting, shade lightly with feathery leaves for a day or two. The gradual decay of the leaves will harden the plant to the sun. Geraniums are a perpetual stand-by for the dry season, and either in pots or in the soil, will provide colour for your surroundings if protected from the mid-day sun. Plants in pots can be used indoors for a day or two at a time, but don't keep them too long away from the light.

The ivy-leaved type is excellent for hanging baskets. The zonal type is particularly useful where mass effects are wanted. The proper name of all these is Pelargonium, not Geranium. A plant very like the Pelargonium is found wild in some parts of India. It is called *Monsonia senegalensis* and looks like a Pelargonium run wild. On the plains in places with under 40 inches rainfall propagation is best done in the rains, in other places in October. On the hills propagate as the weather gets warmer in spring.

Gerbera.—This lovely marguerite-like flower comes from South Africa and is sometimes called the Barberton Daisy or the Transvaal Daisy. There are various colours, mostly shades of red. The plants do well in India, Delhi and the Deccan suiting them equally well. They are grown from seeds, sown at the break of the rains in areas of medium rainfall. The flowers when cut make excellent table decorations by day, but tend to close up at night. Gerberas can also be grown as pot plants.

Gilliflowers (*see* **"Pinks"**).

Gloriosa superba.—This plant has been well named. It is superbly glorious. Its flowers look like frozen flames. It is a jungle plant but grows readily in gardens. Get some tubers of it and plant them at the end of the hot weather in some jungly part of your garden, or in a flower bed if you like. As soon as the rains come the plant will shoot above ground. Each leaf ends in a tendril, and you must give the plant something to climb on. A light open bamboo frame work or a rough branch of a tree will do. Water as required. The flowers last from the end of July to the middle of September. At the end of the rains the plant dies down and the tubers remain dormant in the ground till next monsoon !

Grasses.—Many of the wild grasses are decorative. Species of wild *Saccharums* (same genus as the sugarcane), found on river banks, can be grown beside tanks and water channels with excellent effect. Transplant clumps of them, roots and all, early in the rains. Many species of *Eragrostis,* such as *E. amabilis* and *E. tenella,* variety *plumosa,* found wild in the fields and often as weeds in the garden, are most graceful and can be employed with cut flowers for vases and bowls. *Tricholæna rosea* is a reddish grass easily grown from seed that is very decorative in the garden or with cut flowers. *Pogonantherum* is a very pretty grass found in the hills. It has something of the character of bamboo, but its stems, instead of being stiff and upright, are slender and supple, like thread, and its fine, elegant sprays grow about three feet long, and droop over most gracefully. If you can't get anyone to show you which is *Pogonantherum crinitum* when you are in the hills, perhaps

you will be able to find it out from my descriptions, if not you can buy a pot of it from a Government garden as I did and so learnt its name. It keeps beautifully green and fresh through the rains and cold weather; in the hot months it dries slightly here and there, but not enough to make it look unsightly; in fact, it never dies. Plant it in shallow boxes and pans; soil—leaf-mould with a sprinkling of common earth and sand. Keep in entire shade, and well raised from the ground. In a porch facing east I had two boxes of it on rustic stands, and as I watered it three times a day in the hot months and twice a day during the rest of the year, it always looked like a refreshing green waterfall ! In my conservatory I have flat pots of it stuck in forks of trees, a place it loves to grow in, in boxes on stands, etc., a veritable "thing of beauty". You will find your pots, etc., very soon fill with roots, so in the rains divide these, putting three small bunches of roots into each new pot. It likes plenty of water from the top; give it light, *but no sun.*

Grass means *utility,* and St. Timothy, A.D. 304, is the only Saint to whom the Calendar devotes it.

Grevillea robusta, the Australian "Silver Oak", is a king among foliage shrubs ! Let me recommend your procuring at least two of these to plant in the corners of your lawn furthest from your house, or in two shrubberies on either side of your carriage-drive. If you don't already know it, here is Firminger's description of it:—"A most noble object, handsome at all periods of its pyramidal growth, with beautiful dense foliage of fern-like, rich dark-green leaves".

At public gardens you can buy small plants of *Grevillea robusta* for a few annas each. I bought one for six annas, and planted it in the centre of the front lawn of the Shahjehanpur City Dispensary, and in the third year of its age it was in splendid condition and twelve feet high !

If your station has frosty nights in the cold weather, your *Grevillea robusta* ought to be protected during its first winter, after that it does not come to any harm. Water well during the hot weather. It is propagated by seed; but

I have never tried growing it from seed, as the plants are so cheap.

In warm, moist stations in the South of India it will grow without the least trouble and makes beautiful pot-plants.

It is worth remembering that although it makes an attractive pot plant and a graceful shrub, it is really a forest tree. If allowed to grow in favourable situations such as at Coonoor in the Nilgiri Hills, it becomes a tremendous pole of up to 100 feet high.

Gypsophila is really a weed found in Northern India, but cultivation has made it a most desirable addition to our annuals, and as an elegant garniture in floral arrangements you will be charmed with it !

Send for seeds of *Gypsophila paniculata,* and sow in October just where you wish it to grow, as it will not bear transplanting. The flowers are white, borne in myriads on fine, grass-like, branched stems, and if you sow a little patch five or six inches across, it will produce a lovely bush about a yard high, and nine feet in circumference; you must remember this when deciding where you will grow it.

Scatter some of the seed in a bed of mixed poppies, such as *Papaver alpinum* and *Papaver nudicaule,* and the result will be what Whittier calls:—

"An added beauty to the earth."

Gypsophila elegans is another excellent species usually white, but with pink and crimson varieties.

Haemanthus.—This plant belongs to the Amaryllis family and produces a glorious globular head of red flowers. It is grown from bulbs in pots, and needs a rich well-drained soil. In the Deccan it flowers in the early rains, and can be allowed to go to rest in the hot weather. *Haemanthus multiflorus* is the best known species.

Heliotrope, or "Cherry pie", can be grown most successfully in the plains under one very simple condition, that is, keeping the bed in which it is grown, raised at least eighteen inches above the level ground. Don't attempt to grow it from seed. Buy a healthy pot of it in November,

and, on a sunny site, make a mound quite eighteen inches high, of ordinary earth, to which add a small basketful of leaf-mould and one of powdered bricks. Bank up your mound with *kunkur* or *rori* (burnt pieces of brick from the kiln)—sink your pot of heliotrope just as it is into the middle of the mound; it will rapidly throw out branches in all directions. Catch these down by placing pieces of brick on them, taking care first to place a handful of soil on that portion of the branch pressed down under the bit of brick. Branches pinned down in this way in November ought to be well rooted by the end of January. Cut them away from the parent stem and plant where you wish them to grow; but remember that unless you raise their abiding place, in the way I have described, and give them good drainage, they will probably all perish during the following monsoon. Young plants should not be planted out later than the first week in February.

It may help you to know how I managed mine. At the beginning of one November, I bought a potted plant from the public gardens at Aligarh, and planted it in the centre of a high mound. The first season there were layers from this one plant enough to stock a large raised bed; then from this bed the following year layers were taken to form two hedges along my lawn. Nothing of all this heliotrope is lost. Year after year it grows through all the rain, secure in its high place from *water-logging,* which is its one great enemy in the plains. Prune away at the end of the rains all branches that look shabby. These will take root if you plant them in a shady place.

Heliotrope is a native of the Cordilleras of Spain, where it was first discovered by the great French botanist, Jussieu, who was attracted to it by its strong perfume. Struck by the peculiarity of its turning its flowers to the sun, he gave it the name of Heliotrope and sent some of its seeds to the Royal Gardens at Paris, where it was first cultivated in 1740. As the Calendar of Flowers was compiled long before that event, Heliotrope, though it means devotion, is not to be found dedicated to any saint (*see* "Hints").

Hibiscus.—Of this splendid flowering shrub there are many varieties, but I specially recommend the following as most effective and beautiful. *H. mutabilis,* flowers single or double, changing from white in the morning to brilliant red in the evening; *H. syriacus albus,* flowers double, of the purest white, with more compact petals, but not so large as the preceding; *H. rosa-sinensis,* perhaps the most beautiful of all, flowers large, single bell-shaped, and of a rich Chinese red. These three can be propagated with the greatest ease by cuttings during the rains, and cuttings of *H. syriacus albus* flower beautifully the following year.

H. mutabilis is sometimes called the "Changeable Rose", and in parts of America is known as the "Cotton Rose" or "Confederate Rose". It is, of course, not a rose at all, but is closely allied to the hollyhock. *H. syriacus* exists as a single-flowered variety of a blue colour common in Indian gardens. The double white mentioned above is more showy. *H. syriacus* was so named by Linnæus, who believed its native land to be Syria, and the common name, "Rose of Sharon", apparently arises from the same belief. But, alas, for such delightful ideas, it is now probable that China is its country of origin. Of *Hibiscus rosa-sinensis* there are now an enormous number of varieties of many colours. A great many of these are double or partially so. The single varieties are, to some people, more attractive, and certainly the original red single variety is a magnificent sight when in bloom.

H. schizopetalus is a beautiful African species that grows well in India. It is so named because the recurved petals of the delicate hanging flower are fantastically cut and slit. This species likes semi-shade. Heavy water-logged soils do not suit hibiscus, but they flourish in rich deep soil, and will also get on where the soil is much poorer.

In some parts of India during the coldest months of winter the hibiscus is given to shedding its leaves. At this period or after their main flowering season prune them to half their height, and put down the cuttings in any place sheltered from frost. Cuttings may be taken from any part of the stem, old or young. Rooted plants must be placed where they will have sun, else they won't flower well.

Remember to have some of these in your reserve plot, as they form a very valuable addition to the list of cut flowers for decorative purposes. Many people regret that the hibiscus shuts up so quickly after being plucked, but in "Hints" you will find a method of keeping them fresh for evening decoration.

A large red and black beetle is a great enemy to the hibiscus. There is nothing for it but to keep picking them off in the mornings and killing them till they entirely disappear.

The native names of hibiscus are *gurhul jaswand* and *juva*. The Calendar marks the 5th December for this flower, and it is dedicated to St. Crispina, 304 A.D.

Hollyhock.—This is a very old-fashioned flower, but they are now produced in fine double forms, and in such lovely shades of colour, that you really *must* grow some in parts of your garden where you require tall flowering plants. In places with below 40 inches rainfall and a moderate temperature, sow any time from June to November. In other places sow the seeds in October, and when they have developed three or four leaves, transplant them where you wish them to grow, placing them not less than two feet apart.

When the flower-buds form, snip off some from the crowded stems, and cut away the side branches and grow only the central single spike (*see* "Balsams"). They want sun, and a rich soil. When about to flower, give them a little liquid manure once or twice a week (*see* "Hints").

The hollyhock is an ideal plant to use as a backing to showy borders, or in scattered groups. A solid border of hollyhocks is wearisome to the eye. The plant is beloved of bees because of its copious pollen and hence crossing takes place freely. Seed saved in your garden is likely to be hybrid and may give you any colour at all next year. If you are keen on getting a special colour in a given place there is nothing for it but to buy seed of that colour each year from a dealer.

Honeysuckle.—There are several kinds of these, but the Japanese one (*Lonicera japonica*) is what will best

reward you with deliciously scented sprays of white and yellow blossoms. If you get one good rooted plant, place it where it will get plenty of sun, and give it the same soil as that mentioned for roses. Almost every house has *jaffery* screens erected at bath-room doors; if these are strongly supported, the honeysuckle is just the creeper for it, as it loves soap-water. I have a *jaffery* screen extending along the south of the house, covered with a glorious tangle of honeysuckle and Marechal Niel roses. These creepers of scent and beauty get the water from the servant's pantry and wash-up and grow with the greatest vigour in consequence. Get some of it for your garden. If grown in the centre of a bed a support in the form of an umbrella suits it. I inserted four iron rods, four feet long and three-quarters of an inch thick, round a honeysuckle, and put a shelf of bamboo lattice on the top, to which the creeper was helped up with twine. It very soon spread over the flat surface. The top flat surface enables it to get a good deal of sun. The more sun it gets the better does it flower.

The scent of honeysuckle is a scent peculiarly its own. It flowers almost all the year round, filling the garden with perfume (*see* "Hints"). Propagate by layers as you do heliotrope. The new shoots sent out near the roots are the best for layering. They will strike any time from July to February. You can't have too much of this delicious creeper, which means *generous and devoted affection.*

Inga dulcis or **Korkapillee,** though another "common thing", is not to be despised. Sow your seeds during July and August and follow instruction given for dodonea.

It will grow into large trees if you will allow it, and grow very quickly too. A small grove of it, with a hedge of dodonea or *mehndee,* is what you will find invaluable for your work-yard, if you have no other shady or retired place to keep your seedlings, and do your potting and transplanting. It gives an equable shade all the year round, slightly more dense than casuarinas, but not dense enough to shut out sunshine altogether. In the cold months the leaves, on its long, regular, narrow branches have a beautiful purple bloom, like the bloom on grapes, and these branches are useful in many ways for decorations. *Inga dulcis* sown

as a hedge develops into a compact mass of branch and foliage, ideal as a protection against man, beast or wind. If kept from spreading laterally it can be built up into a solid wall of greenery twelve feet high. To get this effect, plant seedlings in quincunx fashion in two rows 2 feet apart, with a water channel between them, and seedlings at 1 foot apart in the rows (*see* "Hints").

Ipomea palmata.—The commonest, yet the most useful of evergreen creepers. You see it at many railway stations, refreshing the eye in the hottest weather with its bright, fresh foliage, and well deserving its nicknames of "Railway creeper" or "Porter's joy". There is one variety with purplish and another with white flowers. Make cuttings nine inches long and plant thickly in any soil where you wish them to remain. The monsoon is the best time to do this, as they will then need no watering. The cuttings will take at any time of year, but must be watered if put down after the rains. Of all creepers, this grows most quickly. It is excellent for conservatory screens but should be thinned where it becomes too dense, especially when it has reached the top of its support. If grown round posts or pillars, it must be tied in to keep it in compact tidiness. This *Ipomea* will spring up again in all its original vigour even if the plant is cut level with the ground and only a stump left. Seeds of the pretty white *Ipomea grandiflora* should be sown in the rains. This is the so-called "Moonflower". It is a most interesting thing to watch the opening of its scented white blossoms in the evening. They open in about 10 minutes from the start of their unfolding. This plant is propagated by seed. *Ipomea quamoclit* is a striking creeper with brilliant red flowers, and so is the common *Ipomea coccinea*. *Ipomea carnosa* has pink flesh-coloured flowers, and is a shrub that stands considerable neglect.

Ivy, (*Hedera helix*), will grow very well in the plains if you know how to treat it. If you are going to bring ivy down from the hills, choose good, stout bits of root; never mind if the leaves don't look fresh and bright, for they must, in any case, all fall when the ivy is transplanted. Wrap up what you select in damp moss, and keep the moss

damp during its journey. It will travel quite well among your ferns (*see* "Ferns"), and on arrival, should be plunged into water for an instant and then planted at once *on* leaf-mould in which there is plenty of broken bits of *kunkur*. You will notice I say *on*, not *in* the soil, for the stem should always be on the surface and kept down with small pieces of brick. It will root quickly in the rains, and this is the only time of year you should attempt to bring it down to the plains.

Your rockeries will be the best place for it, and you will find it grow in and out of the rock-work and find its way to the tree or trees round which you have built your rockeries. It may then be guided into place with tacks and tiny bits of tape, or left to climb the tree at its own sweet will. The twice a day watering of the conservatory will be quite enough to keep the ivy damp, and it will reward all your trouble and make a charming variety in your rock-plants, protected here from its chief enemy, the hot wind. A quantity of ivy in my rockeries, planted close by the kerosene tins filled with water—(*see* "Conservatories") —turned some of its young shoots over the edge of the tins and remained immersed in the water all through the hot weather without harm.

Ivy puts out its new leaves in the rains, and these keep beautifully fresh and bright through the winter. In the hot weather it makes no growth, and if you see it looking rather withered, don't think it is dying; leave it as it is. The rains will prove its vitality. If you attempt to transplant it during the hot weather, it will perish completely. If you come across some particularly well-coloured or clear-veined ivy you wish to make the most of, strike new cuttings according to the method described in paragraph "Delicate Cuttings", but first put some powdered charcoal in the cotton-wool. In the hills, you can do this from March to September. On the plains, during the rains only.

Ivy means *friendship;* the Calendar devotes it to St. Paul, the first hermit, and it is used to mark the 15th of January.

Ixora, native name *Rookminee,* is an evergreen shrub which is very desirable to have in one's garden. There are

several kinds, but three kinds will be sufficient for you to begin with: *Ixora coccinea,* with scarlet flowers; *I. rosea,* flowers coral pink; *I. alba,* flowers white. Send for rooted plants in the rains. They keep in flower all the year round, but are at their best in September and October, and as the blossoms when cut do not fade quickly, they are a great addition to your list of cut flowers. Plant in full sunshine in any common soil, to which a little cow-dung should be added. When the plants are old, thick and woody, the suckers round about should be removed and planted elsewhere. These, put down in fresh soil, will bear flowers much larger than the old parent stock. If you have a great number, put some near your well, or your stables, for, when once rooted, they need no care. In November cut all straggling branches and prune them into shape (*see* "Hints").

Jasmine.

"My slight and slender Jasmine tree,
That bloomest on my border tower,
Thou art more dearly loved by me
Than all the wealth of fairy bower.
I ask not while I near thee dwell,
Arabia's spice or Syria's rose;
Thy light festoons more freshly smell,
Thy virgin white more freshly glows."
—LORD MORPETH.

India, the home of the jasmine, has many kinds of this sweet flower, but three kinds will be very nice for your modest garden. *J. angustifolium,* the foliage of which is very showy and a beautiful sight when in full bloom in the hot weather; *J. officinale,* elegant and graceful both in foliage and flowers; *J. syringæfolium,* very ornamental in the garden with its constant profusion of star-like blooms (*see* "Hints").

These grow readily from cuttings, layers, and suckers, which should be planted early in the rains in common soil, enriched with a little manure. When they have once established themselves, they need no attention. *J. officinale* is very desirable over a porch, and, if grown as a creeper, should not be pruned; but all the three I have mentioned should be pruned just before the rains, if grown as shrubs.

Jasminum malabaricum is the jasmine that flowers so abundantly in the Mahableshwar jungle during the hot weather.

The jasmine was taken from India to Europe by Spanish navigators in 1560. It means *amiability.*

Kuronda or **Kurwunda** is the native name, and *Carissa carandas* the Latin name, of a common shrub. It forms a bushy shrub, like *ixora;* the blossom is of no particular value, but the fruit is lovely !

The berries appear in small bunches in the rains, and look as if they were made of wax exquisitely tinted, from the purest white, through shades of brilliant scarlet, to the richest ruby. The bushes when loaded with this most uncommon fruit form a sight, the charm of which is not easily forgotten.

There are two kinds of kurondas—the pink and the green. The former is what you must ask for: the berries of the latter change from green to black, are round, and cannot in any way be compared with the perfect oval of the pink kind.

They are propagated by seed and rootlets, and should be planted in the rains. Water occasionally during their first hot weather, after that they need no attention. Plant in your shrubberies, or in one or two small clumps by themselves; prune after the fruiting season is over.

The plant is provided with formidable thorns and a hedge of kuronda is a considerable obstacle to trespassers. The fruits are useful for preserves.

Lagerstrœmia Indica, called by the natives *Gool Fanoos,* is one of the most beautiful of shrubs, and I know none more easy of cultivation. There are three colours—white, pink and mauve—and all can be propagated by cuttings from July to November. They need no special soil and no special watering beyond the first hot season. Plant by carriage-drive or shrubberies, pink and white alternately, but keep the mauve in groups by itself. Some of the white and pink should be planted *singly* in the centre of flower beds, and, after flowering, these should be pruned down to within eighteen inches of the ground in November, or when they begin to shed their leaves. Tall annuals like poppy,

corn-flower, etc., may be planted round to hide the bare stumps during the cold season. In the hot weather the lagerstrœmia puts out its refreshing green leaves, and then from May onwards it is in glorious bloom.

The single ones in beds will throw out their long graceful sprays of bloom, the tips of the lower ones drooping over almost to the ground. Those in the shrubberies need not be pruned lower than four feet. Make use of all your cuttings, of the white especially, for you can't have too much of this in your reserve plot, etc., to supply continuous demands for table decorations and to prevent the mali gathering the blooms from those shrubs you wish to show in all their glory (*see* "Hints").

Lagerstrœmia Flos-Reginæ is a species with larger and more showy flowers, mauve in colour. Propagated by seeds.

Larkspur is a pretty annual you must not go without. In places with under 40 inches rainfall and a moderate temperature, sow in June or July; in other places, sow the seeds in October where you wish them to remain, as they won't bear transplanting. Patches of it here and there, in the space forming the border of your lawn, will add to the variety of colour. Remember to plant it rather in the background among your annuals, because it grows tall, sometimes between two and three feet high, and must not overwhelm the low-growing annuals like phlox, pansies, etc. But there are also dwarf-types, only one foot high. There are now many varieties of different colours available, and all pretty, the lines varying from shell-pink to deep mauve, and there are, of course, white-flowered varieties as well. Save your seed by plucking and drying the fully ripe pods. Larkspur means *lightness*.

Lilies.

"The Lily's height bespake command—
A fair, imperial flower;
She seemed designed for Flora's hand,
The sceptre of her power."

Under the head of lilies I include *Amaryllis*, as most amateurs call them lilies. I strongly recommend these bulbous plants, as they are easy to cultivate, their blossoms

are specially beautiful and graceful, and their colouring most varied. As you are a beginner, I shall mention only a few you may take up with confidence and satisfaction. *Polianthes tuberosa,* the most common of lilies in India; *Eucharis amazonica,* an exquisite pure white lily; *Hedychium coronarium,* a lovely, deliciously-scented lily; and different kinds of *Alliums* and *Amaryllis.*

Leaf-mould with a little sand is the soil almost all lilies thrive in. Plant your *P. tuberosa* either in pots or in the ground. If you have room, they look well in the border behind your Zephyranthes (*see* "Zephyranthes"). They flower in the rains. Cut down each flower-stalk after the flowers are over. If the winter is severe, the leaves also will die down. Those which you grow in pots may be moved into verandahs; stop watering them when they go to rest, and begin again when you see green blades appear above the surface of the soil. At the beginning of the rains you should separate the bulbs, which you will find have greatly increased. When the flower spathes begin to form, a little liquid manure at the root will do them good.

Eucharis lilies won't grow in the sun, though they like plenty of light. Plant them in your rockeries, and in pots at the beginning of the rains, and give a little liquid manure when you see they are about to flower, and stand the pots in saucers of water. Let the pots remain standing in water till in winter you see the leaves turning yellow, then remove them to a corner of your work-yard, where they will be protected from the cold, and bury the pots up to their rims in the ground, or bank earth round them. Water *slightly* once a week while they are at rest. As soon as the weather becomes warm, take up your bulbs and plant one in each pot: you will find they have multiplied tremendously. As soon as the new leaves begin to show, water them every day. The leaves ought to grow to a good size and look strong by the time the rains begin, when you must *again transplant them,* and stand the pots in water. Don't use manure till they begin to show signs of flowering, and then only a little, for too much will prevent their flowering.

If you do just as I have advised, you will find that, in two or three years, you will have more *eucharis lilies* than you know what to do with!

The *Hedychium coronarium* when in flower in the rains is, as a friend of mine called it, "*a perfect poem*". It may have been the beauty and perfume of this lily that inspired Heine to say:—

"I will steep my fainting spirit
In the Lily's calyx pale.
The lily in tones that stir it,
A song of my love shall exhale.
That song shall vibrate and shiver,
Like the ever-remembered kiss,
That from her lips on mine did quiver,
In hours of divinest bliss."

The tubers of this lily are like rough ginger roots, and spread out vigorously. Don't bury the tubers too deep: one tuber in a 12-inch pot, with an inch of soil lightly sprinkled over, is sufficient. Do this in the hot weather, and keep your pots in the shade. Water them every day, and when the leaves are six or seven inches high, stand the pots in saucers of water. During the rains there will be several stems of flowers sent up in succession from each pot, and each stem will bear a head of buds which will open from three to ten at a time, perfuming the whole of your conservatory deliciously. Cut down each stem after it has done flowering, and when you see no more new stems coming up, take the pots out of the water and place them under a hedge, where they will be protected from cold at night, and yet be able to get warmed by the sun in the day. As the weather warms, the tubers will begin to sprout; turn them out of the pots and separate them. Do this by cutting them with a sharp knife into pieces four inches long. *See that each piece has some root,* and then proceed as above instructed. If you find that your pots are *full* of tubers by August, you may safely separate them again. This lily does not do well in the ground.

The lily means *majesty*. *Lilium candidum* is devoted to the Virgin, and marks the 2nd of July, and fourteen other kinds of lilies are devoted to Bishops and Saints in the Calendar (*see* Carlo Dolci's celebrated picture at Munich).

Amaryllis are beautiful lilies for both ground and pot culture. Those for the ground should be planted in rather a protected part of the garden, where they will get the sun

for only a small part of the day; those in pots, place in most open part of your conservatory, and on the edge of your verandahs.

Some will flower in the hot months, some in the rains; all will go to rest at the approach of winter, when you must stop watering. Those in the ground may be taken up and put away in boxes like your caladium bulbs; those in pots may be left under the hedge with your other lilies. Water them as soon as they begin to sprout in the hot weather, and when the flower spathes form, mulch (stir open) the surface of the soil and give a little liquid cow-dung once a week till they have finished flowering. The small bulbs you may plant three in a 10-inch pot; those as large as a good-sized onion ought to be placed singly in 12-inch pots.

Alliums are tuberous plants you will be very pleased with; they are easy to cultivate and increase largely from year to year. The white kinds which are valuable for garniture are *Allium neapolitanum* and *Allium ciliatum.* The coloured ones are: *Allium cæruleum* (blue), *Allium flavum* (yellow), and *Allium descendens* (red). You must treat them in the same way as your *Amaryllis* (*see* "Hints").

Marguerite (*Chrysanthemum carinatum*), the French marguerite, the English ox-eye daisy, is an annual well worth cultivating. Sow the seed in October in boxes, and plant out into beds as soon as the seedlings are three or four inches high. Get a packet of mixed seed, as the white, yellow and variegated look better in the mass than each by itself. They like plenty of sun, and as they grow to a height of two feet, should be placed at the back or in the centre of other low-flowering annuals. Masses grown in small beds with mignonette borders look very well. Save the seed from the biggest seed vessels (*see* "Hints").

Mehndee (*see* **"Camphire").**

Mignonette, the botanist's *Reseda odorata* (the mali's "minnamint"), is just what its name denotes—"little darling", and much obliged ought we to be to Napoleon for introducing into Europe this delicious little flower from Egypt. In the flower bordering I have advised

for your lawn, make room for mignonette, and mix with the soil you have prepared for your annuals a little sand and a handful of powdered *old lime*. You are sure to find somewhere or other in your compound bits of broken plaster which you can utilize for this purpose. Sow your seed in October *where it is to remain*. Have some in your smallest pots for bringing into the house, and keep these pots sunk in the earth, else the flower spikes will not be good. Mignonette likes its roots kept warm.

Seed-pods will form in February and March. Collect as much as you can every two or three days, by spreading a handkerchief near the plants, and knocking off the seeds into it by a rather smart fillip of the finger against the stalks. Mignonette should be watered at the root—not from the top. When cut for vases, you will find mignonette will *grow* and its flower-buds expand right to the tip of the sprays if you will change the water every day and snip off the ends of the stems.

Mina lobata.—A very handsome, profusely flowering creeper, introduced from Mexico; seeds are now obtainable from every public garden. Sow in pots in June, before the rains begin, and water every day, keeping them in the sun. These sown early grow slowly, but the stems become firm and strong. In July sow another lot. As these creepers do not like to be transplanted, the safest plan is to make holes where you wish the *Mina lobata* to grow, and then crack the pots and sink them bodily into the holes. At the end of July or beginning of August, give them plenty of water and full sunlight. The upright flower sprays come in pairs by each leaf, and are shaded from crimson and red, through orange and yellow to white, in a beautiful way. It keeps in bloom right into the hot weather, and seeds profusely. Save seed for the following year. The blossoms of the *Mina lobata* have a virtue possessed by few other creepers: after being gathered, they keep fresh for several days if placed in fresh water every day.

Mina lobata climbs well on lattice-work, on pillars, on dead trees, and spreads over rock-work (*see* "Hints").

Nasturtium (Tropæolum) always makes a good show, so you must not omit this from your list of annuals.

There are two main types of horticultural varieties, namely, the Tom Thumb (or Dwarf) and the Tall (climbing). Both types can now be had in a great number of colours. One or two varieties are spotted or marbled and very striking. The seeds should be sown at the end of October where they are to remain, but another season can be had in places under 40 inches rainfall, with a moderate temperature, by planting at the break of the rains. Plant the red and scarlet in your borders; two seeds together (in case one does not germinate and so cause a gap) at distances of six and seven inches. Snip off some of the leaves where they are very thick: the blossoms will be the better for it. The climbing sorts look well grown around a small or high mound or trained up the brick pillars described elsewhere. The plants are susceptible to frost. Save the seeds when quite ripe, but dry them before putting away in bottles, because they would otherwise be damp, and not germinate when you sow them the following year (*see* "Hints").

Nasturtium marks the 7th July, and is devoted to St. Felix, Bishop of Nantes, 584 A.D.

Oleanders (*Nerium*) have much to recommend them. They are evergreen, are always in flower, want no care after they have taken root, and blossom the year after they are planted. In making a new garden let these be planted at once, for they are a great standby. They grow in any soil, but a little manure or leaf-mould added to common garden earth improves them. Let me advise your planting them along the outer hedge of your compound, or along your carriage-drive, or as a screen for your stables or outhouses. Get cuttings of both white and pink to be planted alternately. These cuttings should be eighteen inches long and at the beginning of the rains should be planted five or six together, *not singly,* in holes dug at distances of six feet. If you have an eye to indoor decoration, put a clump of the *white* oleander somewhere, so that repeated cutting of its flowers won't affect the show in your garden. Besides the white and pink varieties, there are various shades of red, and all varieties show a tendency to double flowers. Just when the rains begin prune your oleanders into shape, and thin out the branches round the bottom. I think the oleanders

all pruned to an even height of seven or eight feet look charming! While the rain falls the cuttings will not need watering; but through their first winter and hot weather, you must water them every second day. When your bunches are two years old, they go on bravely and do not mind if you never give them any water except once or twice in the hot months. In the Bengal and Bombay Presidencies, in the Central and North-West Provinces, they grow luxuriantly with little or no care. In very cold latitudes they do not succeed (*see* "Flowers in Southern Stations"). There is no shrub to which I feel so grateful as the oleander for yielding an unceasing supply of flowers (*see* "Hints"). It can also be pruned so as to grow like a standard rose bush. It is poisonous to cattle and horses.

Oxalis, Wood Sorrel, is a bright, showy annual grown from bulbs. In September or October, get from your nearest public garden one dozen bulbs of each colour. There are many—red, pink, purple, white and yellow. Use six-inch pots with good garden soil such as recommended for annuals, put three bulbs in each pot, and keep in shade till the leaves are well formed, then bring the pots into the sunlight. They are most useful for filling up empty spaces between big pots along the front of your verandahs, which you naturally wish to have appear as bright as possible. And these pots are also very nice for filling in your rustic trays which you may have on rustic stands near your porch, and elsewhere in bright sunlight. Oxalis plants are also excellent among rock work.

When they die down after the winter, stop watering, and when the soil is quite dry, turn out the contents of the pots, shake away the soil gently, remove the bulbs, and put them away like your caladium bulbs, taking care to keep the colours separate. If you don't want to use the pots for anything else, you may leave the bulbs as they are, and put away the pots in a safe corner of your verandah till the following September, when you should repeat the above-mentioned process. The canary oxalis (*O. cuprea*) in particular is very attractive, as its lemon colour is different from other yellows of your annuals. Oxalis

should be watered at its roots, without the rose to the watering pot.

Oxalis marks the 21st and 22nd of November in the Calendar, and is devoted to the Virgin Mary, and to St. Cecilia, Patroness of Music, 230 A.D.

Palms.—These plants, if in good condition, make admirable indoor decorations.

Send to the gardens at Lucknow and Saharanpur for a list of palms, if you live in the North of India.

If you live in the South of India, you could not do better than send to the Royal Botanic Gardens, Ceylon, for what you want, for there you will get an assortment for a moderate price.

Livistona mauritiana, the large fan-shaped palm, is what you generally see used by most people. It is a very satisfactory palm to be undertaken by beginners. Then there are some others I would recommend as very pretty and effective and easy to grow—*Calamus Roxburghii, Caryota urens, Kentia Forsteriana, Phœnix acaulis, Thrinax argentea,* etc.

We will suppose you will start with small-sized palms. Put them into 10-inch pots first and give them this soil—two parts leaf-mould, one part common garden earth, and one part composed half and half of pounded *kunkur* and river silt. If there is no river near you, the mud from the bottom of a dried-up pond will do instead of the silt. *Take care there is no manure mixed in with your leaf-mould.* Keep your palms in the shade, and give them plenty of water when first planted. In the rains is the best time to plant them. To keep your palms beautifully fresh and green you must remember two things: give them light but *no sunshine directly on them,* and to keep their leaves free from dust by frequent sponging with clean water. If you have no time to sponge each leaf yourself, the best plan is to douche them in your reservoir. Have a piece of board cut round, of a diameter an inch or two larger than the top of your biggest palm pot; cut a hole in the middle of this board big enough to admit the *trunk* of your palm, cut this board right across into two pieces, then fit it on to the top of your palm pot and tie it down securely. Your mali

can then turn the pot topsy-turvy, and douche the palm in your reservoir quite safely. This is the easiest and most effectual way of clearing off the dust from the pores of your palm leaves, and, as I said before, to free them from dust is to keep them healthy. This should be done once a week in the hot weather; in the winter once in two or three weeks, *but always in the morning in winter.*

Never keep your palms shut up in your drawing-room *at night;* they can't live without air; so, before shutting up the house, have your palms put right out into the open air in the hot weather and rains; and under a tree in the shelter of the conservatory, or in your verandah, in winter. Palms kept indoors constantly will have a tendency to look *flat*, with their leaves curving downwards. If this happens to yours, you must remove them to hospital, *i.e.*, your open-air conservatory. They are pining for *diffuse overhead light*, which the ceiling of your rooms shuts out from them completely, therefore you must keep them in hospital till the light from above in your conservatory draws up and restores the leaves to a more upright and natural position. Always cut away sharply with a knife at once any broken, old or disfigured leaf.

The palms you first plant in 10-inch pots should the following year be put into 12-inch pots, and the next year promote them to 14-inch pots. *Always transplant in the rains.* The sizes I have given are the best-sized pots for rustic stands and for easy moving in and out of rooms. In the 14-inch pot they will grow to a good size, and have ten or twelve well-developed leaves from twenty-four to thirty inches long. In tubs and in the ground they will grow much larger. Palms are always valuable, and therefore should always be taken care of; but it is no uncommon sight to see a palm in its pot out in the blazing sun with yellow dying leaves.

Pansies.—From the French *Pensée* (*Viola tricolor*).

"And there is pansies, that's for thoughts."—*Ophelia, Hamlet, Act IV, Scene* 5.

Sow the seed in your boxes in October (*see* "Seed Sowing") in ridges well apart, for since they do not all

germinate at once, you should have plenty of room to take up those which have five or six leaves, without injuring others which are still undeveloped. The soil for pansies ought to be rich and light, so to the soil already advised for annuals add just a little more old cow-dung and sand. Take up your pansies as soon as they show four or five leaves, and plant four in each seed-box, and keep them in the shade till they are double the size; then plant out in your beds and keep a good many to plant singly in 6-inch pots, for placing which you will have many opportunities. For porchsteps, verandahs, etc., your little pots with single pansies will make a delightful show of colour. These pots should be put in the open air at night, and frequently changed. If you wish to keep your pansies in flower for a long time, you should snip off the withered blossoms before the seed-pods form. They belong to the violet family, and throw out suckers at the roots, so if among your plants you find some particular kind you would like to have more of, take up the plant and divide it at the root, planting them at once.

When you see the leaves of your pansy plants turning yellow, it is because they have too much manure, or the drainage is clogged. Take up your plant and remedy the defect. Those pots from which you wish to save seed should be set aside when the flowers begin to wither, each colour by itself, and tiny squares of *fine* muslin tied over the seed-bearing stems.

The pansy marks the 13th of March, and is devoted to St. Euphrasia, 410 A.D. (*see* "Hints").

Petunia is one of the most necessary of pretty and easily cultivated annuals. Get one packet of white and one of mixed colours, and sow in boxes at the break of the rains in districts with under 40 inches rainfall and a moderate temperature, and in October in other places. When grown to two or three inches high, plant them out in your beds and borders. Petunias grow to a height of about eighteen inches, and look effective in many settings. They are specially effective in beds among grass or in mixed borders. The white ones seem to keep longer in flower than the coloured, and you will find if you grow them in alternate lines with your sweet-peas, or to border centres of

sweet-peas, the combined perfume will be delicious, and the effect of colour very pleasing.

If you plant your petunias in beds and borders when you wish them to grow closely and compactly, pin down the long sprays with bits of wire bent like big hair-pins. If grown as single plants, pinch off the ends of the branches till the plant attains a bushy appearance. There are now many colours available and double varieties. A glance at a modern seedsman's catalogue will show you the range of device.

Petunias are very hardy, and flower all through the cold and hot weather. They die down in the rains, but come up of themselves the following winter. The flowers of the self-sown seed plants do very well the first year, but after that they are poor and get mixed in colour, so it is better to get fresh seed (*see* "Hints").

Phlox Drummondi, "the indispensable ornament of an Indian garden", is what Firminger rightly calls this dear little annual. It grows in various heights up to a foot, but is, on the whole, a low grower, so must be put in front of annuals that grow higher. Get some packets of mixed seed. Sow in June or October (as for petunia) in separate boxes. When the plants are two or three inches high, take them up and plant the mixed colours in beds and borders, and the red and pink in patches by themselves (for cuttings) and in flat boxes of your rustic stands; also in small pots for your verandahs and porch—a good many, so as to admit of their being changed from time to time. Phlox, like petunia, will sow itself, but you must save seed the first year, because the flowers of those that come up self-sown are not so good.

Among your mixed kinds you may see some you particularly like; you can make cuttings from these, or take up the entire plant carefully and divide the roots.

Ask Sutton to send you seeds of the perennial phlox, and plant these in small clumps in corners of your shrubberies, where they will be sheltered from the hot wind. These will grow as tall as your larkspurs, and will keep in bloom longer than the dwarf phlox.

In one of my gardens I had an oblong plot at the back of the house, which I grassed over and planted with a small rosary, each rose-bush at a distance of six feet from the other. This grass-plot rosary had a nine-inch border of red alternanthera, against the inner side of which was a nine-inch border of mixed phlox. This plot, from January to May, was a sight pleasant indeed to the eye. It was watered by the hand, and the grass-cutters kept the grass clipped low (*see* "Hints").

Pilea muscosa is a pretty weed often mistaken for a fern. You will get plants of this at the public gardens at about six annas each. If you start with two plants in your damp, shady rockeries, you will have quantities the following year. It creeps and roots itself very satisfactorily, and you will find new plants growing on the stones where it had shed its seeds. It is one of the prettiest evergreens you can have in your rockeries; it is easily propagated by layers, and most useful in table decoration (*see* "Hints").

Pinks (*Dianthus sinensis*) are the old-fashioned "gilliflowers" of Chaucer, Spenser and other old poets. Shakespeare makes Perdita say—

> "The fairest flowers of the season are,
> Our carnations and streaked gilliflowers."

Pinks, having flowers and foliage differing completely from other annuals, form a pretty variety. Sow in boxes in October and plant them out when they are about three inches high into beds and borders. Single plants at equal distances in among your mignonette look very pretty. Keep a good many to plant singly, or three in a pot for porch and verandah decoration. The pinks in pots, if kept where they can be sheltered from severe sun and heat, will flower on into the rains; the other flowers of this family—carnations, etc.—you must not attempt till you are a more experienced gardener. Pinks will keep in flower a long time, especially if you cut away the old flowers before the seed-pods form. Set aside some for saving seed.

The pink means *pure love*. It marks the 4th of June, and is devoted to St. Quirinus, Bishop, 304 A.D.

Plumbago is a pale blue flower growing in extremely elegant bunches and well worth cultivating. It grows quite easily from cuttings and division of roots in any part of India where the winter is not severe. Have several small beds with half a dozen shrubs of this lovely blue flower, and sow seeds of the scarlet poppy between. Keep the shrubs only about two feet high by pruning in June and October (*see* "Hints").

Poppies.—"The ancients who regarded *Sleep* as the healer of all woes, the great comforter of the world, gave him for his only ornament *a wreath of poppies*".

When sending for seeds, ask for seeds of both *Papaver rhœas* and *Papaver orientale*. Shirley poppies are also exceedingly beautiful. Get also a packet of mixed *Eschscholtzia*, the Californian poppy, of all sorts of brilliant colours. As you cannot transplant poppies, sow the seeds where they are to remain. In the "Cornflower" paragraph, you will see how I advise sowing them in alternate lines and in beds, and see also paragraph "Gypsophila", whose fine white blossoms show up the colours of the poppies most beautifully. Have a spare patch in your reserve garden for cutting. Fortunately, the poppy does not deteriorate, so save your seed every year. The seeds of poppies are very small, and the Indians use them as the smallest measures of weight just as the English used barleycorns and called them "grains" (*see* "Hints").

It means *consolation*, marks the 15th, 17th and 24th of May, the 18th and 20th of June, and is devoted to five saints in the Calendar, among whom is St. Paschal, 1592 A.D. Since the Great War, the poppy, with its double symbolism of sleep and consolation, has become part of the ceremony of remembrance on 11th November, Armistice Day.

Portulaca.—One of the most varied and brilliant of low-growing annuals. Sow in October where it is to remain. You must find room for small patches of it between the roses in your rosaries, and at intervals in grass borders, etc. The reason why I don't recommend their having conspicuous beds to themselves, is that their brilliant blossoms are

at their best only while the sun is shining on them. When the sun goes round to the west, the Portulacas close so that their beauty is not visible to those who come into the garden only in the cool of the evening. But in winter there are many days when one can bear the mid-day sun with comfort, and you will then find what a "thing of beauty" the Portulaca is, though it may not be a "joy for ever". In tubs and large *nands* where I had foliage plants, etc., growing in the sun, I scattered some Portulaca seed. They flowered beautifully, and formed such a pretty *setting* to the centre plant. Bees are very fond of the flowers of this plant. Save the seed by gathering before the pods are *quite dry,* else they will burst and be lost. Dry the tiny pods in muslin bags before you put them away in bottles.

Quisqualis indica, commonly known as the Rangoon creeper, is a really beautiful evergreen. You may already possess it, if not, some of your neighbours will gladly spare you a root or two. *It needs no care,* a grand virtue in a plant that will afford you flowers all the year round; it can be grown in many ways. I had a big one in a corner of my lawn among foliage shrubs, which was kept round, compact and shrubby by always having the old wood pruned away. Then I allowed quisqualis to climb up some camphire (*mehndee*) along my reserve plot, and it formed a thick, shady, permanent *overhanging* hedge, behind which my reserved violet plants, on a bank, grew safely in the rains, and in the shade of which I kept newly-potted plants. On the sunny side of your conservatory plant quisqualis here and there to supplement your ipomea, because the broad leaves make a strong shield against the cold blasts of winter and the hot winds of summer. Nail up quisqualis with large nails and wire stretched from one nail to the other against outhouse walls, or along boundary walls, and you will be more than recompensed by the result. You will notice that the exposed part of the unopen petals is red, and the rest white: after the flower opens the whole of each petal turns red gradually. Quisqualis throws out suckers in all directions: take these up in the rains, and plant in gaps in hedges; it is most valuable in table and indoor decoration (*see* "Hints").

Roses grow wonderfully well in the Central Provinces and the North-West Provinces, and, after all, do not need very much care. But even if the rose were a difficult flower to cultivate, its rare and perfect beauty would be worth the greatest trouble, and no garden can be complete without the "Queen of flowers". Anacreon, the poet of love, says:—

"Resplendent Rose! the flower of flowers,
Whose breath perfumes Olympus' bowers;
Whose virgin blush of chastened dye,
Enchants so much our mortal eye."

The number of books dealing with the rose appears to be endless, and the diversity of instructions is sometimes bewildering to the amateur. Learned talk of Hybrid Perpetuals and Wichuraianas makes the beginner feel that here are mysteries which he can never hope to fathom. But, after all, the growing of roses is not so desperately difficult a thing as all that. There are, as we well know, rose trees of no mean quality that grow on the drainage from a tank, the sullage water of a cookhouse, or the casual potfuls bestowed by a careless mali. These incorrigible plants flower in their season and refuse to die.

If such be the case, there must be some possibility of our growing roses to which we are prepared to give a little care. It is not all a matter of technique. It is largely a matter of love. If you will read Dean Hole's delightful work "A Book About Roses" (The Nelson Library of Notable Books), you will get an inkling of what I mean.

A little knowledge may be a dangerous thing, but a little knowledge is better than none, and the first knowledge we want in this land of enormous distances and great variety of surroundings is a knowledge of the climate in which we propose to grow these roses. It is exceedingly difficult for any one person to speak with authority regarding conditions outside those of his or her immediate environment, but the following are general principles.

Roses are at their best in the North of India where they get a cold winter, a dry summer, and plenty of sun. In the Deccan good roses can be grown although there is no cold season of the severity of the North, and a long blooming season can be expected. On the west coast of

India certain varieties of roses do well and others do not, the damp air and even temperature seeming not to suit them. Patwardhan in his "A Guide to Rose Culture", p. 22, quoting D'Cruz, states that the following varieties do well in Bombay (the city):—Paul Neron, La France, Marie Baumen, Marie Von Houtte, White Mamon Cochet, Pink Mamon Cochet, Kaiserin Victoria Augusta, Mme. Margottin, Killarney, Perle de Lyon, Etie Morel, Coquette de Blanches, Beauty of Waltham, Her Majesty, Lord Roberts, Lady Roberts, Frau Karl Druschki, Etoile de Lyon, Jules Margottin, Francis Kruger, Perle de Jardine, Mme. Falcot, Sunset, Gen. Jacqueminot, Bride, Archduke Charles, Xavier Oliba, Empress Charlotte, Mme. Isaac Pereira, Viscountess Marguerite, Grand Mogul.

The time for performing the different operations of rose-growing varies to some extent with the climate and location of the garden. The planting of cuttings in the ground may, in places of small rainfall and medium temperature, *e.g.*, Poona, be done at the break of the rains, provided that arrangements are made whereby heavy showers do not cause waterlogging of the beds or pots. In most places on the plains, however, cuttings are best put down in October. In the Konkan the best time appears to be January. The same times hold good for transplanting or budding.

As regards pruning, there is a considerable difference. In the Deccan it is possible to get a new crop of flowers every three months from July to March, and pruning is done immediately after each crop is over. Similar pruning can be applied wherever the climate is such as to cause continuous growth and blooming. In regions of heavier rainfall, where flowering during the rains is not so profuse, a pruning after the cold weather sets in, and one more possibly before the next rains is about right. On the hills early spring is the time. Get the advice of local practitioners wherever you are. Remember that these are general hints.

Do your pruning yourself if at all possible. You will make a better job of it than any mali.

Get some one to show you how to bud, and try your hand at it. The operation is fully described in Firminger's "Manual of Gardening for India", but it is better to have

some practical gardener show you how to do it. You will find it a fascinating pursuit.

Remember that rose trees must have—

(1) Rich well-dug, well-drained, well-manured soil.

(2) Careful watering and weeding. Top-dressing and liquid manure later.

(3) A rest at least once a year. In places where there is frost a winter rest occurs. In hotter climates an artificial rest must be given by the reduction of water. Water reduction should be practised at the end of each flowering season, and a short rest given, but one long rest is really necessary, say the months of April and May, when the plants are kept alive in a hot climate but not allowed to grow vigorously.

(4) Judicious pruning. This has been made into a mystery by some professionals. There is no mystery in it. Cut back strong growers hard, cut back weak growers slightly. Prune for shape, and usually above an outward pointing bud.

The Appendix on Roses in this book by an expert will help you.

There are five or six hundred kinds of roses to be seen in the different public gardens, so it is not an easy matter to choose which you will have, especially as there are some roses known to different persons by different names. However, as you are a beginner, twenty-four different roses will be enough for you to start with, if you have only the small garden mentioned before; but if you have the larger one I have also described, you might send for three or four of *each* of the kinds I recommend.

PINK ROSES.

1. *La France.*
2. *Captain Christy.*
3. *Beauty of Waltham.*
4. *Souvenir d'un Ami.*
5. *Souvenir de Malmaison Rouge.*
6. *Victor Verdier.*
7. *Edward's Rose.*

RED ROSES.

1. *Monte Cristo.*
2. *Black Prince.*
3. *Alfred Colomb.*
4. *Firebrand.*
5. *General Jacqueminot.*
6. *Horace Vernet.*

WHITE ROSES.

1. *Acidale.*
2. *Amabilis.*
3. *Citrodora.*
4. *Coquette des Blanches*
5. *Devoniensis.*
6. *Madame Noman.*

YELLOW ROSES.

1. *Augusta Vacher.*
2. *Elise Sauvage.*
3. *Gloire de Dijon.*
4. *Maréchal Niel.*
5. *Marie Van Houtte.*
6. *Solfaterre.*

Of all which I have mentioned you can obtain well-rooted plants from the Lucknow and Saharanpur gardens. If you are at any distance from the gardens, I won't advise getting cuttings, as you can't depend on their travelling safely. But if you are only an hour or two by railway journey distant from the gardens, you may venture on cuttings (*see* "Rose Cuttings").

But whether you send for rooted plants or cuttings, do not begin earlier than 10th October or later than the end of November—the earlier date for the Central Provinces, the later date for the North-Western Provinces. I say this, as I find the heat begins sooner in the Central Provinces than in the North-Western Provinces: so you must give your new plants as much of the cold weather as possible to establish themselves before the summer begins. So that you should know exactly what you are sending for, I had better give you a short description of roses which I have mentioned.

PINK ROSES.

La France, beautiful in all respects and a constant delight. She is in fact queen of all pink roses. Deliciously scented, of good shape, large, and very generous. Though she sends out her best blooms in the winter, she gives you some flowers in the rains too. Her monsoon roses are better in the Central Provinces than they are in the North-Western Provinces.

Captain Christy comes next—a fitting pair to *La France*, of exactly the same shade of pink, but differently shaped petals, large and free. He frames his magnificence in rich bronze leaves which cluster close up to his petals, and, like a soldier, *Captain Christy* holds himself erect and firm. He is finer full-blown than in bud.

Beauty of Waltham is a fine rose, of rich, satiny pink, slightly deeper in tint than the two foregoing roses. Its glossy petals curve outwards, and it bears flowers plentifully. Does not grow quite as high as *La France* and *Captain Christy.*

Souvenir d'un Ami grows to the same height as *Beauty of Waltham,* has glossy green leaves, of bushy habit, flowers plentifully, an elegant fresh pink rose, lovely in half-blown bud.

Souvenir de Malmaison Rouge, an old-fashioned climbing rose, whose charm is ever new. A very vigorous rose, needs some support, profuse flowerer, cuttings root very easily.

Victor Verdier, a clear, bright, pink rose, quite different in tint and shape from the five other pink roses mentioned. Erect in habit and very showy.

Edward's Rose.—It goes without saying that you will have plenty of the hardy, common pink *Edward's Rose,* or *monthly rose,* to perfume the garden, though ladies usually do not care to use it for decorations in the house on account of its pronounced and somewhat crude colour.

Red Roses.

Monte Cristo is a large dark-red rose, close-petalled, of exquisite perfume, hardy growth, and with handsome foliage.

Black Prince, as its name denotes, is the darkest of red roses. Give it all the sun you can, and an old nail or two buried near its root. Iron is supposed to enhance its colour. When cutting the blooms of this rose, do so in the morning when the bud is half-open, and it will retain a pretty shape to the end. When full-blown on its own bush, its petals curve downwards and then it is not so dark as when half-blown.

Alfred Colomb is a well-shaped, bright red rose, beautiful in all its stages—from the small bud to the full-blown flower.

Firebrand is a dark-shaded red rose of good shape, and gets its name from being conspicuously attractive. A strong, erect-growing rose.

General Jacqueminot is one of the good, old-fashioned, never-failing roses, with regular petals. The General is gallant enough to give you some blooms even during the rains.

Horace Vernet is a model rose, over which any artist might become inspired ! To me it is the best of all red roses. Its perfume is delightful, and nothing can eclipse its beauty when in half-blown bud. See that it gets liquid manure weekly when its buds begin to form, and save every cutting carefully.

White Roses.

Acidale is a *tea-rose,* which I have classed among the white ones, as its faint flesh-pink tint is too pale to class it among the pink roses. It is one of the sweetest of *tea-roses,* flowering profusely all through the rains and winter, and lends itself to all sorts of arrangement in bouquets, etc. Its profuse sprays of buds and new leaves form a pretty decoration in themselves.

Amabilis is another *tea-rose,* similar to the preceding in habit, but thicker petalled, and, perhaps, of a slightly deeper flesh tint. I might coin a word in favour of this rose, and call it a *resourceful* rose ! Its buds are borne plentifully on longish stems, and may be freely cut to arrange as garniture with other roses whose buds are too precious or too few to be gathered at an early stage.

Citrodora, a pure white climbing rose, you will be delighted with. It is strong, grows quickly, and bears a profuse quantity of flowers in never-ending bunches. Give it support, and prune it sparingly in October.

Coquette des Blanches is a very satisfactory milky-white rose, full and cupped in form, given to hang its head rather coquettishly, very hardy and useful; it seems to be continually in bloom.

Devoniensis, a sweet old-fashioned rose, whose half-opened buds are considered to be so perfect in tint and form as to make it a favourite model to French artificial flower-makers. Flowers profusely, has very pretty bronzy-green foliage, and grows easily from cuttings.

Madame Noman, a perfectly white rose, another model of the artificial flower-makers. It is beautifully shaped,

of dwarf habit, has pale-green leaves, flowers liberally, and possesses to a great degree the strong perfume of the real Persian "otto of rose".

Yellow Roses.

Augusta Vacher is a handsome rose, of rich coppery yellow, full and firm, and beautiful from bud to full-blown flower. Get this rose from the Saharanpur gardens.

Elise Sauvage is sure to please you. She bears flowers in abundance, tender-petalled, full and cupped, of a pale creamy yellow, darker towards the centre. A rose that looks particularly well in vases mixed with heliotrope only.

Gloire de Dijon.—This pale, apricot-tinted rose is a climber of great strength. It grows very easily on support, and loves *soap-water!* You will find its blooms improve very much if you could manage to grow it where it will get the soap-water running from the bath-room spout. Bears a profusion of flowers. A most satisfactory rose.

Maréchal Niel, a grand rose, *large* and intensely yellow, strong and quick-growing. You must have quantities of this rose, for it is so reliable. I planted three cuttings of Maréchal Niel together on a side of the house where it got the soap-water from a bath-room channel. I gave it strong support, and in its third year, in the month of February, I counted more than four hundred blooms at one time on this bush! Cut away old wood in October.

Marie Van Houtte.—Whatever rose you may do without, do not omit this lovely lady from your list. In her you will find a variety of tints possessed by no other rose: her petals of glossy white, canary, and yellow, melt into apricot pink in the most fascinating way. The buds are at first canary, and, as they expand, the petals multiply tints of yellow and pink, till, when full-blown, the colour defies descriptions. It blooms plentifully, and cuttings take easily.

Solfaterre is another yellow climber, not so luxuriant as Maréchal Niel, of a paler yellow, a more expanded flower of very pleasing form, and a very free flowerer. It is a desirable rose, for it grows anywhere and needs very little care. A great many buds form on each spray, quite a bouquet in itself. Should be pruned slightly in October.

I must ask you to cultivate one more rose, *viz., Sweet-briar, the Eglantine* of the poets. It is the emblem of "poetry", and in the Floral games, a wreath of it was bestowed on the prize-winner in compositions on the charms of study and eloquence. Its blossoms have no particular virtue, but the leaves of a bush will send its perfume a long way; sprays of it in a vase will perfume a whole room. It is excellent for pot-pourri. It is best propagated by layers.

Russellia.—There are two kinds, *juncea* and *floribunda,* both pretty and effective. *R. juncea* is to be found in almost every garden, so if you haven't got it, your neighbours may be able to spare you a root or two. I have seen it growing in huge tangled masses in neglected gardens, where it never got a drop of water except what was rained upon it in the monsoon. At the beginning of a garden walk make, in July, a hollow brick pillar (described elsewhere) on each side of the path, fill it with soil composed half and half of common earth and leaf-mould, pour water on the soil to make it settle, then place your *R. juncea* on the top, letting its long stems trail over the sides of the pillar. It will root itself wherever the stems come in contact with the ground. Take up these rootlets, and if you have a *pucca* watercourse near your well, plant them along it. Give those in the pillars occasional watering in the winter, and as much as you can spare in the hot months. *R. floribunda* may be treated exactly in the same way. It is very pretty for indoor decoration, and keeps in bloom for a long time. Prune slightly after the rains (*see* "Hints").

Salvia.—No garden is complete without one or more of the *Salvias. Salvia splendens* is the glorious red one, easily grown from seed or cuttings. It lasts a long time, and is specially valuable for striking massed effects. *Salvia farinacea* is a bluish perennial, very effective in borders where blue is wanted. Both can be grown in pots.

Saxifrage.—You can bring this down from the hills, or you can buy a pot of it (*Saxifraga sarmentosa*) from any public garden. In rockeries it is invaluable, forming such a pretty velvety covering for border stones. One rooted plant will in one season increase tenfold; *kunkur*

is what it loves to grow upon in the plains, so if it is once established where the rock-work is kept cool, you will find it come out in great force in the rains and continue its silvery green through the winter. It does not like the hot weather, and at that time shrinks back into sheltering crevices. Grow some in flat pots in hanging baskets; but when the hot winds begin to blow, take down these pots and sink them in hollows in your well-shaded rockeries. When planting new roots among the *kunkur* or burnt brick, give it a slight sprinkling of leaf-mould. It propagates itself by suckers, which it throws out in all directions.

Saxifrage marks the 12th of April, and is devoted to St. Zeno, Bishop, 380 A.D.

Selaginella is a beautiful tender foliage plant, between a moss and a fern. You will find many kinds in the hills, if not, they can be bought for a few annas from any public garden. Send for the following kinds: *S. denticulata*, *S. helvetica*, *S. rupestris*, and *S. mutabilis*.

Use soil similar to that recommended for ferns, and plant in small pots. Sink these pots in the crevices of your ferneries; the leaves will spread over the rock-work in the rains, but in the winter you will have to take up the pots and keep them warm in your verandahs.

Snapdragon (Antirrhinum).—This is a flower that has long been popular in gardens, and which has, in Britain, attained considerable development as a florist's flower. Three main classes are recognised according to size, namely, Tall, Medium (or Intermediate), and Dwarf (or Tom Thumb). The uses of these various sizes will at once suggest themselves; the tall for isolated groups, for the back of borders, and for cut flowers; the medium for the middle of beds, for pots, and for cut flowers; the dwarf for edges of beds and the filling up of spaces in a design. A dazzling array of colours is now available in all classes. A glance at any florist's catalogue will give the information desired about these. In places, on the plains, of small rainfall and moderate temperature these flowers can be sown in June-July, but in most places of the plains it is best to sow in October and transplant when two inches high. On the hills sow in March. Give the big varieties plenty of space. The

soil should be rich and well drained. Waterlogging and fresh manure are harmful.

Sweet-pea.—The development and popularity of this plant in Britain have been phenomenal. And no wonder. The delicate shades of colour, the delicious odour, and the lasting qualities of the flowers all combine to make them irresistibly desirable. Florists now offer a large range of tints and forms. In this plant, as in the last mentioned, we also get tall, medium, and dwarf forms. The Spencer type have frilled petals.

The soil for sweet-peas should be well dug and enriched with a plentiful supply of well-rotted manure. This is necessary, otherwise, although the plants grow, they never attain any size. Plant in March on the hills and in October on the plains in open sunny situations. Sow not closer than four inches between plants and nine inches between lines. The seeds should be at least two inches deep in the soil. Sow where they are to grow. The seedlings *can* be transplanted, but the Indian mali is not likely to do it successfully. The plants may need thinning out (every alternate one) if germination is good and growth strong. The plants need support from their earliest days. Put in small twiggy branches at once for the tendrils to seize upon, and as soon as possible give permanent strong support by large twigs or stakes, planted so that they will not fall with a strong wind. As the plants grow, give them liquid manure once a week and keep the soil well hoed and free of weeds. Cut the flowers as they appear and don't let seeds form until you want seed.

Tecoma grandiflora is a fine creeper that will please you very much. It has extremely pretty foliage, and its bunches of handsome, tawny-orange bells are very uncommon. Sow the seeds in March in a sunny place, in the centre of a bed that is now bare of its winter annuals. Make a support for it similar to that advised for honeysuckle. It will shed its leaves in the cold weather, so then remove the supports, cut back the stems to within eighteen inches of the ground, and let tall annuals hide the leafless Tecoma which will be in its glory when the annuals fade.

It will send out suckers during the rains: these should be taken up and planted elsewhere. Save the seed.

Tecoma stans is a very pretty shrubby tree, which you may probably have somewhere in your compound. If not, plant seeds of it in your shrubberies in the month of March. It has very pretty foliage, and its bunches of yellow flowers afford you very effective decoration through the hot weather. Save seeds when they begin to dry, and plant in your outer hedge near the road, or at the back of your outhouses, in March.

This plant is drought-resistant and wind-resistant and has sown itself on some of the rocky hills near Poona where it seems to flourish on the rainfall alone.

Thunbergia.—Handsome evergreen creepers, you will find very useful. There are two you may send for: *T. grandiflora*, flowers blue, grown from layers in the rains, develops into the densest of creepers. Should be grown at a distance from the house, as it covers the tallest trees and gives the effect of ivy-covered ruins. *T. laurifolia*, pale mauve flowers, in bloom almost all the year round: not so dense as the former. Should be pruned in the winter. Sow seeds in the rains.

Tradescantia discolor is an ornamental foliage plant, with leaves of a deep green bordered with crimson. It is common, but I mention it for several reasons: it grows just where you please. Two or three in your rockery make a pretty variety, and it is very useful for indoor decoration.

You *may* find it somewhere in your garden, if not, some neighbour will probably have more than he knows what to do with, and may spare you a root or two. Plant one or two on the top of brick pillars which mark the entrance to pathways, and let some creeper like *Thunbergia* be trained round them. Have a good big clump of it somewhere in your reserve plot for decorative purposes. Always cut away side shoots, and pick out withered leaves, etc., that may lodge between the broad leaves of the *Tradescantia*. Keep it bright and fresh by watering with the rose of the watering-pot. Propagate by cuttings. *Tradescantia zebrina* is another species so called on account of its purple and

grey-striped leaves. It is a spreading, trailing plant, suitable for covering rockeries or bare spaces. It is an admirable component of a hanging basket or moist border or rockery (*see* "Hints").

Tropæolum (*see* **"Nasturtium").**

Verbenas.—If you once saw verbenas growing in full vigour, you would understand why I *strongly* recommend them. Ask for seeds of pink, deep red, and white. I don't advise purple and mauve, because these two are inclined to overwhelm the others. Sow seed in boxes any time in October and November. Those sown later, flower longer into the hot weather. Take up the plants when two or three inches high, and plant in some *raised* beds with broken bricks between the roots. Verbenas don't like quite level ground. They are very pretty in raised borders banked with grass, and a pretty effect is also made by having beds in *three tiers:* red verbena on the lowest, pink on the next, and white on the third, pinning down the trails to preserve the even lines of colour.

Verbenas grow thickly and quickly and seed themselves; save seed in the hot weather. They will look scraggy and withered in the rains: cut away the dead branches and put in cutting of *Amaranthus melancholicus ruber,* or coleus. These will make your beds look gay during the rains, and just as these are cut and transplanted (*see* "Coleus"); in the cold months you will find your new verbenas coming up plentifully. Take them up and freshen the soil (soil for annuals) and re-plant. Have some in your reserve plot for indoor use (*see* "Hints").

Violets are emblems of *modesty*—

"It has a scent as though Love for its dower
Had on it all his odorous arrows tossed;
For, though the Rose has more perfuming power,
The Violet (haply 'cause 'tis almost lost,
And takes us so much trouble to discover)
Stands first with most, but always with a lover,"
—BARRY CORNWALL.

Get roots of this dear little plant in October. I would not advise your raising it from seed. A few dozens to begin with will cost very little, and the following year you

will find they have more than trebled in number. To your soil for annuals, add a little sand, for violets hate heavy, cloggy soil. For pots, the flat saucer-like pots (*pir-ritch*) are the best. Put a layer of broken bricks at the bottom, fill up with soil to within an inch of the brim, water to make the soil settle, then plant three in a pot, and sprinkle the surface with half an inch of soil. These pots ought, if possible, to be kept on the *north* side of the house where they will get the night dews, plenty of light and only a little, say an hour, of actual sunshine. The blossoms of plants, kept in this position, will be plentiful and of a good large size. *I don't manure my violets*, for in my humble opinion, it promotes too much leaf and expedites decay in the rains. In the monsoon, bring your violet pots into the verandah, give them air, light and all the sun-warmth to be had. You will lose a good many; never mind, don't touch them now, but, at the beginning of October, turn out your violet pots.

You will find that many of them which are decayed on the surface have still some vitality left below. Shake your roots quite free from the old soil, and separate the many rootlets you will discover to have formed round each original plant. There will be great deal of old, lengthy roots, clip these off with scissors to within three inches of the plant, fill up your pots with fresh soil, and plant three in a pot as before.

You will have three times as many violets as you started with. Prepare a *sloping bank* on the north side of your conservatory, round a shady tree or under the hedge of your work-yard. Do not forget to have the lower half of the bank composed of broken brick to admit of free drainage, especially during the rains. Use the same soil as for the pots, and plant at distances of five inches. Year by year your plants will increase; find new places for them, for you can never have too many of their delicious blossoms. Water every evening in the winter and hot weather, and only occasionally at a break in the rains.

The violet marks the 17th and 20th of March and the 10th of April, and is dedicated to St. Gertrude, Abbess, 626, St. Wolfram, Archbishop of Sens, 720, and to St. Mechtildes, Abbess, 1400 A.D. (*see* "Hints").

Yucca gloriosa is a strikingly beautiful object when in full bloom in the rains. If you have none, and your neighbours cannot spare you two or three shoots, you can buy plants of it in the public gardens. Plant in the rains, with moderately rich soil, and where it will get the full blaze of the sun. If your lawn is big enough to admit of clumps of foliage-plants at its corners, certainly have *Y. gloriosa* among them, if not, plant them in your shrubberies. If you have a very old bush of it, unearth the whole, separate the off-shoots, and plant singly where required, sinking the stem into the soil so that the lower leaves lie flat upon it. At the end of the hot weather cut away two or three rows of the lower leaves, and bank up the bare stem with fresh soil. The severed leaves may be dried and the fibres used for tying-up purposes. Every year the plants should be treated in this way, and the stem cut down after the flowers have ceased. I recommend *Y. gloriosa* not only because it is a magnificent ornament to the garden, but because its lovely blossoms are particularly useful for decorative purposes. It is not uncommon for *Y. gloriosa* to grow for some years without flowering (*see* "Hints").

Zephyranthes are small, pretty, pink and white lily-like plants flowering in the hot weather and rains. They can be had at public gardens. Get *Z. candida* (white flowers) and *Z. carinata* (pink flowers). Plant the white along your grass border, your pink in six-inch pots, three bulbs in each. Do this in April, and water when planted and then you see the bulbs begin to sprout. (Earlier in the Central Provinces and later in the North-Western Provinces.) These pretty things some call "Star of Bethlehem" and "Indian Crocus". The flowers will come out in May, June and July, and then they will go to rest. Take up the bulbs, which you will find have much increased and put them away like your caladium bulbs, to plant the following year. Water should be withheld when the leaves begin to wither (*see* "Hints").

Zinnias are really showy and satisfactory flowers to be grown during the rains in some of the beds that will then be bare of the winter annuals. Send for mixed double Zinnia seeds, with which you will be charmed. Sow some

of the seeds in boxes in the shade at the beginning of the rains, and some a little later, about July, because if your weather is not intensely cold after the rains, you will find some of your later Zinnias will continue blooming into the winter. When your seedlings are two or three inches high, plant them out in masses, at distances of nine inches, where they will get plenty of sun. Zinnias have some lovely shades of colour scarcely seen in any other flowers except dahlias. They make the garden gay during the rains, and are very useful as cut flowers (*see* "Hints"). Save the seed, dry in muslin bags before putting away in bottles. A self-sown crop may come up in the cold weather, but it is usually poor in size, colour, and shape of flowers. The plant undoubtedly tends to degenerate if seed is saved here and it is best to procure fresh seed annually if first-class plants are desired.

The Zinnia marks the 14th of August, and is dedicated to St. Eusebius, third century, A.D.

HINTS.

USEFUL AND ORNAMENTAL.

Pots for verandahs can be placed to great advantage if a low wall is made along the edge of the verandah. Leave nine inches of your verandah floor, then build this little wall eighteen inches high and nine inches wide, and let the top remain nearly flat—not quite flat—as the surface should slope outwards slightly, so that when plants are watered, the waste-water may run off without wetting the floor of the verandah. By this arrangement you can make a great show: one row of flowering plants on the ground, a second row on the nine-inch ledge of the verandah floor, and a third row on the top of the little wall. You will find this a very useful method for keeping things safe from excess of heat, rain, and cold.

Colouring for pots.—There are two kinds of earth very good for this purpose, native names "*Gairoo*" and "*Heermajee*". These give a rich red colour which enhances the beauty of the plant growing in the pot. Get your coolies to scrub the pots with bits of old rope or bunches of dried grass. The mali should pound the red earth, mix it with water and rub it on the pots with a rag.

One anna's worth of the coloured earth will colour fifty pots perfectly.

If your plants are valuable, and you wish to keep them as free as possible from insects, use kerosene instead of water for mixing the earth.

Verandah steps.—Coir matting is inexpensive and better than anything I know for covering verandah steps and floors. It lasts for years, white-ants won't touch it, water does not stain it, it can be washed in water, or dust and dirt can be easily shaken from it. It can be obtained from any fibre firm in India. Old coir matting should be chopped up and used as drainage for flower-pots (*see* "Flower Pots", page 17).

Protection against vermin.—All movable pots, stands, etc., should be moved, and verandahs swept, and afterwards sprinkled with a weak solution of phenyle or kerosene. The smell soon evaporates, but sufficient of its virtue will be retained by the floor, to make it an unwholesome abiding place for flies and insects, to say nothing of toads and snakes !

Avoid having rock-work or creeper-covered *jaffreys* about your verandahs and porches: the former harbours vermin, and the latter obstructs ventilation and protects mosquitoes. Baskets of fern, etc., suspended by *wire*, and pots and rustic stands are quite enough to make your verandahs and porches look charming.

Protection against frost.—If you have delicate plants in the ground likely to suffer on frosty nights, make a simple loop of wire, pin several folds of newspapers over it, and place it over your plants. Newspapers come in very handy for sheltering flowers and plants when you can't afford glass. A railway inspector travelling on his trolley in winter, once having forgotten to take his overcoat with him, utilised some *newspapers* to protect himself from the cold cutting wind, and found them an effectual covering ! So don't despise the use of them for your plants.

Baskets for plants and flowers.—These always look better with handles. Get the common bazaar rush or "coolie" baskets and make your own handles in this way. In the rains when trees have put forth abundance of new branches, gather a number of *long* supple sprays of tamarind, jaman, dodonea, *mehndee*, or anything that will afford you long slender twigs from three to four feet long. Remove all the leaves, then plait and interlace these twigs, as regularly as possible, to form bands four or five inches wide. Begin at the thick ends and plait downwards to the thin ends, tying in neatly with little bits of fine twine any refractory twigs. When you have done two of these bands, unite them together by overlapping the thin ends and interlacing them together with the help of a little tying. This makes one handle; fasten the thick ends to your baskets *with wire*, and keep the handle at the curve you wish, by tying it across. Put away your baskets till your handles

are quite dry, and then remove the twine that kept the handles in proper curve.

Flower supports in vases.—I am sure, when arranging long sprays of flowers in wide-mouthed vases, you have often felt exasperated when the sprays, instead of remaining where you placed them, kept falling over the edge of the vase, destroying all the artistic beauty of your arrangement.

You will find the following hint very useful where you wish to exhibit, to every advantage, just a few sprays of something specially beautiful:—Hold the sprays in your left hand, in the position in which you wish them to remain, and with your right hand, secure that pose by coiling round the stems strong flexible wire. When this is done, don't cut off the end of the wire, but bend it so as to make it into a star of four or five points radiating from the little tight coil round the flower stems; each point should be just long enough to touch the inner side of the vase, so as to wedge and keep your flowers exactly in the centre.

When you see the success of this arrangement, you will find that, by other judicious bending of this wire, you will be able to secure for your flowers the most natural appearance you can desire.

Dry the wet wire in the sun after your flowers have faded, and use again.

Delicate cuttings may be induced to root in this way. Take a tumblerful of cotton-wool that is perfectly clean, wet it thoroughly so that it may fill only half the glass: no more water should be in the glass than the wool can absorb. Let the *stems* of your cuttings be completely shrouded in the wet cotton-wool, leaving the head and leaves uncovered: stand the glass where it will get air and light. In a week or ten days, you will find your cuttings have thrown out roots, and may then be planted out in appropriate soil.—*"Popular Gardener"*.

To destroy maggots and worms.—Roses are attacked in the winter, and coleus, etc., in the rains, by these detestable creatures that are able to destroy an entire plant in a night. Lead chromate prepared as directed by Maxwell-Lefroy is the best remedy for all biting animals.

Use ½ oz. powder to one kerosene tinful of water, stir well, and spray on the plants.

Labels.—Clean a sheet of zinc: part of the lining of an old box will do. Get your tinman to cut it into slips four inches long and one inch wide, boring a small hole at one end of them, into which insert a small piece of wire by which you may attach them to your shrubs. The following ink can be made by any chemist, and is perfect for writing on zinc:—"Take one drachm of verdigris, one drachm of sal ammoniac powder, and half a drachm of lamp-black, and mix with ten drachms of water"; another ink is a solution of bichloride of platinum, twelve grains to an ounce. If quill pens wear out too rapidly with this, try the reed pens used by natives. For big lettering on metal, wood, pasteboard, canvas, etc., the sixpenny conical india-rubber pen is extremely useful, as with it you can write quite easily, even on a rough surface, with common ink, or the above special inks. Excellent labels can also be made by taking smooth slabs of wood of the desired size, painting them with white paint and writing with a lead pencil *before the paint is dry.*

To keep flowers fresh in the hot weather is, as everyone knows, next to an impossibility; but as I have found the following plan most efficacious, I can recommend it. Take three yards of your wire netting, cut it into two pieces lengthways, so that you may have two pieces three yards long and eighteen inches wide. Join the two ends of one piece together, so as to form a circle. Stand it upright, so that the *cut edge* should be at the *top*, and across this top fix a piece of split bamboo, cross and re-cross it with three other pieces radiating, so that the top of your wire netting bears a sort of a bamboo wheel with eight spokes. See that each spoke is firmly fixed with wire; make use of the other piece of wire netting in the same way. You now have a pair of *covers* large enough to place over two wash-hand basins filled with flowers. Keep these basins on the *floor* of your bath-room, fill with water, and place in them as many flowers as they will hold; *flowers to be cut in the early morning;* put the wire covers over them, and cover up *entirely* with a sheet or several towels, which must be kept

constantly wet all day. At night you will find that the damp cloths, and the shutting out of the intense glare, have kept your flowers beautifully fresh.

If you think the wire covers two tiresome to make or too expensive, you might have bamboo hencoops made, *as open as possible*, of the same dimensions—three feet in diameter and eighteen inches high. All the flower-vases taken off the breakfast table and kept under this wet coop all day will have their contents quite fresh enough to adorn the table again at night for dinner. There is something pitifully depressing in the sight of withered flowers on a dining table.

Flowers in the hot weather are Amaryllis, Amaltas, Bignonia venusta, Bombax malabaricum, Dodonea, Hollyhock, Ixora, Kuchnar, Lagerstrœmia Indica, Mehndee, Plumbago, Russellia, Oleanders, Pancretium, Petunia, Phlox, Quisqualis, Tecoma stans, Zephyranthes, etc., etc.

Flowers and foliage plants in the rains are Acalyphas, Alternanthera, Amaranthus, Antigonon leptopus (Sandwich Island creeper), Arundo donax, Balsam, Box, Caladiums, Camphire (Mehndee), Coleus, Cosmos, Canna, Cyanotis, Duranta, Hibiscus, Inga dulcis, Ixora, Kuronda, Lilies, Lagerstrœmia, Oleanders, Pilea muscosa, Plumbago, Quisqualis, Russellia, Teak, Yucca, Zinnias, etc., etc.

Cold weather flowers are without number! Annuals of all kinds, Camphire, Cyanotis, Ferns, Honeysuckle, Hollyhocks, Roses, Mina lobata, etc., etc.

Flowers in the hills.—Almost all the annuals that grow on the plains will grow in the hills, besides a great many more English ones that don't grow very well on the plains—Geraniums, Carnations, Anemones, Dahlias, Asters, Godetia, Myosotis, Narcissus, etc., etc.

Begin your garden work as soon as the cold weather lessens, some time in February, and sow your seeds from March to beginning of May.

Watch your bulbous plants and take them in hand as soon as they "*begin to move*". Gladiolus, Iris, Amaryllis, Narcissus, etc., first, and all Liliums, later on, from May to September.

Roses.—As you are in the hills usually from April to October, you will naturally wish for as many rose blooms as can be produced during those months, so your best plan will be to give your roses fresh soil and manure in *June, before the rains begin,* and then prune them (*see* paragraphs "Treatment of Roses" and "Rose Cuttings", etc.). At the June pruning, cut away all old, dry wood.

You will have many blooms during the rains, and if you snip off the *ends* of branches and mulch the surface of the soil round your roses in the spring at the beginning of *March,* you will, then, have some more good blooms. But remember, at this hot time of year, you must give your roses as much water as you can spare.

Chrysanthemums should be separated in the spring and pinched back if they make too rapid growth in the summer. If the suckers are not separated, your flowers will not be good. Manure the roots in September or as soon as the rains cease, and when the flower-buds begin to form, snip off more than half of them. You will have more plants than you know what to do with, keep the best ones in your front garden, and plant the rest among the dahlias on your hillside along the bank from your gateway, etc., and you will have abundant blooms for cutting.

Heliotropes do splendidly in the hills, because the soil affords the natural drainage necessary for them. Here they will grow from *cuttings,* and from seeds, which may be struck and sown at the end of February. Plant a good many in pots, and place these in raised mounds or banks, because if you have *snow,* these pots can be taken up and sheltered indoors. Some of the stronger plants, placed against a south wall and protected with dried leaves, will survive in Himalayan hill stations, if the winter is not abnormally severe.

Some of the better kinds you raise from seeds up here you should take down to the plains, where you can't manage to produce them from seed.

Geraniums only need sheltering from heavy rain and snow. Give them powdered charcoal and chopped cocoanut fibre, and increase by cuttings. Keep your better kinds in verandahs; the commoner, hardy ones will grow on raised beds round shady trees. Rooted cuttings should be taken

down to the plains, where they will thrive very well from October to March.

Begonias will thrive in the plains all the year round, especially in rustic "trays" and hanging baskets, if kept in verandahs where they will get only the morning sun.

Flowers in Southern Stations.—The times for seed sowing, pruning, transplanting, etc., in the south of India must naturally be somewhat different from those suitable to northern stations.

From my own observations, and from advice in the "Lawrence Asylum Press Almanack", the month of August should mark the beginning of your garden work. Sow the seeds of your annuals. Prune your roses, and plant your cuttings. This is the time to manure and freshen the soil of all rooted plants.

In September plant out your seedlings, trim your hedges, make cuttings of geraniums, carnations, etc., and sow. seeds of shrubs and trees.

In October roses, fuschias, violets and all budding plants that are sending out new, vigorous shoots, may be planted out.

In November mulch your roses. If the rains are heavy, protect your delicate plants.

In December late annuals may be planted out, and fresh sowings made of phlox, petunias, etc.

Your flowers ought to be at their best in January. During the hottest time before the rains, take care of your roses, etc.

Prune common, fast-growing roses in June and July, re-pot bulbs, and make general preparations for seed sowing.

You must remember that the soils for and methods of treatment, given in this book, apply to flowers and their culture all over India, and that it is *the time for gardening operations that varies.*

Arrangement of flowers.—The art of arranging flowers is one which has grown and developed considerably since the first edition of this book was published. It has been considered necessary to omit many of the old hints, especially for methods of table and room decoration that

are now completely out of date. The diminished use of the table cloth on our dinner tables, and the greater value given to the appearance of polished wood, naturally bring with them a different theory and practice of table decoration. As in most modern art and design, the tendency is away from garish showiness towards a stripped simplicity combined with functional efficiency.

If you have a mali who can arrange flowers, cherish him, for he is a valuable possession. Often your mali can be taught to appreciate your ideas, and there are few malis, whatever their faults, who do not like to arrange flowers.

In arranging flowers the containers are almost as important as the flowers themselves. A bunch of perfect flowers rammed into a tumbler lose most of their effect. It should be possible to obtain in silver, glass, pottery and brass, all the shapes and colours that one requires. Below are given a few simple ideas as to colour:—

(1) Bronzy-red flowers against a deep brown polished wood table.
(2) Red and white flowers in a deep blue container.
(3) Red flowers and deep green leaves, in a crystal-white glass container.
(4) Pink roses in a white or light blue bowl.
(5) Yellow flowers floating in a blue bowl.
(6) Red flowers floating in a black bowl.
(7) Bunches of red phloxes in a greenish glass container.
(8) Sprays of bronzy-red leaves in a reddish glass.
(9) Red and white Lochnera with its own foliage in a polished brass container.
(10) Duranta branches with ripe berries in a bronze metal container.

For table decorations at big banquets massed effects of one type of flower arranged down the middle of a long table cannot be surpassed. For the smaller table at an ordinary dinner of ten or so, one must not overdo the floral decoration but two or more containers of suitable shape and with suitably coloured flowers are essential. For the little intimate dinner probably one bowl or container will be sufficient.

For the decoration of rooms, flowers or plants are essential, but here again the modern tendency is towards restraint, the placing of one or two perfectly suitable pots, bowls, vases or other containers in the right place, with nothing elsewhere. It is impossible to give more than general ideas on such matters, as the working out must be left to individual taste and inspiration.

The following are notes from older editions of this book, dealing with the decorative uses of particular species:

Amaltas, a boon in the hot weather, always looks best without any foliage; but if you would prefer some garniture, the grasses will suit best.

Amaranthus melancholicus ruber makes a very good hall decoration at the beginning of the hot weather, arranged with masses of . . . what do you think? The white flowers of the common radish, or the yellow flowers of the humble mustard ! Your mali is sure to have plenty he is keeping for seed, and the blooms will give you elegant decorations, if you are not too fastidious.

Amaryllis.—Cut these in the morning and keep under your damp " coop " if you wish to use them at night. When these lilies are in bloom, the mango trees will be putting out their new leaves. Gather some of these for the garniture of your lilies; if you don't use these new brown leaves, arrange them with sprays of *Arundo donax* instead.

Balsams can only be used for low decorations. Saucers of wet sand will keep the blossoms stuck in them quite fresh for twenty-four hours. Bright red balsams, also the coral pink ones, make a very pretty dining-table decoration.

Bignonia venusta is too decided a colour for a dining-table, but a large bowl of it on your sideboard and one of your long-handled wicker baskets filled with it in your drawing-room, will be very striking.

Bombax malabaricus does not admit of being cut in long sprays, so a *low* set of flower-stands will suit it best, even plates of wet sand fringed with cyanotis will do. This arrangement also suits another jungle tree flower the *Butea frondosa* (native name *Dhak*), which is in flower in the hot weather.

Cyanotis lasts a long time if kept moist. It is a most useful garniture, and must always be dipped into water before using.

Dodonea, the pale, apple-green flowers of which are in profusion in the hot weather, will afford you many refreshing combinations of tints, as it looks well with white and with pink oleanders; with white *Ixora,* and with *Tecoma stans,* all obtainable at the same time.

Hollyhocks are most useful flowers for wiring when you want a large show. Cut them *just before using,* and wire in the same way as "Yucca gloriosa"; arrange double pink hollyhocks with the teak blossoms, or gypsophila; the lemon-coloured with Arundo donax and *mehndee;* the deep red hollyhocks with dark foliage. Hollyhocks sometimes appear self-sown in the rains, and last through the cold months, so you will have many varieties of effects with them. They are very effective in tall stands and baskets for hall and drawing-room decorations.

Kuchnar, white, is one of the most delightful flowers to arrange, for whatever you may combine with it, you are sure to be pleased with the result.

Lagerstræmia indica, white, like sea-foam, you can revel in, both during the hot weather and rains. Elegant and graceful in itself, a few sprays of Arundo donax is all it needs, and is the most refreshing sight your eye can rest upon, in the way of a dinner-table, on a hot evening. A mass of pink *Lagerstræmia* in your long-handled baskets, with the new leaves of the jaman, or of acalypha, is splendid for drawing-room decoration.

Oleanders are a great resource in both hot weather and rains. White oleander with dodonea is very cool-looking for a dinner-table in the hot weather. With grasses (its own leaves are too stiff) or ferns in the rains, it is exquisite. The pink oleander with *Amaranthus ruber,* coleus, also with acalypha foliage, is lovely, for the dining-table, and in large masses in tall flower stands for drawing-rooms, etc., etc.

Phlox, which is in flower through the cold months and well into the hot weather, gives you charming low decorations for the dining-table.

Plumbago, which you will have plenty of during the hot weather and rains, looks very well by itself in white

china, or mixed with gypsophila in tall vases. A large mass of this elegant bloom, arranged in wicker-baskets painted dark green or bright red, gives a delightful touch of colour in a drawing-room.

Quisqualis, is a treasure in both hot weather and rains. Gather the flowers in the morning and arrange for your breakfast-table, then remove to the protecting "coop" till dinner-time in the hot weather. This protection will not be needed in the rains. Quisqualis, with camphire, is a sweet combination. If wanted *specially* for evening use, gather in the morning, and keep under the "coop": by four or five o'clock in the afternoon, you will find the sweet pale pink buds all open, leave all the pale pink blossoms on the stems, but remove all the dark red ones. Quisqualis looks equally well arranged with teak blossoms, which are abundant in the rains.

Russellia juncea with white oleanders, or white zephyranthes, is a pleasing variety. *Russellia floribunda* with yellow zinnias, or with *Tecoma stans* (without any green leaves), looks charming.

Sandwich Island creeper, Antigonon leptopus, is charmingly arranged in almost any manner.

Zephyranthes, if wanted for night use, should be cut in the morning when half open and the stems placed in very wet sand under the damp "coop". If used for the drawing-room, place in vasses that will hold wet sand, or fill a large flat tin with wet sand and fit it into a basket, cover over the sandy surface with cyanotis or ipomea, and stick your zephyranthes, pink or white, all over between the leaves. Very pretty and effective.

Stains on flower vases, of glass and china, if long standing, can be removed by the use of a weak solution of hydrochloric acid, obtainable from all chemists. Don't touch this acid with your fingers, but apply it with a bit of rag tied firmly to the end of a small stick; rub the stains well, then wash your vases in lukewarm water, and dry with clean cloths. After your vases are thus perfectly free from stains, half a small lemon should always be kept on the mali's flower-tray. If this piece of lemon is rubbed daily on the stains that are naturally caused by the water and flowers,

your vases will look as good as new, though used for years. When lemons are not to be had, a little vinegar will do as well.

To keep cut flowers fresh there are various ways:—Putting a teaspoonful of powdered charcoal into the water of the vase in which your flowers are placed; leaving them out of doors in the dew all night; when you snip the ends of flower stems, hold the stem *under water,* and don't let the air get to the freshly cut stem. Flowers meant to be worn can be kept fresh by wrapping narrow strips of gutta-percha, or oiled silk, round the tips of the stems, so as to exclude the air. Flowers last longer if cut in the morning; if cut during the day, their vitality is weakened by rapid evaporation.

To pack flowers for travelling if they are to accompany you, the following plan will be found excellent:—Place the flowers close together in a large bowl or basin, with sufficient water to keep the stems immersed to a depth of four inches. Sink the bowl in a basket, the sides of which should rise at least six inches above the surface of the flowers. Stretch a cotton cloth over the basket, and tie firmly round the edge. If you keep this cloth moist during your journey you will find your flowers are perfectly fresh when you remove the cloth. The great thing is to keep off all dust, and let the air that reaches them through the cloth be quite damp. If the *cloth* is allowed *to rest in contact with the flowers,* all the tips of the petals will be found decayed and the colours spoiled, so for a *long journey* see that there is a space of six inches between the flowers and their damp covering.

If water in the bowls cannot be managed, soft cotton-wool wrapped round the ends of the stems and kept *quite moist* will answer nearly as well.

Cut flowers sent as railway parcels will travel very well if packed as follows:—Scoop a raw potato, and place in the hole as many stems of your flowers as it will hold, and then wrap both potato and stems in *wet cotton-wool.* Make as many bouquets in this way as you can place *upright* in your box, arrange so that they can't tumble about. Stretch a thin cotton cloth over the flowers, and nail to the

sides of your box, quite taut, so that if the box is turned upside down, the flowers may come in contact with the soft cloth, and not against the hard lid. *This cloth should be dry,* and nailed just one inch above the surface of the flowers. Choose a box deep enough to admit of four or five inches of space between the cloth and the lid of the box, which should be nailed down securely.

For a short railway journey tie your flowers in a large bouquet, wrap wet cotton-wool round the stems, put a dry handkerchief all over the bouquet, and tie the whole *upright in a basket with a cover.* If the cotton-wool is thoroughly wet, the flowers will travel quite safely for twelve hours (*see* "Chrysanthemums").

For a long railway journey, say, thirty-six hours in the cold weather, take a deal-wood box about a foot deep, without a cover, nail narrow strips of deal-wood a foot long and two inches wide, one in each corner of the box, and then fasten other strips across to form a frame like that which we use on our bedsteads for supporting mosquito nets.

Spread a thick cotton cloth *inside* the box and bring the corners of the cloth over the sides of the box, and put a layer of cotton-wool over the bottom. Now tie your flowers in small bunches, wrap the stems in cotton-wool, and pack them *closely in an upright position* in the box. The bunches should be placed near each other so as to be quite compact, and the cotton-wool should be wetted profusely.

After you have placed in the box as many flowers as it will hold, draw the corners of the cloth up over the transverse strips of wood, envelope-fashion, and sew them up, so that no part is left open. Water this cloth *all over,* nail the address to the side of the box, and despatch it at once. Flowers which I have sent my friends in this way reached them delightfully fresh.

If you are in the hills, use moss instead of cotton-wool for packing geraniums, dahlias, and such flowers as your amateur friends in the plains can't very well cultivate.

To frost foliage, etc., for Christmas decorations.—The prettiest effect in frosting can be obtained by the use of

powdered *Talc* (native name "*abrook*"), very cheap and easily procured in every bazar. Proceed as follows:—See that your talc is free from all dirty specks, and then pound it to a fine powder; put one teaspoonful of perfectly clean liquid gum into a teacupful of hot water, and mix it well. Have all the sprays of foliage you are going to frost brushed free from all dust, withered bits, etc., then lay them on sheets of newspapers, and with an old tooth-brush and a comb "splutter" them with the weak solution of gum; each time you dip the brush into the cup, press it against the side, so as not to take up too much liquid. When you have "spluttered" all your sprays, remove them to other clean, dry sheets of newspapers, and before the gum dries, sprinkle them all over with the powdered talc.

Let the sprays remain where they are for about a quarter of an hour, then take them up, giving each a gentle fillip with the finger to free them from the loose talc, which, falling on dry newspapers, can be gathered up and used for other sprays.

Scent sachets are not difficult to make. Snip off blossoms of honeysuckle, jasmine, violets, mignonette, etc., dust them over thickly with very dry arrowroot, fold them up in tissue paper and place the packets in envelopes. Use *fresh,* not dried flowers, separately, or mixed together.

For Christmas decorations.—Tiny bits of white cotton-wool should be stuck on the foliage here and there before the gum is "spluttered" and the talc is sprinkled. In frosting "Christmas Trees" the same process on a large scale will answer, only the powdered talc should be taken up on bits of paper, and *blown* on to the tree.

Sprays of dry grass and wired fern leaves with the powdered talc *blown* on them form very pretty church decorations at Christmas (*see* "Immortelles", etc.).

Caladiums in pots used for indoor decoration should always be put out of doors into the open air at night and changed frequently, else the leaves will begin to droop. Cut leaves will keep fresh for a long time if there is an inch or two of sand in the water in which they are placed.

Coleus sprays and even the leaves by themselves last a long time placed in wet sand. You will have plenty

during the rains, and those which you have cut up and planted in the ground after the rains will afford you much foliage by Christmas, to use with your chrysanthemums.

Cosmos.—The pure clean colours of this plant and its ability to last indoors when cut make it a most desirable table decoration. Use by itself.

Gardenia (the name usually given for convenience to *Tabernamontana coronaria*) will provide you with exquisite flowers almost all the year round, but especially in the rains. When cut, don't sprinkle water *on* them, since damp stains the petals, and if you wish them to remain fresh and pure as long as possible, *dry* the blossoms with an old soft pocket handkerchief. If you change the water every day, snip off the ends of the stems, and cut away the faded, full-blown flowers, the clusters of buds will remain fresh and serviceable for many days, and when arranged with green grass and *Pilea muscosa,* form a most refreshing sight.

Hibiscus.—The kind you have been advised to cultivate are best by themselves; their beauty does not require the support of other flowers. If required for decorations by lamplight, gather them in the morning and keep under the damp coop all day.

H. Rosa-sinensis in tall, pale green vases, or arranged in low baskets or stands is a glorious sight.

Honeysuckle sprays when cut for indoor use should have their stems placed in a good depth of water, so put them in rather tall vases, and if you change the water every day and snip the stems, the clusters of buds will continue to open quite to the end of the sprays, a virtue not possessed by all flowers.

Canna.—For indoor use cut the sprays in long lengths and place in wet sand, which, if freshened up every day with additional moisture, will keep your canna good for a long time. It is also effective for stage decoration.

Chrysanthemums flower in thick, close bunches, and one does not like cutting off sprays on which there are

still many half-opened buds; but, fortunately, cut chrysanthemums last a good while, so when you cut off the full-blown flowers, wire their short stems and wrap them in wet cotton-wool. For table decoration they look exquisite on fresh moss or mirrors. Strips of mirror five or six inches wide laid all round the edge of any of the coloured silks advised, and fringed with cut white chrysanthemums on one side and frosted foliage on the other is truly fairy-like. The inner edge of the glass, next the silk, should be tilted up a little by placing small balls of crushed paper under the silk. If yellow or red chrysanthemums are used in this way substitute the bronze coleus leaves for frosted foliage. In the angles formed at the corners of the strips of glass place clusters of chrysanthemums in small low glasses.

Chrysanthemums flower abundantly in the hills long before they appear in the plains and may be packed for travelling in the following manner:—Line your box with soft calico, place a layer of flowers on the bottom, hammer a nail about one and a half inches long into each side of the box just above the surface of your flowers, make frames of light strips of bamboo, or strong wire to fit the inside of your box exactly, stretch pieces of cotton cloth tightly across, and lay them in the box so as to be supported by the nails. Continue these layers of flowers on the frames till your box is full, spread a piece of calico on the top, then nail down the lid. Chrysanthemums packed this way will bear a thirty-six hours' journey in the cold weather quite safely. *All the calico used must be dry* (*see* "Yucca").

Immortelles or **Everlastings** can be used effectively in dried bouquets. Can be bronzed with the mineral powders recommended, and are extremely useful frosted over for Christmas decorations.

Inga dulcis, recommended for hedges, has a peculiar bloom after the rains, which makes it a desirable foliage for many purposes; borders for slips, handles for baskets, garlands for walls, etc., etc.; dip into water before using.

Jasminum syringafolium is most useful for Easter decorations. It should be cut overnight and kept under the

damp coop; the open blossoms will have fallen off by the morning, but the buds will gradually expand and remain on their stems for a longer time than they would if they opened in the sunlight.

Jasminum officinale should be gathered in the morning; its buds open in the evening and perfume the whole house deliciously. When cutting this flower, choose sprays with white-looking *buds,* which are very pretty by themselves or as a garniture for roses, etc.

Mina lobata.—Charming by itself, looks more effective if used in combination with nasturtiums. For a dining-table, use it in the taller stand with grasses, and nasturtiums in the lower ones. *M. lobata* will remain fresh for a week after it is cut.

Moss baskets.—For these bend pieces of your *wire netting* into any shape you like, tying and fixing with wire, and then covering the whole with brown or green calico. On shapes like these you can easily *sew* on the moss, beginning at the bottom, finish at the edge of the brim, with a narrow layer of additional moss, like a small *rouleau.* Instead of saturating your moss baskets with water put them out in the dew at night, when you will find the lace-like films expand naturally. If this cannot be done, a *very* wet cloth kept on the surface of the moss all night is the next best method of freshening the baskets.

Nasturtiums look best without their own leaves.

Petunias (white) form a sweet and graceful indoor decoration. Cut rather long sprays and arrange them with *Arundo donax* and green grasses in tall stands and large baskets.

Phlox, "the indispensable phlox", as Firminger calls it, makes a lovely table decoration by itself. The petals are too fragile to bear being mixed with other flowers.

Roses.—In the arrangement of these it seems really presumptuous to offer any hints! The queen of flowers needs nothing beyond her own foliage, and sometimes, in the case of drooping roses like *Elise Sauvage,* a little garniture such as mignonette, gypsophila, camphire and ferns; *malis do not understand this,* and invariably spoil

the perfect beauty of the rose by arranging with it other flowers of all sizes and shades of colour. Let me implore you to give your mali a lesson or two in treating the rose with proper feeling!

Sweet-pea look well in masses placed in large baskets and tall flowerstands kept near open doors or windows, so that air passing over them may perfume your rooms. I have advised your having plenty and to spare, as this is a flower particularly well suited for hospital bouquets. The purple sweet-pea looks best by daylight; the pink sweet-pea best by lamplight.

Sumatra box which is in lovely bloom during the rains is most useful for bridal decorations. It is sweet scented, and lasts a long time after it is cut. Its own glossy leaves contrast well with the white blossoms and are abundant enough to afford foliage for other kinds of flowers.

Teak-tree blossoms which appear in the rains will give you much help as flower garniture. Tea-roses, of which you will have plenty in the rains, look lovely nestling in the fine cream-coloured network of the *teak* blossoms. Quisqualis also goes well with this pretty wild garniture.

Tradescantia is most useful for fire-places, stages, scenery, etc. Plunge the entire head of your sprays into water to wash off all dust, and then stick the stem into the wet sand with which your pots, bags, or boxes must be filled. It will keep fresh for many days in this way.

Verbenas, like phlox, are best arranged by themselves. In large baskets lined with tin to hold wet sand, the surface covered with alternanthera or moss, put your white, pink and deep red verbenas.

Violets having fragile stems are not easy to arrange in large masses, so give your mali a ball of basting cotton, and let him prepare them for your purpose by tying them up in tiny bunches, ten or twelve violets round one piece of mignonette, or nestling in the hollow of single violet leaves. Baskets, tin-lined, and filled with very wet sand, may hold masses of your violets done up in the tiny bunches, the longer, stronger stems of mignonette helping the suction and keeping them fresh for a longer time. When heliotrope

and purple pansies are added to your violets they will afford intoxicating delight.

Yucca gloriosa will, as its name implies, afford you glorious decorations in the rains. For large flower-stands the short sprays will have to be wired and the stems wrapped round with a little cotton-wool which will draw up moisture sufficient to keep them fresh, from the water in the vases which the stems themselves are too short to reach. *Arundo donax,* and broad blades of green grass, set off these lovely white bells beautifully, and your poppy-red silk will show them up better than any other colour.

For low decorations, use the bells separately, turning back the petals, when they will look like the eucharis lily. When you intend to use them in this way, cut the bells off the stems, and lay them on a dry towel *for a couple of hours before you turn back the petals,* else the crisp, fresh petals will crack under this operation. If required for travelling, gently wipe the open petals with a soft handkerchief, so as to remove any surface moisture, and lay them between the calico frames advised for chrysanthemum boxes. Packed in this way they will bear a journey of twenty-four hours quite well; see that the petals are not cracked when you turn them back.

Zinnia have the virtue of remaining fresh when cut for a longer time than most flowers. As they have no foliage of their own to use with them "as cut flowers", arrange them with leaves of *Millingtonia* (cork tree), *jaman, Tecoma stans,* etc. I know no flower that sets off a hall or corridor as well as the zinnia does when arranged in masses with the above foliage. *Avoid the pink and magenta colours,* and use only those in shades of yellow, orange and dark red. Put some sand into the water, and if you renew the foliage every day, your zinnias will brighten your hall for many days, and prove quite a boon, because they are at their best just when you have very little of any other flowers in your garden.

LAWNS

THE PREPARATION AND CARE OF IN UPPER INDIA.

Within the past two or three years pamphlets and articles have appeared giving advice regarding the making and care of lawns in India. These contain much valuable advice, but do not, in my opinion, go sufficiently into details, to enable one to grip the subject, and ensure perfect success.

An attempt is made in the following lines to amplify the information already in existence by giving facts which have stood the test of actual practice and are recognised as absolutely reliable. I have confined my remarks to only one part of India, for the simple reason that my experience has been more or less gained in Upper India, though I have no doubt that the general directions will apply to other parts, and only the question of selecting suitable grasses will need consideration.

The lawn is said to be the heart of the British garden. A well-kept lawn is a never-ending source of pleasure to its owner. Its green appearance is particularly soothing to the eye during our hot Indian summers, and gives a sense of coolness to the surroundings which no other feature in the garden except a fountain possesses. It enhances the beauty of any garden by forming a delightful ground-work for setting off shrubberies, flower-beds and specimen trees, gives an impression of space, and imparts breadth and dignity. It represents the dominant feature in the garden and all else is subordinate to it.

Apart from these attributes, lawns have other uses, and in India, as probably nowhere else, is this apparent. For nine months in the year they are in almost daily use for tennis, badminton, croquet and other games. They are the meeting places for social parties and other gatherings, and besides adding to the amenities of life, are the symbol of

peaceful contentment, and a relaxation to the body and mind after the stress of official or other duties.

Lawns may be of two kinds: those which are reserved for games and need special attention, and those which are for ornamental purposes.

Lawns may be of any size, though for games there are minimum limits which are fixed by the rules of the game played. The larger the expanse of grass the better will be the effect produced.

In determining the size of the lawn, it must be understood that the upkeep of grass in perfect condition is an expensive luxury. Its preparation and the annual expenditure on staff, manure, mowing machines and various other items have to be taken into consideration and as often as not decide the area of grass to be laid down. The information given below refers more particularly to lawns about private residences and public buildings. The large expanses of grass in parks, gardens and playing fields, although kept up with a view to having excellent grass with a level surface, do not receive such close attention and are not so costly to maintain.

Preparation of lawns.—The site for a lawn is a question on which little can be said, as its position is more or less automatically fixed in relation to the mansion or house, privacy being a first consideration and harmony with other parts of the garden coming next in importance.

The soil cannot, except in rare cases, be selected, and the best has to be made of what exists, though this can be so improved as to render it suitable for the growing of healthy and luxuriant turf.

Land which has been under cultivation for many years is the best medium for a lawn. Sandy soil will suffice, if it is heavily manured and abundance of water available.

Clayey soil will grow excellent grass if made friable and porous by the incorporation of wood-ashes, cinders, lime, rubbish, leaves and bazaar sweepings. Gravelly or rocky soil is the most unsatisfactory to deal with, but even this can be made to grow grass, if a considerable portion of the rough gravel or rock is removed and suitable soil brought in to take its place. Animal manure in quantity will also

be necessary, and, as with sandy soil, water in abundance must be at hand.

When making a lawn, one of the most essential points to be remembered is drainage, and should never be overlooked.

The heavy monsoon rains will play havoc with a lawn if water stands for any length of time on the surface. It will cause the soil to become sour, enfeeble the dûbh grass, and encourage the growth of motha (*Cyperus rotundus*), that pestilential weed which revels in a dank, water-logged soil and makes its appearance as soon as the monsoon arrives.

A gentle sloping of the lawn will, in most cases, be sufficient to carry off surplus water; but if this is not possible, the land must be artificially drained, the usual method employed being in the excavation of the soil to a depth of 4 feet and the placing of a layer of broken bricks, tiles, kanjar, or other rough material a foot deep at the bottom.

The close proximity of tall trees to a lawn is most injurious to grass. Apart from the dense shade cast by them during the cold season, when the grass needs all the sun and light possible, their roots take advantage of the loose rich soil of the lawn and rob it to such an extent that the grass suffers and is frequently killed. Any trees or shrubs that may be planted on the edge of the lawns should be of a kind that do not grow more than 15 or 20 feet high when mature, and which are known to be slow-growing and with roots that do not travel long distances.

Trenching the ground.—In the making of a lawn the operation of trenching or digging the ground is of primary importance. Land, which has not been previously cultivated, will need to be upturned to a depth of 3 feet. Light, sandy soil, and that which has been made up by filling, will only need disturbing to a depth of 1½ to 2 feet. The superficial stirring of the surface soil by ploughing is sometimes practised. This is, however, a poor attempt at making a good and lasting lawn, for unless heavily manured and weeded, the grass soon becomes exhausted, and fails to give satisfaction. The object in deep trenching is to encourage the roots of the grass to strike well into the soil where abundance of food is available, and where, during

the hottest weather, moisture exists and the earth is fairly cool. The secret of the success of the lawns in Lucknow, where they have the reputation of being at least equal to any in India, is chiefly due to deep trenching of the ground. Trenching should be done as soon as the hot or dry season sets in, which is usually about the month of April. A wide trench should be made the whole length of the plot to be grassed and the soil excavated and removed. This will give the opportunity for turning all the remaining land over and assist in its complete disintegration.

At the time of trenching a layer of about 6 inches of well-rotted cow- or horse-manure, sifted night-soil, or bazaar sweepings may be placed at the bottom of the trenches.

Fresh fermentable manure should be avoided, also all materials which do not readily oxidise or decompose. If these latter materials be used it will lead to subsequent sinkings, and cause an unevenness that will be a constant worry, expense, and disappointment.

After trenching, the soil should be left in the rough state for two or three months, or until the rainy season arrives. This exposure of the soil to hot winds, sun, and air will have a truly wonderful effect by giving it a complete aeration, and set free all the valuable mineral elements contained in it, and make them available as food for the grass when the time comes for it to be planted. It is said that this upturning of the soil, at the proper time, is equivalent to manuring it, and the statement is not without foundation and cannot be disregarded. When the monsoon period arrives the levelling of the ground has to be considered. After several heavy falls of rain the ground should be roughly levelled, care being taken to break up large clods and to fill in depressions. After the soil has had a complete soaking, and it is thought that no further sinkings will take place, the land may be ploughed. At the time of ploughing, the surface soil should be enriched by applying a dressing of 3 inches of finely-sifted night-soil (poudrette), or well-rotted cow-manure, or, failing this, sifted bazaar sweepings which are known to contain plenty of animal matter. Four or five carts of manure will suffice for 1,000 square feet of lawn.

The manure is incorporated with the surface soil at the time of ploughing.

Rough levelling may be done by a harrow, or by what the Indian knows as "sarawan", or "hinga", which is a heavy piece of timber, upon which a man stands and is drawn by bullocks over the surface of the ground.

This operation being completed, the final dressing and levelling must be taken in hand.

To ensure perfect gradients and a level surface, the theodolite or dumpy level may be used; but if these instruments are not available, recourse must be had to the straight-edge and spirit-level.

With these implements, all that is necessary are a quantity of stout pegs and a measuring rod.

With the point fixed for the general level of the lawn, the operation is very simple. To ensure a perfect level over the whole area, the mali should fix the pegs at distances not more than 8 or 10 feet apart. The pegs are often intersected with string still further to help in the work.

During the process of levelling, it is usual to collect the excess soil into heaps, which is useful for covering the grass at the time of planting.

Planting the grass.—With the ground level, and the soil in a suitably moist condition, the operation of planting or sowing the grass may be commenced.

In the hills, grass seed is used, which may be obtained from most nurserymen, and the best period for sowing is in the months of March and April, or after the first burst of the rains. About 50 or 60 lb. of grass seed is needed to sow one acre.

In the plains, the grass used is what is known as dûbh or dub (*Cynodon dactylon*). This grass has no superior in any part of the world for the formation of a perfect lawn. It will thrive in the hottest weather, is drought-resisting, stands more wear and tear than any other grass known, and its emerald-green appearance is one of its most pleasing features.

Various methods are adopted for planting the grass, one of these being the chopping of it into small pieces and mixing it with earth and cow-dung to form a thick paste.

This is spread evenly over the surface and kept in a moist condition by shading with straw or litter until growth begins. The covering is then removed and the usual attention in the matter of watering continued.

Another method is to dibble short lengths of grass into the soil fairly thickly. This is, however, seldom practised except before and after the monsoon season. It is an expensive method, as vigorous watering has to be done to prevent the grass withering before it has time to take root.

The first-mentioned method is seldom or never practised in Lucknow, and the latter is only resorted to where grass has to be hurriedly laid down or the monsoon rains have ceased. For the grassing of banks and steep gradients it is worth some consideration as the grass is not so liable to be washed away by heavy rains.

The method in general practice, and one which has everything to recommend it, consists in cutting up the stems of mature dûbh grass into lengths of one or two inches and sowing it broadcast over the ground. Over the grass a thin layer of finely-sifted soil is spread, just sufficient to completely cover it. Dull weather, after a copious rainfall, is the best time for sowing, as with the atmosphere well charged with moisture and an absence of bright sun enables the grass to take root immediately. In a week or nine days the grass should have commenced to show signs of green growth and the success of the operation is assured.

Land trenched in May and June, and sown with grass not later than the first week of August, should produce a lawn in a fit condition for games in the month of November.

When the grass has grown to a height of five or six inches it should be cut off level with the ground, by using a scythe or jhabau, the latter being a heavy knife, shaped something like a sickle, but without its pronounced curve.

This cutting of the grass causes it to throw out many lateral horizontal shoots, which take root and go to form a perfect carpet of grass.

Any depressions caused by sinkings after heavy rains should be filled in with fine soil, and when the surface is level and the grass well established, the roller may be brought

into action. On no account should a heavy stone or iron roller be used until the soil has become firm. A heavy roller will pack the soil and thereby interfere with the growth of the grass; undulations in the ground will also be formed, which will require much time and manual labour to remove.

For the first three months after the grass is sown a light iron roller will be sufficient, and not till November or December will a heavy roller be necessary.

After the first cutting of the new grass by scythe or jhabau, subsequent cuttings will be made by a mowing machine. A close-cutting machine is not essential until the lawn is needed for playing purposes, and an "Excelsior" or "Philadelphia" will suffice. These are moderately cheap machines and, being simple in structure, any parts worn out or broken are easily replaced. For close cutting, "Ransomes'" or "Green's" machines are undoubtedly the best. They are expensive, but with care they will last some years with an occasional changing of cutting knives. A machine with an 18-inch cutting knife is the most useful size for general purposes. With the mowing machine a grass-collecting box should always be used.

To allow the cut grass to fall on the lawn is to court much trouble, as the small particles ultimately form a mat of dead material, which excludes air, enfeebles the grass, creates a spongy surface and encourages white ants.

An established lawn needs very careful attention in the matter of mowing, rolling, watering, and weeding to keep it in good order.

According to the nature of the soil, the number of waterings must be arranged. In Lucknow it is usual to allow five waterings a month for four months of the hot weather and three waterings a month for five months in the cold season. About 25,000 gallons of water are needed for watering an acre once.

A lawn should never be allowed to become dry, and when watered, it should have a thorough soaking. Frequent sprinkling of water on the surface during hot weather will not suffice, and will do more harm than good. The water should reach the roots of the dûbh, which are one foot or two feet below the surface.

The water is distributed over the lawn by means of zinc piping or canvas hose. The former is used where an ordinary flow is available from wells or tanks, while the latter needs pressure from a pump. The zinc piping is much the cheapest, and lasts many years if taken care of and kept in repair. Canvas hose is expensive, and, in the hands of the Indian mali, short-lived. Its chief virtue lies in the fact that it enables irrigation to be more quickly performed; and there is less chance of wastage and flooding one portion more than another.

An annual top-dressing of the lawn with manure is essential to keep it in good condition. If the lawn has been in constant use throughout the cold and hot seasons, it will need a period of rest in the rains. When the monsoon rains begin a top-dressing of horse-manure will do much to restore the vigour of the grass.

The grass should not be allowed to grow long, frequent cuttings being necessary; for it must be remembered that to grow a crop of grass means that the soil is impoverished, and unless this wastage of food is replaced, the lawn must suffer to such an extent that permanent injury must follow. At the end of the rains, or about the first week of October, the whole grass surface of the lawn should be shaved off (chilloed) by kurpa. This operation ensures a clean, level surface, and the resulting grass, coming up with the advent of the cold season, is able to withstand cold, remains beautifully green, and forms a perfect playing surface. Grass not so treated in this manner becomes brown as long as the cold weather continues, and is never satisfactory. After the grass is shaved off and when new shoots appear, a top-dressing of a quarter of an inch of finely-sifted manure should be spread over the lawn. This should be well rubbed in and, after a few days, receive a copious watering. The grass will grow with great rapidity after this treatment, and the mowing machine and roller will then need to be in constant use. Once a month, during the cold weather, that is, from November till March, artificial manure may be applied. This is necessary to preserve the vigour of the grass, especially when it has been in constant use for games.

The drain on the plant food by constant mowing is very great, and complete exhaustion must be guarded against.

The best artificial manures are fairly cheap and easily applied. These are sulphate of ammonia (which supplies nitrogen only), and "Nicifos" which supplies both nitrogen and phosphorus. Apply either at the rate of 3 lb. per 1,000 square feet six times a year. Imperial Chemical Industries produce both.

Weeds.—The presence of weeds on a lawn tends to injure the grass, interfere with play, and spoil its appearance. Careful attention in watering and manuring will go far to prevent them obtaining a foothold. When lawns have been badly prepared, insufficiently watered and starved, various weeds appear, the worst being the insignificant but aggressive dudhia, a species of Euphorbia. This may be kept down by constant weeding, as also the small prostrate-growing Indigofera, a reddish little plant that makes its appearance in the month of March.

Numerous other weeds will appear when a lawn is neglected and, unless vigorous action is taken, they will in time kill out the dûbh grass.

A dressing for use against weeds on lawns found effective in England is—

Sulphate of ammonia ..	3 parts	By weight.
Calcined sulphate of iron ..	1 part	
Sand	20 parts	

This is broadcasted over the affected area in dry weather. It is worth trying in India.

A lawn will, if it receives proper attention, remain in good condition from five to ten years.

Worm casts make their appearance after heavy showers of rain, and particularly during the monsoon period. If the lawn is not in use the casts will do no harm; in fact they will do a certain amount of good, since they constantly renew the surface soil with fine earth, and, by means of their burrows, allow the free penetration of rain and air to greater depths than would otherwise be reached. At times, however, they are an eyesore and a nuisance, but a simple method for getting rid of the worms is to water the surface with a weak solution of carbonate of ammonia.

HINTS FOR THE CULTIVATION OF ROSES.

Roses delight in a sunny situation away from the shade and root influence of trees. A sheltered position, where the plants are protected from hot winds on the plains and boisterous cold winds in the hills, should, if possible, be selected. It is not advisable to cultivate other plants among roses, as abundance of air is necessary for their growth.

Soils.—Roses will flourish in practically any soil provided it is well prepared and generously treated in the matter of manure and other constituents found wanting. A rich, loamy soil is the best, especially if a certain amount of clay is also present. If the soil is of a sandy nature, add a fair proportion of clay. This can usually be obtained in the plains, from the bottom of tanks or *jheels* during the dry season.

Lime is good for roses, especially where the soil is of a retentive nature, and it also tends to neutralise the injurious acids in soils which have been heavily manured.

The reason for so many failures among roses may be traced to over-manuring.

The soil becomes "rose sick", and the only remedy is to prepare new beds where roses have not been grown for some considerable period.

A gravelly soil is the worst one can select for roses. Good drainage, however, is absolutely essential and the rose-beds should never be made where rain-water lodges for any length of time.

Planting.—When preparing the rose-beds, remove the soil to a depth of 2½ to 3 feet. Allow the soil to remain on the surface for two or three days to become well aerated by sun and air.

Before returning the soil, place six inches of well-rotted cow-manure or finely-sifted road sweepings at the bottom

of the beds. It is important that the roots of the plants should not come in contact with manure directly after planting, hence no more manure should be added when returning the soil to the beds. When the beds are filled to the required height, press the soil firmly with the feet and, if dry, give a good watering. This will settle the soil and prevent subsequent sinkings, which are to be studiously avoided. As soon as the soil is in a suitable condition, planting operations may be started.

In the hills, the months of October, March and early April will be found to be a good time for planting. In the plains, I recommend a period from the 15th October to the 15th December. The earlier date applies more to the United Provinces and the Punjab, while the latter date refers to Bengal. Roses are sometimes transplanted with success during the months of August and September, but from experience I have found that at this season everything depends on weather conditions. Very heavy rains directly after planting will ruin the plants, and a hot dry spell will so exhaust them that only those with the strongest constitutions and which have received no damage at the time of planting will survive.

When planting, care should be observed that as little as possible damage results to the roots of the plants. Any bruised or broken roots should be cut clean with a sharp knife and plants carrying much growth may, with advantage, be shortened back. By doing this the plant has less foliage to support at a time when root action is arrested and vitality impaired.

If at the time of transplanting the ball of earth about the plant is dry, it should be immersed in water until the whole is in a damp condition.

When planting the rose, the most careful attention must be given to details. The chief points to be observed are, that the plant is neither too high nor too low in the soil, that the soil is pressed or trodden very firmly around it, and that it receives a copious watering directly after planting.

The depth the plant may be in the ground is regulated by the spot where it was budded or grafted. Leave an inch

or two between the ground and the point of union of the graft and stock.

Planting and treatment of imported roses.—Large numbers of roses are now annually imported from Europe. The best time for them to arrive in India is about the first or second week in November. On arrival, they should be carefully overhauled and all dead wood removed, also prune away dead roots.

If the plants are at all shrivelled, dip their roots in water and then powder them with dry soil. Until the roses have recovered sufficiently to be planted out in their permanent quarters, their roots may be loosely covered with soil, which should be kept moist, and the plants covered with a grass mat during the day to prevent sap evaporation.

If the plants are received unpruned or only partially pruned, cut back the growth to about six or nine inches. After planting, water very carefully and keep the plants shaded for several days until new growth appears. It is not advisable to allow the young roses to bloom until root action is developed and the plants well established.

Manuring.—The manuring of roses is of great importance, and an operation which requires careful and thoughtful attention.

Over-manuring is fatal to the plants. Remember that plants can only take up their food in liquid form, as it becomes available for the roots, by decomposition or chemical change, and the amount assimilated depends entirely upon the health of the trees and condition of the soil.

Never allow rank stable or farmyard manure to come in contact with the roots of the plant.

Young roses require but little manure until fibrous roots are freely developed.

It will be found that cow-manure is the most suitable for light soils and horse-manure for heavy, retentive soils.

Coarse bone-meal is very useful and has lasting qualities. When the trees are well established and in active growth. artificial manures will be found beneficial in promoting healthy wood and fine flowers.

A complete artificial manure recommended for roses is composed of the following:—

Superphosphate	12 parts.
Nitrate of soda	10 „
Sulphate of magnesia ..	2 „
„ „ iron	1 part.
„ „ lime	8 parts.

A simple dressing of the following may be used, if the general conditions of the soil are satisfactory: Sulphate of ammonia 2 lb., superphosphate 8 lb.

In these prescriptions the dose to be given is ¼ lb. to the square yard.

The manuring of roses should only be done when the weather is cool. During the hot season and rains, roses should not be encouraged to make vigorous growth. Any great activity on the part of the plant at these seasons only tends to enfeeble it and shorten its life.

Liquid manure is often applied to the roots of roses when they are in full growth, especially when large blooms are desired. I have found liquid cow-dung give excellent results.

This is prepared by collecting a quantity of fresh manure and placing it in a tub or tank. Fill up with water and stir occasionally for several days. When the liquor is of a straw colour, it is of the right strength and ready for use.

Do not use manure water during the hottest part of the day, if possible select a dull afternoon or evening for the operation.

An artificial liquid manure recommended is the following:—

One ounce nitrate of potash, 1 ounce phosphate of potash, in 1 gallon of water.

Pruning.—The object of pruning roses is to encourage new growth, improve the balance and shape of the tree, and to produce big blooms. All old and exhausted wood should be removed, also spindly and soft, sappy, undeveloped shoots. The habit of each tree should be studied and the class to which it belongs.

The latter information is readily obtainable from any catalogue of roses. The pruning of various classes of roses is a subject that needs careful consideration.

The Hybrid Perpetual class should be pruned hard back, as they are vigorous growers.

Hybrid Teas also require to be well cut back to strong buds and all weak growth removed.

The Teas have not the robust nature of the two first-named, and more gentle treatment must be applied. Removing surplus and weak growth and reducing the shoots to strong, healthy buds will suffice with most varieties. Climbing roses must be treated in a rather different fashion. It is usual to completely remove all long, worn-out stems and shorten back to within bounds the shoots made during the preceding season of growth.

It may, however, be here stated that roses vary in habit and constitution to such a degree that only long experience and careful observation of the effects of the pruning on particular varieties will enable one to definitely decide what treatment this or that kind requires.

The operation of pruning is performed at various times after the advent of the cold weather in the plains. In the hills, the months of February and early March will be a suitable time to deal with the majority of roses.

It is the custom of many rose-growers to open out the roots of the plants directly after pruning, the object being to aerate the roots and apply manure. In soils that are of a clayey nature, or in districts subject to frequent inundations during the rains, the operation has much to recommend it. In dry, well-drained soils there is no need to submit the trees to this treatment, an ordinary forking-up of the soil and the incorporation of necessary manure being sufficient. In light, dry soils the exposure of the roots to hot sun can only tend to injure the fine fibrous roots, which are always near the surface and upon which so much of the vigour of the plant depends as well as its ability to produce abundance of blooms.

The tools necessary for pruning roses are a sharp pruning-knife, a strong pair of secateurs, and a long, fine-toothed saw. All parts of the rose should be cut clean and no jagged parts or wounds left on the tree.

Watering.—Roses require plenty of water during the periods of growth and flowering. During dry weather, water twice a week, or oftener, according to the nature of the soil.

During dull, cool weather a weekly watering will suffice. After every watering, and as soon as the soil will permit, fork up the surface. This will help to conserve the moisture and aerate the ground.

Insect pests.—The pests which attack roses in India are not numerous, but their depredations must be guarded against and, if possible, exterminated as soon as they make their appearance. White ants, thrips, green-fly, and mildew are our worst enemies.

White ants may be driven away or killed by the use of a weak solution of phenyle and water. Thrips are difficult to eradicate, but syringing with a solution of a wineglassful of kerosene to a gallon of lukewarm water will destroy most of them.

Green-fly usually appears when the flower-buds are forming. They may be removed with the hand or the affected parts dusted with fine tobacco powder.

Mildew often causes much damage. It makes its appearance during spells of dull, damp weather, but it may also be found at other times where the plants are grown in a too shady position. The curling up and mealy appearance of the leaves are sure indications of the presence of mildew.

To guard against mildew, care should be observed that plants obtain an unlimited supply of fresh air. To cure the disease, spraying or syringing is necessary. Liver of sulphur is recommended as a medium, one ounce of this being dissolved in every five gallons of water. The liver of sulphur can be readily dissolved in warm water.

Select a dull day for the spraying operation so as to avoid any chance of the sun scorching the leaves. Another cure in fairly general use as a spraying medium is Bordeaux mixture. This fungicide is prepared as follows:—

Copper sulphate	..	2 lb.
Lime (freshly burnt)	..	1 lb.
Water	..	10 gallons.

Dissolve the copper sulphate in half the water. Slake the lime to a fine powder and mix it with the remaining water and pour it into the copper solution. When using, keep the mixture well stirred to obtain a uniform strength.

Caterpillars and leaf weevils may be eradicated by syringing the plants with kerosene emulsion as suggested for thrips.

Selection of roses.—When ordering roses, it is often very difficult for an amateur to decide what particular kinds will serve the purpose for which they are required, and disappointment often results by a wrong type of plant appearing in a bed or collection.

It is also necessary to avoid growing plants with a vigorous habit with plants of dwarf nature. The former will, unless carefully watched, kill out the weaker varieties by overcrowding and absorbing all the goodness in the soil.

The following selections of roses should go far towards helping rose-lovers to decide what varieties to plant in mixed beds, masses, for exhibition purposes, and as climbers for pergolas or arches:—

60 Free Blooming Garden Roses.

Dean Hole, H. T.
Pharisaer, H. T.
Mrs. E. Mawley, T.
Mme. Jules Grolez, H. T.
General Schabalkine, T.
Marie Van Houtte, T.
Mme. Antoine Marie, T.
Kaiserin Augusta Victoria, H. T.
Laurette Messimy, China.
Alexander Hill Gray, T.
Grussian Teplitz, H. T.
Belle Marguerite, T.
Catherine Mermet, T.
Laurent Carle, H. T.
Viscountess Folkestone, H. T.
Lady Pirrie, H. T.
Duchess of Wellington, H. T.
Cynthia Forde, H. T.
Mrs. A. R. Waddel, H. T.
Mrs. Aaron Ward, H. T.
Lady Hillingdon, T.
William Askew, H. T.
Grace Molyneux, H. T.
Cissie Easlea, Per.
Molly Sharman Crawford, T.
Louise Katherine Breslau, Per.
Arthur A. Goodwin, Per.
Marquise de Salisbury, H. T.
Mrs. P. Morgan, T.
Mildred Grant, H. T.
Gustav Grunerwald, H. T.
Caroline Testout, H. T.
Lieutenant Chaure, H. T.
Maman Cochet, T.
Mme. Abel Chateney, H. P.
Frau Karl Druschki, H. P.
La France, H. T.
Betty, H. T.
Mrs. David McKee, H. T.
George C. Waud, H. T.
Mme. Ravary, H. T.
Harry Kirk, T.
General McArthur, H. T.
Killarney, H. T.

60 Free Blooming Garden Roses—*concld.*

Edu. Meyer, H. T.
Mrs. Herbert Stevens, T.
The Bride, T.
Mrs. Foley Hobbs, T.
Dorothy Page Roberts, H. T.
Betty Berkley, T.
Mme. Eugene Resal, China.
Mme. E. Herriott, Per.
Marquise de Querhoent, T.
William Shean, H. T.
Ophelia, H. T.
Richmond, H. T.
Lady Ashtown, H. T.
Prince de Bulgaria, H. T.
Mme. Melanie Soupert, H. T.
Marquise de Sinety, H. T.

30 Exhibition Roses.

Molly Sharman Crawford, T.
Horace Vernet, H. P.
Mildred Grant, H. T.
Mrs. Foley Hobbs, T.
Edward Mawley, H. T.
Lady Ashtown, H. T.
Kaiserin Augusta Victoria, H. T.
William Shean, H. T.
Maman Cochet, T.
Catherine Mermet, T.
Caroline Testout, H. T.
La France, H. T.
Ulrich Brunner, H. P.
Mme. Melanie Soupert, H. T.
Mme. Abel Chateney, H. T.
Bessie Brown, H. T.
W. R. Smith, T.
George Dickson, H. T.
Lyon Rose, H. T.
Dean Hole, H. T.
Frau Karl Druschki, H. P.
Mabel Drew, H. T.
The Bride, H. T.
Mrs. E. Mawley, T.
Mrs. John Laing, H. P.
Captain Hayward, H. P.
Hugh Dickson, H. P.
Mrs. W. G. Grant, H. P.
Earl of Warwick, H. T.
Gustav Piganeau, H. P.

24 Good Hybrid Perpetual Roses.

Mrs. John Laing.
Frau Karl Druschki.
Marie Baumann.
Ulster.
Captain Hayward.
General Jacqueminot.
Her Majesty.
Hugh Dickson.
Emperor de Maroc.
Ben Cant.
Paul Neyron.
Geoffrey Henslow.
Lemon Queen.
Black Prince.
Monte Christo.
Hellen Keller.
Horace Vernet.
Mrs. R. G. Sharman Crawford
Ulrich Brunner.
Gustav Piganeau.
A. K. Williams.
Mrs. Cocker.
Duke of Teck.
Alfred Colomb.

30 Good Hybrid Teas.

Lady Ashtown.
Kaiserin Augusta Victoria.
Lyon Rose.
Mme. Jules Grolez.
Pharisaer.
George C. Waud.
Laurent Carle.
Lady Pirrie.
Albatross.
Dorothy Page Roberts.
Cynthia Forde.
Mme. Melanie Soupert.
Bessie Brown.
Edward Mawley.
Viscountess Enfield.
Caroline Testout.
Dean Hole.
Mme. Abel Chateney.
Mrs. David McKee.
Vicountess Folkestone.
Killarney.
Mrs. A. Tate.
Liberty.
Countess Ivy Hardegg.
Mildred Grant.
Mrs. A. R. Waddell.
Leslie Holland.
Chateau de Clos Vouget.
William Shean.
Mrs. Aaron Ward.

23 Tea Roses.

Mrs. Foley Hobbs.
White Maman Cochet.
Miss Alice de Rothschild.
Alexander Hill Gray.
Catherine Mermet.
The Bride.
W. R. Smith.
Maman Cochet.
Mrs. Herbert Stevens.
Ernest Metz.
Sunrise.
Beryl.
Mrs. E. Mawley.
Souv. de Pierre Notting.
Bridesmaid.
Marechal Neil.
Mme. Jules Gravereaux.
Marquise de Querhoent.
Lady Roberts.
Molly Sharman Crawford.
Mrs. Mylcs Kennedy.
Lady Hillingdon.
Muriel Grahame.

24 Decorative Roses.

William Allen Richardson, N.
Mme. Jean Dupuy, T.
Irish Elegance, H. T.
Betty, H. T.
Grussian Teplitz, H. T.
Mme. Antoine Marie, T.
Mrs. Herbert Stevens, T.
Arthur R. Goodwin, Per.
Lady Gay, Wich.
Irish Glory, H. T.
Mr. F. W. Flight, Cl. P.
American Pillar, Cl. P.
Liberty, H. T.
Mme. Abel Chateney, H. T.
Lady Hillingdon, T.
Lady Battersea, H. T.
Marquise de Salisbury, H. T.
Duchess of Wellington, H. T.
Gustav Regis, H. T.
Turners' Crimson Rambler, P.
Mme. Pernet Ducher, H. T.
Mrs. A. Tate, H. T.
Hiawatha, Cl. P.
Rayon d'Or, H. B.

24 Fragrant Roses.

Lady Alice Stanley, H. T.
La France, H. T.
Marie Beaumann, H. P.
Black Prince, H. P.
Viscountess Folkestone, H. T.
General Jacqueminot, H. P.
Hugh Dickson, H. P.
Grussian Teplitz, H. T.
General McArthur, H. T.
Chateau de Clos Vouget, H. T.
A. K. Williams, H. P.
Gladys Harkness, H. T.
Commander Felix Faure, H. T
Avoca, H. T.
Abel Carriere, H. P.
Ulrich Brunner, H. P.
Charles Lefebvre, H. P.
Edward Mawley, H. T.
Richmond, H. T.
Gustav Grunerwald, H. T.
Marechal Neil, T.
Queen of Fragrance, H. T.
Mrs. George Norwood, H. T.
Mme. Maurice de Luze, H. T.

20 Button-Hole Roses.

Richmond, H. T.
Arthur A. Goodwin, Per.
Lady Pirrie, H. T.
Mme. Abel Chateney, H. T.
Alex. Hill Gray, T.
Lady Roberts, T.
Marquise de Salisbury, H. T.
Mrs. Aaron Ward, H. T.
Rayon d'Or, H. B.
Mrs. A. Tate, H. T.
Mme. Edouard Herriott, Per.
Ophelia, H. T.
Molly Sharman Crawford, T.
Melody, H. T.
Mrs. Herbert Stevens, T.
Lady Hillingdon, T.
Liberty, H. T.
William A. Richardson, N.
Lady Greenall, H. T.
Mme. Jean Dupuy, T.

24 Roses for Massing in Beds.

Caroline Testout, H. T.
Miss A. de Rothschild, T.
Sunburst, H. T.
Richmond, H. T.
Mme. Melanie Soupert, H. T.
Marquise de Querhoent, T.
Kaiserin Augusta Victoria, H. T.
Laurette Messimy, China.
Mme. Ravary, H. T.
Crimson Bedder, H. P.
Liberty, H. T.
Ecarlate, H. T.
Lyon Rose, H. T.
Pharisaer, H. T.
Mme. A. Chateney, H. T.
Lady Ashtown, H. T.
Mme. Eugene Resal, China.
Molly Sharman Crawford, T.
Mme. Antoine Marie, T.
Duchess of Wellington, H. T.
Belle Marguerite, T.
Mme. Jules Grolez, H. T.
Mrs. E. G. Hill, H. T.
Marquise de Salisbury.

18 Mildew-proof Roses.

General McArthur, H. T.
Ulrich Brunner, H. P.
Lieutenant Chaure, H. T.
Dorothy Page Roberts, H. T.
Chateau de Clos Vouget, H. T.
Cynthia Forde, H. T.
Arthur R. Goodwin, Per.
Florence H. Veitch, H. T.
La Tosca, H. T.
Paul Lede, H. T.
Mme. Ravary, H. T.
Grussian Teplitz, H. T.
Mrs. David McKee, H. T.
Lady Alice Stanley, H. T.
Lady Waterlow, H. T.
Jessie, D. P.
Gustav Grunerwald, H. T.
Mme. Melanie Soupert, H. T.

24 Creme de Creme Roses.

Marquise de Sinety, H. T.
Mme. Edouard Herriott (Daily Mail), Per
British Queen, H. T.
Duchess of Wellington, H. T.
Leslie Holland, H. T.
Cissie Easlea, Per.
Mrs. Foley Hobbs, T.
Lady Hillingdon, T.
Alexander Hill Gray, T.
Mrs. Maynard Sinton, H. T.
Miss Alice de Rothschild, T.
Arthur R. Goodwin, Per.
Louise Catherine Breslau, Per.
Mabel Drew, H. T.
Mrs. A. Carnegie, H. T.
Rayon d'Or, H. B.
George C. Waud, H. T.
Lady Pirrie, H. T.
George Dickson, H. T.
Mrs. Herbert Stevens, T.
Mrs. A. R. Waddell, H. T.
W. R. Smith, T.
Mme. Melanie Soupert, H. T.
Ophelia, H. T.

18 Climbing Roses.

Marechal Neil, T.
Climbing Liberty, H. T.
Climbing Lady Ashtown, H. T.
Climbing Caroline Testout, H. T.
La Marque, N.
Reine Marie Henrietta, T.
Dorothy Perkins Wich.
Excelsa, Wich.
Lady Gay, Wich.
L'Ideal, N.
Gloire de Dijon, T.
Climbing Richmond, H. T.
Climbing Mrs. W. G. Grant, H. T.
Cloth of Gold, N.
Crimson Rambler, P.
W. A. Richardson, N.
Hiawatha, P.
Mrs. F. W. Flight, P.

30 Selected New and Gold Medal Roses.

Mrs. George Norwood, H. T.
Augustus Hartmann, H. T.
Colleen, H. T.
King George V., H. T.
Mrs. James Lynas, H. T.
Red Letter Day, H. T.
Mrs. Archie Gray, H. T.
H. V. Machin, H. T.
Edgar M. Burnett, H. T.
Lady Plymouth, T.
Countess Clanwilliam, H. T.
R. D. M. Clure, H. T.
Old Gold, H. T.
Edith Part, H. T.
Mrs. David Baillie, H. T.
Florence Forrestier, H. T.
Mrs. Ambrose Riccardo, H. T.
Queen Mary, H. T.
Brilliant, H. T.
H. E. Richardson, H. T.
Mrs. Campbell Hall, T.
Iona Herdman, H. T.
Mrs. A. Carnegie, H. T.
William Cooper, H. T.
Lady Mary Ward, H. T.
Mrs. Forde, T.
Mme. Edouard Herriott, Per.
Leslie Holland, H. T.
Mrs. Wemyss Quin, H. T.
Irish Fireflame, H. T.

The Best Crimson Roses.

Black Prince, H. P.
Chateau de Clos Vouget, H. T.
Edward Mawley, H. T.
George Dickson, H. T.
Grussian Teplitz, H. T.
Leslie Holland, H. T.
Leuchtfeuer, China.
Lieutenant Chaure, H. T.

The Best Reds.

A. K. Williams, H. P.
General McArthur, H. T.
Geoffrey Henslow, H. T.
Gloire de Chedane Guinoisseau, H. P.
H. E. Richardson, H. T.
H. V. Machin, H. T.
Liberty, H. T.
Richmond, H. T.

The Best Cerises.

Augustus Hartman, H. T.
Claudius, H. T.
C. W. Cowan, H. T.
George C. Waud, H. T.
Mrs. Frank Workman, H. T.
Ulrich Brunner, H. P.

The Best Rose and Pinks.

Caroline Testout, H. T.
Lady Alice Stanley, H. T.
Lady Ashtown, H. T.
Mrs. John Laing, H. P.
Mrs. W. J. Grant, H. T.
Wm. Shean, H. T.
Willowmere, H. T.

The Best Salmon and Carmine Pinks.

Countess of Shaftesbury, H. T.
Deane Hole, H. T.
Joseph Hill, H. T.
Joseph Lowe, H. T.
Mme. A. Chateney, H. T.
Mme. Leon Pain, H. T.
Mme. Segond Webber, H. T.
Mrs. George Shawyer, H. T.

The Best Shell and Pale Rose Pinks.

Mme. E. Rostand, H. T.
Ophelia, H. T.
Pharisaer, H. T.
Prince de Bulgaria, H. T.

The Best Lemon and Yellow Roses.

Alex. Hill Gray, T.
Duchess of Wellington, H. T.
Iona Herdman, H. T.
Harry Kirk, T.
Kaiserin Augusta Victoria, H. T.
Lady Hillingdon, T.
Mrs. David McKee, H. T.
Mme. Ravary, H. T.
Melody, T.
Miss A. de Rothschild, T.
Mrs. Aaron Ward, H. T.
Sunburst, H. T.

The Best Copper, Frange, and Apricot-tinted Roses.

A. R. Goodwin, Per.
Betty, H. T.
Joseph Hill, H. T.
Lady Mary Ward, H. T.
Lady Pirrie, H. T.
Louise C. Breslau, Per.
Lyon, H. T.
Mme. Chas. Lutaud, H. T.
Mme. Herriott, Per.
Marquise de Sinety, H. T.
Mrs. A. R. Waddell, H. T.
Old Gold, H. T.

The Best White Roses.

British Queen, H. T.
Frau K. Druschki, H. P.
Molly Sharman Crawford, T.
Mrs. Andrew Carnegie, H. T.
Mrs. Herbert Hawksworth, H. T.
Mrs. Herbert Stevens, H. T.

NOTE.

Abbreviations to indicate classes of Roses.

H. P. = Hybrid Perpetual.
H. T. = ,, Tea.
T. = Tea.
Per. = Pernettiana.
H. B. = Hybrid Bourbon.
P. = Polyantha.
Cl. P. = ,, Climbing.
D. P. = ,, Dwarf.
N. = Noisette.
Wich. = Wichuriana.

INDEX.

Fruits, Vegetables, Cereals, etc.

Almond, budám.
Apple, séo.
Apricot, zúrd áloo.
Artichoke, átee péech, áteechúk.

Barley, jow.
Beans, lobéea; (*French*) frāṁs-béen.
Beetroot, chaokúndur.
Betel (*leaf*), pan; (*nut*) soopáree.
Bullock's heart, rámphúl.

Cabbage, kóbee.
Carrot, gájur.
Cauliflower, phóol kóbee.
Celery, séleree.
Citron, gúlgul, tóoroonj.
Cocoanut, núriul; (*kernel*) gúrree; (*husk*) khópra, chíllur.
Corn, unáj, ghúlluh, dánuh; (*Indian*) bhóotta.
Cotton, róoee; (*tree-*) sémul.
Cress, chunsóor, hálim, tézuk.
Cucumber, khéera; (*sort of*) kúkree.
Custardapple, shuréefuh, at, séetaphúl.

Date, kujjóor, chhoohára.

Egg plant, byngun, brinjál.
Endive, kásnee.

Fennel, sóa.
Fenugreek, méthee.
Fig, unjéer; (*wild*) góolur.
Flax, útsee, úlsee; (*juice of*) choossee.
Fruit, méwa, phúl, rus; (*stone of*) áinthee; (*kernel*) góotlee; (*skin*) chílka, búkkal; (*basket of fruit, flower, etc.*) dálee; (*end of season*) jhuróta.

Gallnuts, májoo-phúl, mázoo.
Garlic, lúhsun; (*clove of*) póthée, júwa.
Gooseberry, góozburree; (*Cape*) tipáree.
Gourd, kúddoo, kóndha, kúmrha, pétha.
Grain, unáj, dánuh; (*parched*) chubénee.
Gram, chúnna; (*flour of*) bésun.
Grape, ungóor, dakh.
Grass, ghas; (*agrostis linearis, good for horses*) doob, húriálee; (*for tatties*) khúskhús, ooséer, béna; (*Lucerne*) lóosunghás.
Greens, bhájee, ságpat.
Guava, umróot, gyáboo.

Hog-plūm, péetún.

Indigo, neel.

Jack fruit, kúthul, péetphúl; (*pulp of*) kóee.

Leechee, léechee.
Leek, gundúra.
Lettuce, léttus, káhoo.
Lime, néemboo; (*small*) kághuzee néemboo.
Loquat, lokát.

Fruits, Vegetables, Cereals, etc.—*concld.*

Maize, bh*óo*tta, joár, bájra.
Mangoe, am.
Mangosteen (*wild*), gab.
Melon (*musk*), kurbóozuh; (*w a t e r*) turbóozuh; (*cold*) súrda; (*wild*) phoot, (*field*) paléz.
Mint, podéenuh.
Mulberry, toot, shuhtóot.
Mushroom, dhúrtee-ka-phóol.
Nole-cole, nól-kól.
Nut (*earth*), móongphúlee; (*water*) singhára.
Olive, julpáee, zytoón.
Onion, páiz.
Orange, narúngee.
Parsley, ujmóod, randnee.
Pawpaw, pupéeta, pupál.
Pea, múttur.
Peach, ároo, shúftaloo.
Pear, nashpátee.
Pineapple, únunás.
Pistachionut, pístuh.
Plantain, kéla, móza, mócha; (*bunch of*) g*óo*chuh, ghowr.
Plum, jámun.
Pomegranate, unár, dárim.
Potato, áloo; (*sweet*) shúkurkúnd.
Pulse, dal.
Pummelo (*s h a d d o c k*), chukóturuh.
Pumpkin, kúdoo; (*sweet*) kudéemuh.
Purslain, lonéea, khoórfa.
Quince, bíhee.
Radish, m*óo*llee; (*horse*) suhujna.
Raisin, kíshmish, dakh.
Rhubarb, reewúnd.
Rice, cháwul; (*in husk*) dhan.
Rose apple, g*oo*lab jámun.
Roselle, pútwa.
Salad, sulád.
Spinach, ság, isfúnuj, buthóoa.
Squash (*vegetable marrow*), dilpúsund.
Sugarcane, gúnna, ookh; (*bundle of*) phandee; (*joint of*) gundéree.
Tamarind, imlee.
Tomato, belátee b*yn*gun.
Turnip, shúlgum.
Vegetables, súbjee, turkáree.
Vine, tak, dak.
Walnut, ukhrót.
Wheat, gihó*on*, g*óo*h*oo*n.
Yam, rút-áloo.

Garden.

Arbor, k*óo*nj.
Avenue, náka, rúwish.
Bed (*flower*), k i á r e e, chúmun; (*seed*) béeur.
Blossom, kúlee, phool; (*to*) kúliána, khíljána.
Bud, kúlee-k*ón*pul.
C r e e p e r, b*ún*wur, bel; (*hanging branch of*) lut.

Garden—*concld.*

Dig (*to*), khódna.

Flower, phool, pooshp; (*to*) phóolna, shigóoftuhhóna; (*half-blown*) údkhíla; (*to blow*) bikúsna; (*of pomegranate*) goolnár; (*young tree*) punéeree; (*to pluck*) chóontna; (*pot*) phóoljháree, chungér; (*do. carried at feast of Busunt Punchamee*) gúrwa; (*stamen of*) soot.

Fruit, phul, méwa.

Garden, bágh, bágheechuh; (*rose*) góolistán; (*flower*) phóolwáree; (*betel*) búréja; (*kitchen*) báree; (*-er*) málee, bágháán; (*to lay out*) chúmunbúndee-kúrna.

Graft, pywúnd; (*to*) pywúnd kúrna.

Hedge, barh; (*to enclose with*) róondhna.

Leaf, pútta, dul; (*-less*) pút-jhúr, móonrla.

Plant, per; (*to*) per-lugána; (*milk of*) doodh, lása; (*to spring up quickly*) phúnphúna.

Plot, pat.

Rake, dúnt-nálee.

Roller, peend.

Slip, kúlum; (*to plant*) kúlum-lugána.

Sprout (*young*), únkree.

Tree, durúkht, per, rookh; (*place for water at foot of*) thála.

Weed, ghas, chikóorur.

Well, kóoa; (*bucket*) dol; (*bullock run*) buhóro; (*rope for bullocks*) láo.

Trees, Plants, etc.

Acanthus (*holly-leaved*), hurkut.

Air plant, ákus-púwun.

Al, (*Morinda Citrifolia*).

Alexandrian laurel, súltánchúmpa.

Aloe (*Indian*), ghéekowár; (*American*) rákus; (*small sea side*) kóomáree.

Amlookee, (*Acacia stipulata*).

Angular-leaved physic nut, bugréndee, bág-bheréndee (*Jatropha Curcas*).

Aónla, (*Emblica Officinalis*).

Arnotto tree, gáopurgee; (*Bixa orellana*).

Asin, (*Terminalia alata tomentosa*).

Báhura, (*Terminalia Bellerica*).

Bákus (*or*) Uroos, (*Justicia adhatoda*).

Bamboo, bans.

Bámunhúttee, (*Clerodendron siphonanthus*).

Trees, Plants, etc.—*contd.*

Banyan tree, bur (*Ficus Bengalensis*).
Basil (*Holy*), toolsee (*Ocimum sanctum*).
Bastard teak, dhak, pulás (*Butea frondosa*); (*flowers of*) tésoo.
Bastard cedar, (*or Indian mahogany*), toon (*Cedrelatoona*).
Bay tree, tuj, (*Laurus Cassia*).
Bel, (*Ægle marmelos*).
Betel, (*Piper betle*).
Bhant, (*Clerodendron infortunatum*).
Bíji-sál, (*Pterocarpus Marsupium*).
Box tree, shumshád.
Bubóol, (*Acacia Arabica*).
Búlee, (*Sterculia urens*); (*its gum*) kutéera.
Bún ráj, (*Bauhinia racemosa*).
Bústura, (*Callicarpa Americana*).

Camel Thistle, óont kutára.
Castoroil tree, urúnd (*Ricinus Communis*).
Casuarina, jháo.
Cathecu tree, kháira (*Acacia catechu*).
Chaste tree (*5-leaved*), nisíndhu (*Vitex negundo*).
Chestnut, sháh bulóot.
Chirait Gentian, chiréta (*Agathotes chirayta*).
Chirónjee, (*Chironjia sapida*), (*fruit of*) piál.
Chittagong wood, Chikrásee (*Chickrassi tabularis*).
Chulta, (*Dillenia Indica*).
Clearingnut tree, néer múllee (*Strychnos potatorum*).
Coculus Indicus, kákmáree.
Coral tree (*Indian*), pángra, fúrrud (*Erythrina Indica*).
Cotton tree (*red*), sémul (*Bombax heptaphyllum*).
Country Mallow, petáree.
Croton oil tree, jumálghota (*Croton tiglium*).
Curry-leaf tree, káree pak (*Bergera Kœnigii*).
Cypress, surv.

Date (*wild*), khujóor, séndhee (*Phœnix sylvestris*).
Dhar, dháee-pbóol, dhow (*Grislea tomentosa*).

Ebony (*sort of*), téndoo (*Diospyros Ebenum*).

Fig (*wild, or red-wooded*), góolur (*Ficus racemosa*); (*holy, or poplar-leaved*); péepul (*Ficus religiosa*); (*citron-leaved*) pákoor (*Ficus venosa*).

Gókhroo, (*Tribulus languinosus*).
Googul, (*Amyris agallocha*).

Horse radish tree, súhujna (*Hyperanthera morunga*).

Trees, Plants, etc.—*contd.*

Hurra, (*Terminalia chebula*).

Indian Lilac, bukáiun (*Melia sempervirens*).
Indian Rose Chestnut, nagésur (*Messua ferrea*).
Indian Acalyphe, móokto jóoree.
Indian butter tree, phóolwára (*Bassia butyracea*).
Indigo, neel (*Indigofera tinctoria*); (*wild*) búnnéel (*Tephrosia purpurea*).

Járul, (*Lagerstrœmia reginæ*).
Jujube tree, ber (*Zizyphus jujuba*).
Júngle-budám, (*Sterculia fœtida*), (*or Java almond*), (*Canarium commune*).
Jyt, (*Sesbania Ægyptiaca*).

Kála ója, (*Ehretia serrata*).
Kámula, (*Rottleria tinctoria*); (*its dye*) kumóod.
Khúrnee, (*Mimusops kauki*).
Kuchnár (*Bauhinia variegata*).
Kúdum, (*Nauclea cadamba*).
Kúmrukh, (*Averrhoa carambola*).
Kúmul, (*Nelumbium speciosum*); sárung (*Nymphœa pubescens; (stalk of)* nal.
Kuréel, (*Capparis*).
Kúrunj, (*Pongamia glabra*).
Kútkurúnj, (*Guillandinia bonducella*).

Liquorice (*wild tree*), góoncha, koonch (*Abrus precatorius*).
Lotos, pudum, kúnwul, úmbooj.

Mangosteen (*wild*), gab (*Embryopteris glutinifera*).
Manna, Hebrew, juwása (*Alhagi-Maurorum*).
Marking nut tree, bhiláwun (*Semecarpus anacardium*).
Mast tree, déodár; (*or*) usóg, (*Uvaria longifolia*).
Milk hedge, dóodhee (*Euphorbia tirucalli*).
Mówlsuree (*or*) búkool, (*Mimusops elengi*).
Múhooa, (*Bassia latifolia*); (*flowers of*) góol-chukán; (*do fallen*) gilównda.
Muróoa, (*Ocimum pilosum*).
Murór-phúlee, (*Isora caryfolia*).
Musk mallow, móoshkdánuh (*Abolmoschus moschatus*).

Nágdówna, (*Artemisia vulgaris*).

Trees, Plants, etc.—*contd.*

Nyctanthes (*weeping*), hursínghar (*Nyctanthes arbor tristis*).
Neor, (*Icica Indica*).

Oak, bulóot.

Palmyra palm (*male*), búltar (*Borassus flabelliformis*); (*female*) phúltar.
Parasite (*like misletoe*), bánda (*Epidendron tesellatum*).
Péeloo (*Salvadora Persica*).
Persian Lilac, neem (*Melia azedirachta*).
Phálsa, (*Grewia Asiatica*).
Poison nut tree, kóochla (*Strychnos nux vomica*).
Plant per; (*to*) pér-lugána.
Poplar (*or*) Plane, chinár.
Portia tree, púrus pípul (*Thespesia populnea*).

Réetha (*Sapindus detergens*).
Red wood tree, koochúnduna (*Adenanthera pavonina*); (*another sort of*) rúhun (*Soymida febrifuga*).
Ringworm shrub, dád múrdun (*Cassia alata*).

Sage-leaved alangium, ukól (*Alangium hexapetalum*).
Sal (*Shorea robusta*).
Salái (*or*) lobán, (*Boswellia thurifera*).
Sandalwood, chúndun (*Santalum album*); (*red do.*) rúkht-chúndun (*Pterocarpus santalinus*).
Sappan wood, búkkum, púttung (*Cæsalpinia sappan*).
Séesoo, or Sheeshum, (*Dalbergia sissoo*).
Sepistan, lusóra, buhóoar (*Cordia myxa*); (*broad-leaved*) búrra-lusóra (*Cordia latifolia*).
Shóora, (*Epicarpus Orientalis*).
Shóla (*Æschynomene aspera*).
Shon, (*Bignonia Indica*).
Shúmee, (*Acacia suma*).
Silk cotton tree, khúttian (*Bombax pentandrum*).
Sirissa, síris (*Acacia speciosa*).
Soonderbund Palm (*or*) Marshy date tree, híntal (*Phœnix paludosa*).
Staff tree, málkúngnee (*Celastrus paniculata*).
Súrul, (*Pinus longifolia*).

Talipot Palm, tálee (*Corypha umbraculifera*).
Tamarix (*Indian*); jáhoo, shóruh-guz (*Tamarix Indica*).
Thorn apple (*white*), dhutóora.
Toon, (*Indian mahogany*), (*Cedrela toona*).

Trees, Plants, etc.—*concld.*

Tree, durúkht, per, rookh; (*with thick foliage*) jhundóola; (*with expanded branches*) chújja; (*without leaves*) jhun khára, móonrla; (*trunk*) silee, jurwut stumbh, peree; (*root*) jur; (*branch*) dal, dálee, shakh.

Ugústiuh, (*Œschynomene grandiflora*).

Umultas, (*Cassia fistula*).

Urjoon, (*Terminalia alata glabra*).

Woodapple (*elephant*), kyt, kúthbel (*Feronia Elephantum*).

Flowers, Shrubs, etc.

Air plant, akás-púwun (*Cuscuta reflexa*).

Aloe (*Indian*), ghéekóoar koomáree (*Aloe littoralis*); (*American*) rákus (*Agave Americana*).

Barbadoes flower fence, Krishnchurn, (*Poincinia pulcherrima*).

Basil, toolsee (*Ocimum sanctum*).

Bhant, (*Clerodendron infortunatum*).

Bhúchumpa, (*Kœmpferia rotunda*).

Bhúnjee-pát, (*Corchorus olitorius*).

Bimb (*or*) vímbuh (*Coccinia Indica*).

Borage (*country*), páthoorchóor (*Coleus Amboinicus*).

Bún-jóoen (*Clerodendron inerme*).

Chhóta chirétta, (*Cicendia hyssopfolia*).

Chúmpa (*or*) chúmpak, (*Michelia champaca*).

Chúndra (*or*) chhóta chand, (*Ophioxylon serpentinum*).

Cockscomb, kúlga, góolkésh, taj-i-khurós, jat (*Amaranthus cruentus*).

Cotton plant, kupas (*Gossypium Indicum*); (*holy*) deo kupóos (*Goss, religiosum*).

Cowage, kiwánch (*Mucuna prurita*).

Dhutóora (*Datura alba*).

Dó púhreea (*Pentapetes Phœnicia*).

Elephant creeper (*Ipomœa speciosa*).

Flower, phóol, pooshp.

Fragrant screw pine, kétkee, keóra (*Pandanus odoratissimus*); (*dust of*) gugundhóol.

Flowers, Shrubs, etc.—*contd.*

Géla (*large creeper*) (*Mimosa scandens*).
Globe Amaranth, ámlán, góol-i-múkhmul; (*Gomphrena globosa*).
Gloriosa superba, kárіáree, éesnamungla.
Gool (*-mihindee*), (*Impatiens balsamina*); (*-idaódee*), (*Chrysanthemum Indicum*), (*-i-tóoruh*), (*Poinciana pulcherrima*); (*-i-ujàib*), (*Hibiscus mutabilis*); (*-i-furung*), (*Vinca Rosea*); (*-i-jáfuree*), (*Tagetes patula*); (*-i-ushrufee*), (*Linum trigynum*).
Goorch (*or*) Gilów, (*Menispermum glabrum*).
Goorhul, (*Hibiscus Syriacus*).

Hár-jóra, (*Cissus quadrangularis*).
Hárpuráoree, (*Cicca disticha*).
Henna, (*Broad Egyptian Privet*), méhndee (*Lawsonia inermis*).
Hyacinth, súmbool.
Hollyhock (*Chinese or Persian*), gool-i-kyra (*Althœa rosea*).

Indigo, neel (*Indigofera tinctoria*); (*wild*) búnnéel (*Tephrosia purpurea*).

Jasmine, súmun, yasméen; (*do. grandiflorum*), játee, chumbélee, jáhee, koond; (*do. multiflorum*), kúthbéla; (*do. zambac, great double*), motéea bel, mogra, désmoólka; (*do. hirsutum*), déla.
Júwa, (*Hibiscus Rosa-sinensis*).

Kúwa thénthee, (*or*) úprajíta, (*or*) durúkhtee kóiul, (*Clitorea ternatea*).

Lily, sósun.
Lotos, púdum, úmbooj, kúnwul, sarung, (*Nelumbium speciosum*); néel kúmul, (*Nymphœa cerulœa*).

Madder (*Bengal*), munjéeth (*Rubia Cordifolia*).
Maiden hair, púrisiáshun (*Pteris lunata*).
Marvel of Peru, gool-i-ubbás (*Mirabilis jalapa*).
Marigold, génda.
Mistletoe (*kind of*), bánda (*Epidendron*).
Muchána, (*Euryale ferox*).

Narcissus, núrgis, húrhúft.
Néel kúlmee (*Pharbitis Nil*).
Nettle, bichháta.
Nightshade (*Indian*) biákoor (*Solanum Indicum*); póee, (*Basella alba*).

Flowers, Shrubs, etc.—*concld.*

Nilofur lotos, neelofúr (*Nymphœa pubescens*).

Oleander (*sweet scented*), kunér, púdma kúrubee (*Nerium odorum*).

Poppy, post (*Papaver somniferum*).

Prickly pear, vidúr (*Cactus Indicus*).

Purple flea bane, búkchee (*Serratula anthelmintica*).

Ranunculus, kákoónjkee.

Rose, góol; (*a fragrant Persian*) góol-i-sóoree; (*white, or sweet brier*) séeotee, (*Rosa glandulifera*), (*China*) júwa; (*-bay, Rhododaphne*) khúr zúhruh (*Nerium oleander*).

Roselle, pútwa (*Hibiscus sabdariffa*).

Rough chaff flower, upánga, lal chírchíree (*Achyranthes aspera*).

Sensitive plant (*sort of*), shúmeepútree (*Mimosa pudica*).

Spikenard (*Indian*), jútamánsee (*Valeriana jatamansi*).

Sud. (*Hibiscus Phœnicius*).

Sunflower, sóoruj móokkhee (*Helianthus annus*).

Thistle (*species*), óont kutára (*Echinops echinatus*); (*yellow*) bhérbúnd (*Argemone Mexicana*).

Trumpet flower, kurbóora (*Bignonia suaveolens*).

Tuberose, gool-i-shúbbo (*Polyanthes tuberosa*).

Tulip, lala.

Valerian, bíllee-lótun, jál lúkree.

Water-lily, kóee; (*red*) rukhta chúndun (*Nymphœa rubra*).