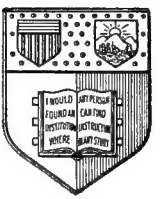
The GARDEN BOOK of CALIFORNIA

BELLE SUMNER ANGIER



AN ENCLOSED GARDEN

Now there was . . . a garden fair . . Walled all about; and so with trees close set, Was all the place . .
That no one though he were near walking by, Might there within scarce any one espy.

King James I of Scotland.

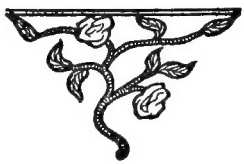
THE GARDEN BOOK OF CALIFORNIA

BY

BELLE SUMNER ANGIER

DECORATIONS BY
SPENCER WRIGHT

" God Almightie first planted a Garden, . . .
and indeed it is the Purest of Humane Pleasures,
it is the Greatest
Refreshment to the Spirits of Man."



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TO

DOCTOR WALTER LINDLEY

PHYSICIAN AND FRIEND,
THIS BOOK IS INSCRIBED IN SINCERE APPRECIATION
OF A KINDLY ENCOURAGEMENT WHICH
MADE POSSIBLE ITS COMPLETION
AT A TIME WHEN UNTOWARD CIRCUMSTANCES
THREATENED ITS VERY EXISTENCE.

THE CHAPTERS

THE ILLUSTRATIONS

THE FLOWER GARDEN AS A FACTOR IN HOME-MAKING

THE hope of America is in the homes of America. Whatever will lead to the betterment of our home life is to be sought after.

The garden of the world is California, and the ideal home may be made here. I am fearful at times, however, that home-makers, and this means especially the women, for they are the home-keepers of the land, fail to appreciate the very large influence that the garden, and especially the flower garden, has on the life of the family and of the community.

I believe that nine out of ten people that come to California come because of our fine climate, and they come expecting to live out-of-doors the greater part of each year; but the same strenuous conditions that surround life elsewhere are found here. Just as many hours must be put into the daily grind as in New York City, if the livelihood is to be made for the family. In the farming communities the men of the family seem to find scope for their activities in just as strenuous a manner as if they were seeding hundreds of acres of Dakota farm lands, or covering early spring crops from the frost in some other locality. The housewife finds that

the conditions of living are just as exacting, indeed almost more so, than in the older States. Little by little, and without entire consciousness of the fact, the vision of Eden, which has led our family to this balmy dreamland, vanishes into thin air, and life is lived just as much between four walls as in the heart of some great over-crowded Eastern city; our beautiful climate seems to lose its virtue when housed up, and a brick wall daily viewed in Los Angeles is just as unproductive of the inspiration to higher living as one in Cincinnati.

I am sure that the Creator never intended his children to get so far away from the garden, and I can conceive of no nobler mission than that of our great nature lovers, who are constantly striving to lead us back again into the simpler paths of life. Paradise was of God's own planting, and in all the history of the development of man we are clearly shown how He has caused, over and over again, the returning of man to the pursuits that lead him to seek in nature the lesson for his own character building. This is a much-trodden path, this path to Eden, and it is a long-discovered country, but each one may and does discover anew much for himself.

The "Land of Heart's Desire" some one has called this Western land. I would that it might be the land of the most artistic, and, at the same time, the most genuine and heart-satisfying home-building that the world has ever known; it can be and I have faith that it will be, but of course no such delightful millennium can be reached without

years of persistent effort along right lines, together with a gradual development of higher ideals for home-building and home surroundings.

Sometimes it would seem as if the American home was much more for the world's enjoyment than that of the family to whom its influence is most important. The desire for ownership of a home, no matter how small, is growing on us as a people, but the greatest benefit the ownership of land gives us is in its development of the love of home, and the suppression of that restless desire for change which has resulted in the evolution of the American tramp. However much the nature world may satisfy, the home is wholly a thing of man's making, and in it he would gather about him the things that need his tender ministry. The better part of one's nature is aroused by living in the garden. A strange leaf, a new flower, or a peculiarity of tiny seed-leaves, each in itself a trifle, may become a matter of such vital fascination as to cause you to become absorbed in the study of nature.

In every household there are times when there is need of some common interest into which all members of the family may throw themselves temporarily. The garden furnishes such. The head of the house works off the irritation and fret of the business world as he takes an after-dinner, or, better still, before-dinner stroll in the garden. For the city-bred man a half-hour of vigorous exercise in the garden in the morning will be better for health than dumb-bells, and the charm of the early day, the song of the birds, the delight in watching the growing things, will furnish a power to meet

the business world, more natural and free, more sustaining than the philosophies of any new thought.

A house does not make a home. Neither does a garden. It's home-building we want, and must have, and it takes thought, and hearts, and a will, for building—both in a material and a spiritual sense—that will go toward a higher development of the family life—the family ideal. I believe from the bottom of my heart that there is no more powerful factor in the development of character than garden-making, just as I believe that flowers are potent to refine the most degraded and cruel natures, if they are properly used.

If there are those among my readers who are striving to build up a higher type of home life let me urge them, if they have not already made the effort, to so plan their gardens, be they tiny city plots or great country estates, that every member of the family, from the oldest to the youngest, shall have some definite responsibility and part in the making of the home gardens. The child, boy or girl, who has the garden for his or her gymnasium, or who makes playmates of the butterflies and birds, and reads in the growing things the lessons which nature will teach so much better, so much more simply and easily than will books—such a child will surprise you some day by showing a character that cannot be made in any other environment. There is a cry going up all over the land—this land of a strenuous life: "Our children have no home life—what can we do to instil in their characters those qualities that go to the making of a noble manhood and womanhood?"

Out of an experience which has been derived from an honest effort to test and to weigh results, I believe that the family that makes the flower and the vegetable garden a prominent factor in the home life will reap the reward, and that right speedily, in bettered physical, mental and spiritual condition.

There are qualities which parents desire to promote in the characters of their children, in the formation of which garden work is of great assistance. One of the foremost of these is the ability to assume and properly discharge responsibilities. Many men and women are rendered inefficient and helpless through lack of this quality. You may have heard the axiom: "A child and a plant must be loved and cared for every day—once in a while is of no use." Give a child a small piece of ground for the care of which he is held responsible. Allow no one to help him either to failure or success. If you can once interest him—and you generally can if you are interested yourself in your own part of the garden—you will find that the daily habit of regular work and an application to even this small undertaking will soon exert a strong formative influence on all his habits, and the knowledge that his entire failure or success depends wholly on his own attention to business will be worth more than all the lectures he could ever hear on the subject.

This child-training theory applies alike to boy or girl. I heard one good young father say to his mother, when discussing with her the plans for educatng his boys to self-reliance; "Now that we live with water and gas piped to every part

of the house, no water to be brought in, no kindling to be chopped—mother, how can I train my boys?" And mother, out of the depths of her own long experience, said: "Give them some task in the garden." I knew, too, that one of the lads was given the task of assisting in caring for the tiny grass plot, and that somehow father did most of the work and the lad's development was not what we were hoping for; but by and by the father realized, and the boy was given the sole care; his air of proprietorship was delightful, and boy and the lawn made growth.

For the boy, especially, the garden is the place to learn the value of life. A steady watching over the tender and delicate plant life is worth even more than the care of pet animals, which is so often strongly recommended for the education of the child. The observation of the effect of storm and wind, of hot sun or gentle shade on the little lives that have been fostered by their own hands, the anxiety to prevent mutilation of branches, the careless destruction of blossoms or the uprooting of seedlings, soon bring about a respect for life in all its forms.

Once in a while we hear it said of a man: "He is as tender and thoughtful as a woman." Why not, except that, as his little life goes onward, the boy is rarely taught to be tender and thoughtful. On the contrary, he hears: "Stand up for yourself," "Be manly," "Don't let yourself be imposed upon"—all good maxims, properly applied, but apt to be carried to an extreme by the headlong, growing youth, influenced by the cold materialism of the age. The con-

"HUMORING NATURE"

A garden at peace with itself, where trailing vines may wander at will
and even weeds are welcome

stant care of flowers, the gentle stirring of the soil, lest he destroy the young and tender roots, the gentle sprinkling to cleanse the dust from choking leaves, the moving and transplanting of each to its own suitable and best adapted place for a home, will conduce largely to a thoughtful and tender handling of larger issues in the constantly uprising emergencies of domestic life.

Tenacity of purpose is an essential quality in the character of the modern business man, drawn down as he is into the constantly increasing intensity of the competition involved in commerce. On many of the soft enticing mornings and evenings of the spring, when all out-of-doors is wooing the youngster to the woods, the fields, the river, or the bay, he must steadfastly stick to his purpose and work in his little garden. When the warm summer days come and the buzzing of the bumblebee, the song of the mocking-bird or the whiz of the hummer remind him of the retreat under the honeysuckle, he knows that he must be on the alert to water his plants, to destroy rapidly increasing swarms of insects that now threaten his lovely budding and blooming plants that he has labored so hard for all through the spring, and let me tell you that none will appreciate their beauties more than will "The Boy." Our boys can be trained to all this, and only those who can will ever be really fitted to secure a safe and steady footing in the competition of the later business life.

I need not spend many words in showing you that thoroughness is a desirable quality of character. The time

has gone by when it is safe to say: "That is good enough for me," "That will do for this time," or "I will give that job a lick and a promise." Thoroughness is absolutely essential, and pride in the performance of every task undertaken should be inculcated at the earliest opportunity in the child's life.

This habit is most easily cultivated while training the child to the garden tasks. I must insist again that the child should be first taught to assume the entire responsibility of the task assigned, if you have character building in mind.

Let the size of the task or the space for the garden plot be carefully chosen to fit his age, size, or capacity. Let him see that scale left on one leaf will soon spread to the whole garden. A few slugs neglected multiply until the carnations are no more. Blight in one corner, aphis in another, threaten not one rose, but every rose in the garden. If the plants are to thrive the gardener must be thorough; and from the digging and careful powdering of the soil in the spring-time to the husbandry of the ripe seed in the mellow autumn, thoroughness pays, and pays well, and the child learns these lessons almost unconsciously as the days ripen and he comes to know the beauty of detail.

The provision, to the very fullest degree, of simple means for encouraging the love of ornamental gardening and the study of botany and other closely allied sciences at home, secures not only a high enjoyment, but pays in point of health and the physical development, and far more in intellectual attainment. Linnæus, the renowned Swedish botanist, was the son of a poor country clergyman who had a small flower

garden in which he cultivated all the flowers which he could procure and his means would permit. From the earliest childhood of the son, he was taught to love and cultivate, and to rejoice with intense delight in the rich and varied colorings of the flowers, and in this way were created the tastes and desires which made Linnæus the first botanist and naturalist of his age.

Legendry and literature may be taught to your children in the garden. Tell them the pretty story of how Cupid's mother gave the rose its thorns; the tale of the sensitive plant; and point out to them the equipment of the cacti for their strange hard life on the desert; the lovely human faces filled with the sweetness of remembrance that we find in the pansy bed. Show them the delight of the swift-flying humming-bird in the red and yellow blossoms of the garden, and the sagacity of the oriole in building his nest near the lantana bush—so attractive to the insects upon which the brilliant scamp feeds. Take your little ones into the garden for the story-telling period, and let them make the story out of the suggestive themes about them. With paper and pencil in hand you will be surprised at the rapid development of quickness of sight and appreciation of color and form that will creep into the little story written primarily to please mamma, but later perhaps to entertain a larger circle, and, in any event, developing faculties always useful in after life.

Graceful outlines and beautiful forms have had a new meaning for me since the summer of my fifth year of life, and even now I can see the pretty picture of the hillside and the

brilliant-hued maple leaves scattered about my mother's knee, while she drew for us, or had us draw, the outlines of all the most beautiful leaves we had found during our afternoon walk. The study of leaves has never lost its charm for me, nor have I forgotten the quaint games that father and mother taught that might be played in the garden or among the trees and flowers.

The morning-glories have always had a personality for me because the fairies loved them best, when I was young enough to hear the soft whispers of the tiny folk that live in the flower-cups. I have never ceased to be thankful for the cultivation of the sense of touch gained by playing "Blind Man's Buff" among the trees and coming to know each tree and its location by the feeling of the bark; or of the training of the eye to distinguish all those details of form and color that to many adults are as a sealed book unless they are aided by the magnifying-glass.

These suggestions might be extended indefinitely; innumerable are the mysteries and delights afforded to him who turns his eye natureward. We of California, dowered with a soil of unexampled fertility, and blessed with a climate which fairly entices one out-of-doors the greater part of the year, have much for which to be grateful; and in the midst of our gratitude let us resolve to make a new effort to enjoy, and to teach others to enjoy, the beauties of nature that may be found—if they are sought for—even in the tiniest of flower gardens.

SIMPLE GARDENING METHODS

THE best hose, not a half-inch imitation, but a good rubber hose that will carry as large a stream as your water-pipe will yield, is one of the first "tools" to be secured for a California garden. As to "sprinklers" and "projectors," two-thirds of them are useless, but in every hardware store may be found at least one honest clerk who can be prevailed upon to sell you a practical sort. A good, strong spade (not too large if a woman is to wield it); a sharp hoe—the old-fashioned broad-bladed sort is the kind I would use; an iron rake with light wooden handle; if possible, a "potato-fork," which will do for hand cultivation, instead of using the spade or the hoe; a trowel and a light wheelbarrow—these one must have to garden successfully, while many more modern tools that lighten labor may be added if the purse permits; pruning-shears, if you like, and a good, strong garden scissors and knife for cutting flowers.

Now as for irrigation. Water—but be regular about it. Have certain days for watering, and don't soak your lawn and flower beds all the time. Plants do not like the perpetual bath any more than do animals. By watching you can soon learn whether the conditions of your soil and climate require a once-a-week, twice-a-week or thrice-a-week

irrigation, and it is really remarkable how little water, rightly applied, will do. The gardener who would always secure employment with me is the one who could reduce his employer's water bill for irrigation to $6 a month where it had been $20 before. Every householder for his own guidance and protection, as well as for the good of the community, should insist that the water company of his city, or town, place a meter on his premises. I have thoroughly tested this matter, and know not only that it pays the individual but it will eventually, if practiced, put the ever-recurring "water-famine" of the summer months so far in the background, that we shall never hear of it again. Have a meter, and use common sense in irrigation, and your garden will out-blossom your neighbor's water-logged premises, and your bank account will be larger at the end of the year.

Then, weeds. Don't let the weeds get a foothold. One good-sized pigweed will eat up more nourishment and water than a rose bush, and not bring half the joy to the owner. Keep the top soil stirred and open. It makes the premises more wholesome to live in for you and for the plants. I know a man who has a dozen splendid rose bushes in his back yard. They bear misshapen, half-rotted or mildewed buds two-thirds of the year. I have never seen a spade or hoe taken to the soil about those great rose trees. He turns the hose on in the morning, and it runs all day, and he even had to build a wall to keep the water from running into his cellar, but he hasn't yet waked up to the fact that roses breathe through their roots as well as their leaves, and that

a little early-morning energy with the hoe would bring him better health and better roses.

As to fertilizers, I think that soils should be prescribed for by experts where practicable. In large cities and where drainage has carried off component parts for years, artificial fertilizers must be added from time to time, and because of diversity of soils no general prescription as to kind is practicable except that where barnyard manures are used they must be old and well-rotted.

I took a lesson in "pricking out" one day. "Lifting the plant," the English would call it, but most gardeners use the phrase "pricking out" for describing the mode of transplanting the tiny seedlings from the flats in which the seed is first sown. Now you old-practiced gardeners may laugh if you will, at the idea of taking a lesson in so simple an operation, but like many another thing in life, it is simple—very simple—after you know how, but I venture to guess that about half the men you put to work in your gardens do not know how to properly handle the delicate little lives of the seedling plants. For instance, here is a flat with hundreds of tiny seedlings—call them cauliflowers or pansies, as suits you best. They are two inches long, or less, and you have induced a fine growth of fibrous roots by keeping them close to the glass, and not letting them get "leggy," but now as you separate each plant from its fellow, do not take hold of it by the stem, for you bruise it so and easily impair the vitality of the plant. Take it by the leaves—the embryo or first leaves, and handle it so, just as you lift a kitten by the nape

of its neck, for it doesn't pay to do otherwise; the kitten scratches if not properly handled, and the seedling dies. Then in resetting, whether it be in another set of flats, or in the open ground, use your fingers, or a small dibble, to make the ground firm, and (this is important) press always from below so that the soil will closely envelop the thread-like roots, instead of packing down from above and making a hard crust. It sounds simple, but when it comes to the practice—well, you may have to try a good many times to be perfect.

Just a few words that may seem trite, yet which if heeded may save one from loss of money, time, and, most important of all, disappointment. First, in buying nursery stock buy of reliable firms; refuse substitutions, and insist upon healthy and perfect plants. Then be ready for the planting, which means that the conditions of the ground should be right. Too many people put the cart before the horse, and select their trees, for instance, before the place for their reception is ready.

Where plants or trees come balled from the nursery be very careful about tamping the soil about them, as in this way the new tender roots get nourishment immediately from soil and water, while if this union is not effected, both drain away from the plant, and the life is destroyed.

Do not plant tin cans or gunny-sacks—the crop is not profitable. Now, somebody says, "How flippant!" but if the truth must be known, I have seen more "Mr. O'Shovelems" doing that very thing in various gardens in California

than I had believed possible. I saw recently a splendid and most expensive row of young trees of rare variety that had been dug up because they were not thriving, only to find that the ignorant planter had put them down in the "original package," and the young roots were unable to force their way through the tin can in which they had grown in the nursery, and which should of course have been removed.

In putting out young roses, it is advisable to cut them back rather vigorously if you wish to have healthy plants next year. They should not be allowed to bloom profusely the first season, but be kept clipped back.

Judicious "pinching" enters into the training of vines, and judgment is a hard matter to inculcate through printed directions, but, if the vine is wanted for covering the roof or upper part of the trellis, pinch off the side and lower shoots. If it is desirable that it should spread rapidly, then the upper shoots must be pinched back.

For small or tender plants it is well to cover from the sun rays and from frost at night with a light sacking or other shelter, but this should be removed part of each day that the plant may gradually harden.

THE MAKING OF A LAWN

Under the heading of "Simple Gardening Methods," it will be advisable to take up the matter of lawn-making, since even the tiniest city lot is made more attractive by the patch of lawn, and yet very few amateurs are able to induce

a good growth in our peculiar climate on first trial. I have noticed that the average professional gardener has more positive opinions upon this subject than any other of garden-making. I have noticed, too, that those are almost as numerous as localities, and that prejudice for or against particular theories of lawn-making is marked.

Lawns and gardens are an expense in California, and the man or woman who thinks to scratch up the ground and sow a little seed, has very little idea of what it means to make a lawn. While I am sure that returns on the expenditure for this particular form of luxury are the largest possible to conceive, yet it is only right to say that the planting of a lawn is merely an initial expense, the keeping it up being where the cost comes in. The following directions for lawn-making were written by an experienced California gardener, and cannot, I think, be improved upon for conciseness and practicality; let me preface these directions, however, with the remark that it is usually economy to employ a competent man to get the grass well up, or at least to superintend the work.

"Grade the ground to the proper level and shape. If the soil is not moist enough for spading, make it so, then cover evenly with an abundance of well-decomposed and pulverized manure. Spade very deep, mixing the dressing and soil as thoroughly as possible. Rake well and roll, first with a light and then with a heavier roller; or a board a foot wide with one's weight will pack the surface sufficiently. This packing is necessary to prevent the uneven settling of

TERRACED LAWN

Illustrative of the Mission treatment of house and garden

the loose earth. The seed should be sown quite thick and evenly, using about one pound to sixteen feet square of surface. Grass seed should be planted when there is no wind, as this is the only way to avoid uneven distribution, the seed being very light. Cover with a layer, one-quarter to three-eighths of an inch thick, of finely sifted manure. Sprinkle and keep moist until the grass is well up. It does no harm to sprinkle the surface while the sun shines, if the manure covering has been used. In fact, it is better to give the surface three sprinklings during a warm and bright day instead of only one heavy watering. The sprouting time of the seed is the most critical, for if the seed once becomes dried, the tender sprout is killed, or sickened, and the grass may not come up at all. A good rolling when the grass is up will strengthen and improve it. The weeds should be removed by the time they are two inches high.

"During the spring and summer months a lawn abundantly watered should be clipped and raked every week or ten days. The surface of a newly made lawn should not be marred by footsteps; if the surface must be crossed, use a board for a pathway. It is also a great injury to young grass to drag a hose over it."

Of what shall your lawn be constituted? Now, I like the soft, tender green of Kentucky blue grass, and nothing else will satisfy me, although a generous sprinkling of white clover adds to the charm on those rare occasions when I have time to indulge myself in resting on some grassy spot.

There are people who say they prefer *Lippia repens*,

and I once saw a very beautiful moss lawn. The varieties of grasses used in California for lawn-making are innumerable, and some of them attractive for one reason or another, but for beauty and all-the-year-round attractiveness and success, the best lawn is made of Kentucky blue grass and white clover. Now, when planting do not mix the seed. It is not the right way. The grass seed should be proportioned to the clover about two-thirds grass, one-third clover. Plant the grass first, scattering it all over, then go over the same ground again with the clover. The reason for this is that the weight of the seeds is so different that they scatter most unevenly when mixed, and the lawn comes up in patches. I have in mind a beautiful lawn about a public building planted in this way. The gardener waters this lawn thoroughly (which means soakingly) three times a week. The turf is like velvet, and it never smells musty.

To keep grass in good color, smooth and even, is a constant care, and the watering and clipping should be done at stated intervals, while at longer intervals fertilizing and weeding will be required.

INDOORS

Unhealthy house plants are a vexation to the spirit. Often I am asked to prescribe for a sick fern, a diseased palm, a ragged, unhappy-looking begonia, or an unkempt geranium.

As a rule, the poor things have been grievously mal-

treated by their too loving friends. Too much water, too much heat.

On the whole, house plants, like people, require fresh air, and, in California, rooms should be daily aired and always well ventilated. Then plants—the sort one naturally chooses for house plants—should be protected from strong draughts just as should the people. Evenness of temperature is conducive to good health, and poisonous gases will show their effects first on the plants, but the people will be injured, too, that breathe the same. On the whole, the ordinary hardy house plant is a very good indicator of the healthfulness of a room. Now, to be sure, I am not talking about conservatory plants. Many tropical plants require a damp, warm air, and many northern plants require a cooler temperature than is wholesome for those of Southern California; but if you do not abuse your potted plants in some of the ways I have indicated, and if they are still unhealthy, you may put it down that the air of your reception-room, or dining-room, or library, which you are seeking to adorn, is not just what it should be for your family to breathe. The fine fern or palm needs a tepid bath once or twice a week to keep the dust out of its lungs, the leaves. This does not mean a "soaking," but simply that it be genuinely washed off. I believe, too, that house plants should usually be watered with tepid water so as not to change the temperature too radically. But chief among the directions is the fresh air free from poisonous gas.

One other injury commonly done to house plants and

which comes under the head of "overwatering," is that frequently the pot is allowed to drain into a saucer or jardiniere, and stand—a most unwholesome condition for the roots. As for potting, while amateurs are apt to let plants become pot-bound, yet the plant is just as miserable in too large a pot.

House plants require judgment in handling, and if you find it too great a task to decide all these delicate questions, go to the "plant doctor," the florist, or nurseryman, and get a prescription.

The chief difficulty in Southern California of conducting a successful greenhouse seems to be in keeping the air properly humid for the delicate tropical plants. It is not a matter of temperature, for while in the summer months some care must be exercised to keep the heat of the sun out, a very little artificial heating in winter is all that is necessary to keep the even temperature required. But moisture about the roots of plants is not sufficient when they have been accustomed to the warm, dank dampness of the swamps of some southern land, as is the case with most of the orchids, for instance. I know one man who experimented successfully in the matter of raising the lily-of-the-valley in a lath house, by running very small pipes about through the upper part of the house from which a spray so fine that it was fairly a mist was thrown out into the air, and it seemed to furnish the right amount of humidity for the plants to thrive under. I see no reason why this same method might not be used in the small glass house or conservatory, and offer it for what it is worth as a suggestion.

One thing about a greenhouse that is extremely important is that mold and must should not accumulate. Rotting sphagnum and diseased or discarded plants should not be allowed to accumulate, since bacteria are developed that will spread disease throughout the house.

Greenhouse men differ as to the normal temperature required for healthy plants. One of the most successful growers of orchids that I know never allows his house to get above 60 degrees or below 55 degrees, but I fancy that most growers would consider this a little too low to get the desired luxuriance of bloom.

General recognition is now being made by growers in California that lath houses are extremely useful for perfecting fine flowers, or unusual types. Many plants that are usually grown in the glass house in the East are most unhealthy under such conditions here, yet are too delicate to be easily grown in the open. Here the lath house comes in to advantage, affording as it does a shelter from the too direct rays of the sun and from the chilling breeze, and yet allowing the free circulation of air.

A PLANTING-TIME CALENDAR

THE directions for planting incorporated in this chapter are especially intended as a guide to amateur gardeners south of Tehachapi and along the coast, and as a guide only, since after several years' experimenting in calendar-making for gardening, I have demonstrated to my complete satisfaction that no absolute rule or set time can be offered, though certain seasons are apparently more propitious for the growth of certain plants than others. For instance, I find by referring to a note-book, kept carefully during a period of four years of innumerable gardening episodes throughout Southern California, encountered during my travels, that roses may be planted with fair success every month in the year, except only July, August and September, though the same note-book shows that the greatest success has been attained by planting in December, January and February.

Ambitious to make a calendar that might at least be a guide to planting throughout the State of California with its 750 miles of coast line, I spent some time in visiting prominent growers in the region of San Francisco Bay, with a hope of formulating such a calendar; but while the best men were willing to recommend certain seasons for certain plants, yet

when it came to actually formulating a table for planting, it was declared impossible, owing to the diversified character of our climate. The mild and almost frostless lowlands near the coast, the more variable hill country, and the severe mountain region, make, as Benjamin Ide Wheeler has aptly said, "forty-nine 'door-yard' climates within forty-nine miles of any given point!"

In Southern California the conditions are similar, though not quite so extreme. Therefore, in forming the suggestions here given, special reference has been made to the conditions of the cities, towns and villages of the coast section, and the larger interior valleys, and without reference to higher altitudes.

With this somewhat prolonged explanation of what I have *not* been able to do, I offer to the "tenderfoot" just out from the East, desirous of making a small Eden in "Homeland," this simple planting table, to be used in connection with a large amount of discretion, and much application of common sense:

JANUARY

In January plant hardy bulbs, roses, evergreens and deciduous shrubs, vines and trees. Half-hardy annuals may be planted now, pansies, poppies, sweet peas and mignonette seed. Of the bulbs: lilies, hyacinths, narcissus, anemones, ranunculi and the early gladioli. If the rains have come, hurry shrubs and hardy roses into the ground. At this season the vegetable garden calls for attention. Poinsettias and

ornamental or sidewalk trees may be planted from now on through February and March.

FEBRUARY

Continue planting roses, deciduous shrubs and trees, vines and hedge plants. Border plants, heliotropes, verbenas, and, in warm, dry localities, carnation plants may now be put in the ground. Promptness in planting deciduous trees, shrubs and plants at this time will be amply repaid. Transplanting of pansies and other young plants should progress rapidly. Tree-planting should not longer be deferred, as February and March are the best months in the year for general tree-planting.

MARCH

Duing this month we may plant roses, sweet peas, vines, border plants, and seeds of annual and perennial flowering plants. Generally a good month for placing all permanent plants.

APRIL

In the ordinary season, sweet peas, vines, border plants, heliotropes, carnations, verbenas, annual and perennial seeds may be planted. April is a favorable month for poinsettias. The cosmos for fall display should be planted at this time; and in fact most seeds, where a succession is desirable, such as peas, poppies, phlox and other annual and perennial flowering plants. By the first or second week in April young carnation plants should always be in the ground. Summer flowering bulbs may be planted during this month, also

A GARDEN RETREAT

The rose, bamboo and palm. Where may one indulge in day-dreams if not in a garden!

dahlias and tuberous begonias. The seedlings in boxes should go into the open ground at this time. Through April, May and June, palms in variety, bougainvilleas, bignonias and other flowering vines, all tropical plants and fall chrysanthemums may be planted in safety.

MAY

In May, palms, tropical plants, chrysanthemums, bignonias and other flowering vines and bedding plants. Sweet peas for fall blooming, asters, cosmos, and other annuals. Young carnation plants will still make a good showing if properly cared for. In some localities violets may now be replanted.

JUNE

In June, chrysanthemums and bedding plants may still be planted, and plant seed of stocks, late cosmos or other desirable fall annuals. This would include fall-blooming coreopsis, asters, scarlet flax, phlox and mignonette. Dahlias and gladioli, chrysanthemums and all tropical plants may be planted in June.

JULY

Start new lawns. Calla bulbs should be dug. Carnation plants may be transplanted. Hydrangeas may be struck at this season or even later. Young or partially ripened or vigorous shoots should be chosen. Most bulbs should be dug and stored during the month of July as fast as they ripen. Such perennial seeds as require shady situations

may be sown. This is the season to pot plants that are desired for use in the house in the winter.

AUGUST

Overhaul old violet beds, dividing and replanting and putting in new stock. A good deal of mulching should be done and the soil well worked. During August is the best time to sow hardy perennials, as sown thus they will flower early next year. Calceolarias, pansies, cinerarias and primula seeds may be sown at this time with good results. Start seed boxes for bedding and border plants to be used in the early spring. Annual vines that are hardy may be started now. August, September and October are uncertain months for planting general crops, save where the facilities for irrigation are extremely good. They are excellent months for seeding early winter vegetables and flowers.

SEPTEMBER

Sow eucalyptus and cypress seed, for hedges or street rows, in well-drained boxes or pans that are protected from the direct rays of the sun. Plant the hardy Dutch bulbs this month. Violets may still be started, although it is late. Early fall vegetables should be sown where frost will not strike. The pricking off of annuals may begin. All hardy annuals and perennials may go in the ground this month.

OCTOBER

Annuals for early spring blooming and bulbs and perennials that bloom the second year should be planted during this month. Early winter bloom may be secured by now

planting sweet peas, pansies, mignonette, scarlet flax and many other annuals. Plant the delicate sorts now and prick them out a few weeks later. In sections where the warm weather is practically over, roses and other shrubs may be planted successfully. The seed-gathering of annuals should be done during this month, and the early bulbs that are nearly ready for digging should be taken from the ground and separated at this time. A good season for renovating old lawns.

NOVEMBER

Freesias and other hardy bulbs may be planted now, and a continuance of planting hardy bulbs, as hyacinths and early lilies. November is the month for making needful alterations in the garden—complete spading and other heavy work that may be done before rainfall. It will be well to plant sweet peas in quantities this month, and it is high time for planting the hyacinth bulbs for glasses. Any or all annual and perennial seeds may be started during this month.

DECEMBER

Near the seacoast all annual and perennial seed desired for early spring blooming should be in the ground. Trees, shrubs and vines may be planted this month. It is a little early for tender roses, but the hardier sorts may be planted now, and December is the month to plant evergreens and deciduous shrubs, where the frost is not heavy. All annual seeds are successful if planted in December.

THE CULTURE OF COMMON PLANTS

CALIFORNIANS are notably negligent of a class of plants in the garden which in other lands form the chief joy of every lover of beautiful blossoms. We have grown so devoted to our perpetual sunshine and our perpetual summer-time that we cry out as well for perpetual blossom and "evergreen."

As I have said very recently, this appetite, if I may so call it, for ever-blooming plants shuts out from the collection of the flower grower thousands of exquisite blossoms born for but a day, or a week, or a short period of existence.

Annuals are fresh sown each season. Some may be sown just where they are to blossom, while others must be transplanted. Since one has the choice of thousands of varieties, one may have beautiful annuals at any season of the year in Southern California and in many sections of the coast region by a choice of varieties which succeed each other naturally, or by successive plantings. I am extravagantly fond of pansies. Only at certain seasons can I buy them at my florist's, and since no one of my friends seems disposed to grow them specially for me, I am making preparations to have a constant succession of them in my little garden. Candytuft, mignonette and sweet alyssum are

absolutely essential in every garden. There are bachelor's-buttons, and balsams, wall-flowers and nasturtiums, snapdragons, larkspurs, marigolds, asters, verbenas, poppies, stocks, calliopsis, cosmos, cockscomb—all old-time favorites, for which substitutes have not yet been found by the ever-diligent hybridizer.

I am not an admirer of formal designs with annuals. I much prefer masses, and great banks of the brightest-hued blossoms.

Of course I would make exceptions to this rule, for the dainty blue lobelias and the phloxes are often very effective in formal lines. I am also reminded that some one has said, "A bed without a border is like a garment without a hem." A mass of bright blue lobelias, or even ageratums, or delphiniums, with a low foreground of English daisies, with their crimson-tipped petals, comes before my mind's eye as I write. Nasturtiums are a delight to my soul. Sweet-scented, strong and vigorous, they will grow in almost any soil, and one has always a choice of dwarf varieties, or the wonderful climbing sorts. There is a nondescript variety growing in my garden that had been quite ignored as of no especial value in the scheme. One day we aroused to the fact that we had something phenomenal in the way of nasturtiums. I believe I discovered this by contrast, for I had spent a day with an originator of many new nasturtiums, who had talked learnedly and shown triumphantly a great many new varieties. I went home to find I had "something better." My nasturtiums, determined to be seen of all men,

have climbed to the roof and over a great wall space of a barn, running over twenty feet long and forming such a dense mass of green that the wall is completely hidden from view. Blossoms of clear yellow and crimson flutter like gay butterflies, and since early March the air has been filled with their perfume, and they show no signs of withdrawal. I am reminded of these lines whenever I look at them:

"In Roman days thou wouldst have been
The Conqueror's flower,
His laureled brow to overlean
In banquet hour;
Thy peltate leaf the counterfeit
Of rounded shield,
Thy helmet flower the burnished casque
That led the field,
Thy very color seeming part
Of the hot ardor of his art."

Now, the true landscape gardener has about as much respect for the "immediate-result gardener" as has the legitimate broker for the "get-rich-quick" schemer, and I regret to say that abroad we are frequently criticized by the conservatives, as planting too much for the present and not enough for the future, with all of which I agree; but having placed myself on the side of true art and permanency, I still have a kindly feeling for the eager little woman who writes: "Do tell me how I may cover up the bare new walls, and the sheds in the rear of my house, and if you will give me the names of suitable and quick-growing vines for the porches and something in the way of plants or shrubs that will bloom this year, I

shall be so grateful, for I do dread going into the new home with all its painful newness."

So here are some simple suggestions for planting about the new home. Let the new gardener, when planting the lawn, put some oxalis bulbs in the edge of the grass plot. In pinks, or yellows, or whites, they give a delightful spring-like effect until late in the summer. For the unsightly fence—you should not have one—but if you have—cover it with quick-growing vines such as *Mina lobata*, which has a way of covering up ugly places with its sprays of orange and red flowers that is most effective. Where a quick-growing solid green is desired, I know nothing better than the Australian bean vine or dolichos. Were I wishing a "hurry-up" garden I think I should "go in," as the Englishman would say, for nasturtiums of every variety. Mrs. Theodosia B. Shepherd of Ventura has demonstrated that one can use nasturtiums in almost every conceivable way, for there are varieties that will climb to the roof-tops in a couple of months, and there are still others that are dwarfed and stocky, and make excellent bedding-plants. They are all sweet-scented, the leaves are handsome and the flowers showy. By carefully selecting colors one can get either vivid shades of scarlet, or the pale creams, browns or reds, and the cut flowers can be put to many uses.

The poppy family are "friends in need," and the Shirleys especially can be depended upon to make a good showing. The exquisite colorings from white to pale pink, rose carmine and deepest crimson offer much variety.

Where it is desirable to have a low-growing, bright-flowering plant, the portulacas are very satisfactory, or if a bedding plant is wanted, the scarlet flax will bring quick results. For large grounds and showy effects the petunia family are useful and are easily gotten rid of when the emergency is over, and the permanent plants are put in. One year I screened my neighbor's shabby wooden fence from view by massing the old-fashioned hollyhock before it. All colors there were, and nothing in the garden at "Honeysuckle Lodge" attracted more attention. The annual larkspur helped out, too, and as for the stocks and gilly flowers, well, we wondered how we had ever gotten along without them, for all through the long, dry summer they were ever ready for table decoration, and let me tell you the fine French blue and wonderful pink shades of the modern larkspur are worth seeing. In making a temporary garden, the geraniums need not be overlooked, as they may be put down, and moved again, with but little injury, and if strong, healthy plants are secured, quick results may be enjoyed. The ivy-leafed varieties are quite desirable for covering bare patches of ground, as they run readily, yet may be easily removed. Of the zonale varieties the Countess de Harcourt is a new white variety that is a free bloomer. Alice of Vincennes is an intense scarlet, while Madame Landry is a fine salmon with a white eye. The Tamatave is a clear, bright red of excellent form. Cosmos, sweet peas, mignonette and candytuft are old fashioned, but none the less desirable, and it is to the old friends we must turn in the emergencies.

MARGUERITE HEDGE
Simplicity in formal arrangement

In planting seed of annuals, remember not to plant in soggy ground. If planting out in the open, make the surface as soft and fine as possible, and cover each sort of seed to a depth proportionate to its size. Very fine seeds should be merely sown on the surface of the ground, and a fine light, mellow soil sifted over.

Another word. While these simple annuals will help you to make immediate beauty they must be well treated. Have your soil as thoroughly prepared and enriched as if for permanent planting.

And now I wish to make a plea for a decorative plant too little used: the cactus. In the first place the cacti are a very purely American family and worthy of recognition as being among the "early settlers." They have, like other "first families," a peculiar and significant way of making their presence known in society, and yet with proper recognition of their merits there are no members of the floral world more genuinely full of delight for the plant lover than these same cacti.

Their greatest attraction consists of their curious shapes and odd formations, their many-colored spines, their oftentimes enormous blossoms of exquisite texture, and subtle and delightful perfume. Not even the wonderful orchid family can offer a greater variety of form than that of the cactus. Some of the largest and most valuable collections of plants in the world are of cacti, whose owners find an almost unceasing delight in their collection, so great is their variety, and so unlimited the possibilities for further increase in species

and special development of individual plants. The fact that their care is of a simple nature and that their beauty increases with age is also in their favor.

During the life of Henry Shaw, that eminent flower lover of St. Louis, the study of the cactus family and its availability in fine gardening effects was given a great impetus by the magnificent collection of Mr. Shaw. I can recall spending many days, when a child, wandering about among the weird and curious forms of the three thousand cacti then in this great private collection. At Mr. Shaw's death this garden was left to the State of Missouri, and is now cared for by trustees as a great botanical garden to which many people have easy access, the garden being maintained by large bequests from Mr. Shaw's great fortune.

A number of fine private collections of cacti are found in California. Golden Gate Park, in San Francisco, makes a good showing. The Arizona garden in Monterey is popular with travelers. At Pasadena, Santa Barbara, Coronado, and San Diego, as well as in Los Angeles, are several interesting small private collections. At Riverside in a public park is a unique arrangement of cacti. C. R. Orcott of San Diego has been for years an original investigator and collector of the cactus in its native haunts, and has in his private collection probably twelve hundred species. Mr. Orcutt has also been engaged for some time in adding to the great collection of E. W. Scripps at his great country residence at Miramar, the money value of which would run up into thousands of dollars. The residence of Mr. Scripps is built in

the Spanish style, with a large court in the center. At the corners are wings, two stories in height, which give the building a peculiarly commanding aspect. Near the northwest wing are a number of stately *Cereus*, whose gigantic columns outlined against the white walls of the residence are most strikingly effective.

The great family of cacti are classified according to their most distinctive peculiarities, their manner of growth, and so on. Some are upright, others clinging or trailing, some round, oval or globose, while their spines are of most diversified color and style, but always with a decided point!

The principal genera are *Mamillaria*, *Cereus*, *Echinocactus*, *Echinocereus*, *Anhalonium*, *Rhipsalis*, *Epiphyllum*, *Melocactus*, *Pilocereus*, *Phyllocactus*, and *Echinopsis*. They are all easily propagated from the seed, but life is not long enough to make this method of culture worth while, since they take so long to grow and flower, and cuttings are easily made; or one may buy small plants of the specialists at a very small price, save in the case of rare species.

The largest cactus known is the *Cereus gigantea* of Arizona, which often attains a height of fifty feet. *Cereus columbrinas* is a cylindrical cactus that attains great height and is a very beautiful night bloomer. I have read of a hedge in the garden of the college of Oahu, two miles from Honolulu, that is 1,500 feet long, which has had 10,000 blossoms open in a single night and which fills the whole neighborhood with its wonderful perfume. The grandiflora is another wonderful cactus, an epiphyte, and with stems, the small

spines in clusters, and thread-like roots which attach themselves to the nearest support. Most of these have cream and white blossoms, but that of *Cereus rostratus* is a beautiful red.

Decay at the roots or in the stem is about the only disease cacti are subject to, and if it is remembered that they belong to warm, dry countries, and therefore should be watered with moderation and discretion this disease may be practically avoided. However, when struck by disease, use the knife to remove the diseased portion, rubbing the cut with a little finely pulverized charcoal or lime. I have noticed symptoms of approaching disease in favorite plants once or twice, a "yellow tinge of countenance" or a disposition to produce spines and no blossoms. Such a plant I have deliberately torn up by the roots from its pot, or the garden bed, as the case might be, and laid it on the shelf to dry a few days. The "rest cure" will do wonders for an *Echinocactus* or *Mamillaria*, and upon replanting they will speedily show vigor, and blossom freely.

California house plants are more liable to attacks from insect pests than those grown in the open air. My own collections have at times been attacked by the mealy bug, and by various forms of scale. When either one first appears it may be removed with a sharp-pointed stick, or by syringing. A vigorous washing with syringe or garden hose will sometimes suffice, but in the case of the mealy bug, which secretes itself among the spines, and resembles a bunch of white cotton more than anything else, I have found a kerosene

emulsion very efficacious. This emulsion is made in the proportion of a tablespoon of oil to a pint of milk, the two being put into a jar and thoroughly shaken until mixed to a creamy consistency. A spraying with pure alcohol is recommended by some growers for small and valuable plants.

In garden-planting the matter of juxtaposition should ever be a main consideration. Especially may the effect of a cactus garden be ruined by overcrowding of specimens or unsuitable surroundings. While great pleasure may be found in the house or porch collection, or even in a distinct "cactus corner" in the garden, yet surrounded by a merely conventional method of gardening, the cactus is sure to look decidedly out of place and its individual beauty to be lost.

Plants well known in California and which seem to be in "just the right set" to fraternize well with our eccentric friends are the agaves, aloes, euphorbias, yuccas, and for ground-work, the unfailing and multi-colored mesembryanthemums.

Of the agaves, perhaps the best known but none the less useful because of its common appearance in California gardens, is *Agave americana*, the "century plant," certainly a misnomer, since this agave has a "go-as-you-please" way of blooming and seems to take no account of the fact that it takes a hundred years to make a century! *Agave attenuata* has a beautiful slender trunk, and broad, glaucous, soft-textured leaves. *Agave ferox* has red spines that make its green leaves shine by contrast. *Agave potatorum* is of the sort that is used in Mexico for making "pulque." Since there

are at least thirty varieties of agaves known to California growers, every garden should have some of the best of these.

The yucca family have been popular the world over and are nearly all Americans, many being natives of Peru, though all the South American States have species. In Southern California are a number of handsome natives, known widely among florists in European countries as well as our own. Our yucca, *Yucca arborescens*, is found on the Colorado and Mojave deserts. I fancy that the average Yankee would find it difficult to recognize it as a tree, but as a tree it is catalogued the world over. My own first sight of *Yucca arborescens* was on a moonlight night crossing the edge of the desert, when possessed by wakefulness I gazed out over the dreary moonlit waste, and listened to the creaking of the sands on the wheels of the car when my eye was caught by a vision of graceful foliage, and I instantly recognized the yucca, heretofore seen only in the hot-house. *Yucca baccata* is another native variety which improves with cultivation. Its edible fruit is sweet and very like a banana. *Yucca gigantea* is a very tall and handsome Guatemalan of a graceful drooping habit, while *Yucca whippleii* is another native with very beautiful blossoms, and picturesque foliage.

For borders and ground-work among the cacti I know of nothing better than mesembryanthemums, echeverias, and sedums. The echeverias are fleshy-leaved plants of much attractiveness and very useful as border plants.

LITTLE BROWN BULBS

THERE is a peculiar charm about all bulbous plants. This is perhaps largely due to the fact that there is a certain element of mystery about their lives. They are not always with us. This habit of resting out of sight when not in full beauty enhances their value as decorative plants. To come out into the garden some bright spring morning and see a lovely yellow jonquil nodding at you, where yesterday was only a grass-like blade or two of green, is a sunrise surprise particularly enjoyable. When its beauty is faded there is no need of a forcible ejection, for the bulb-plant just retires under ground and "rests some more." They are easy of transportation, and so complete in themselves that it is a simple matter to let the bulbs of one country delight the growers of another, and in every country of the world are found beautiful bulbous plants.

In Belgium and Holland for years, and more recently in Ireland, bulb culture has been one of the chief businesses of the country, and fabulous fortunes have been made by the exportation of bulbs to other countries. For years notable seedsmen and florists have looked to California for great results in bulb culture. And, as our fertile lands become more densely populated and our people more intelligent in

their floricultural methods, this department of seed-growing is likely to become a most important feature of our State; but in the meantime our private gardens are lacking in variety, a matter that is variously explained.

The non-appearance of tulips, hyacinths, amaryllis and hundreds of other beautiful blossoms in our home gardens is often explained by the theory that people will not plant and spend time on a flower which blooms for a short season, or upon any flower, no matter how beautiful, that is short-lived, when they can fill their gardens with fine perennials that are constantly in bloom. The flower lover loses, however, much enjoyment in thus confining himself to the limitations of "ever-bloomers." And so far as I can ascertain there is no reason why any of our familiar friends of the bulb families may not be grown in Califonia, although in the southern part of the State it is often necessary to give them a little special treatment, though as a rule this consists merely of shelter from the direct rays of the sun for the more delicate sorts. For the bulbs most frequently used in commerce our climatic influences and soil are entirely suitable, and given proper irrigation facilities and with the labor question settled, there need be no limitations for the grower.

To the amateur it may be desirable to know exactly what a bulb is. Technically and botanically speaking, bulbs are underground buds, not always underground, either, since some lilies, as well as the less beloved but very valuable onion, form bulbs on their stems. A bulb is not a root, even if most people do labor under the delusion that it is. A

A GARDEN WALK

"Where dreams abide, where dwells not any cold
Nor cloud to mar the hyacinthine air"

bulb is more easily rooted, however, than a bud or a stem. Corms and rhizomes are not, strictly speaking, bulbs, but are usually included under the same head; first, because they require about the same treatment, and secondly because the majority of people do not know the difference and do not seem to care very much when they do. This is all very wrong, since to get the full value out of one's acquaintances of the garden it is desirable to practice "knowing the names of things." No one gets full pleasure out of the acquaintances of the garden until he learns to love the sound of the name as he does those of the little children about him. To me there is no greater pleasure than to go through a well-stocked garden, with its thinking owner, and hear him call each flower and bush by its name, tenderly and lovingly, as if there were some home relation between them.

For the successful growing of most bulbous plants a rich, deep, light, but damp soil, well drained and with no possibility of the water standing about the bulbs, is all that is required, although an annual top dressing of well-rotted manure will give finer growth. Most of the larger bulbs should be planted at the depth of about three inches and not frequently disturbed. If it be necessary to move them it should be done just as the foliage dies down, and in this country they should be immediately replanted. The most showy family of the bulbous type is the amaryllis, of which *Amaryllis belladonna* is the type. Close relations to this wonderful lily are the brunsvigeas, crinums, vallotas and zephyranthes. The amaryllis requires a good loose loam.

There seems to be much confusion in the relation of the amaryllis and the hippeastrums, but Nicholson seems satisfied to say that the hippeastrums are always more showy. The large bulbs of the amaryllis should be planted with a bit of the crown exposed, and once planted should rarely be disturbed save once in three or four years when it may be necessary to subdivide.

A very showy bed may be made by the planting together of amaryllis and the beautiful blue agapanthus. The belladonna-lily is bare of foliage before blooming, while *Agapanthus umbellatus*, or African lily, has beautiful foliage the year round. The *Vallota purpurea* is very showy, has a good foliage and makes an excellent bed, quite as fine in its way as the brilliant tulips which do not give as good results in Southern California, but in northern localities are fully equal to those of colder climates. *Scilla peruviana* is a very showy blue blossom sometimes known as the star hyacinth. This magnificent squill was introduced from Spain where it is found in the meadows about Cadiz. It is certainly one of the most brilliant growths of the bulb kind, and I believe that if planted in large quantities in massed beds or borders it would prove most attractive for a long period of time, as the flowers keep their color for many weeks when cut.

Though tulips have not been particularly successful in Southern California out of doors, in some localities in certain seasons I have seen reasonably good growths and in the plant house they may be as readily forced as in any other environment, seemingly losing nothing in color or size because of dif-

ferences in climate. I am particularly pleased with the effect of the smaller bulbous flowers when planted in the grass in this country. Freesias, oxalis and the smaller narcissus or daffodils are particularly charming with this effect. If the lawn is already planted to grass, all that is necessary is to go through with a sharp pointed stick or rod, and place the bulbs, packing the soil over them, but it is very much better to plant them when planting the grass. It is rather surprising that we see in so few California gardens anything like a large collection of calochortus. These beautiful Mariposas or butterfly-lilies bloom in summer, and are of very rich and brilliant colors, in all shades of white, purple, yellow, pink and lilac. The fact that our Carl Purdy of Mendocino County introduced this lily to commerce, and that he has made a specialty of it for years in his gardens in the North and is now propagating both the native varieties and his own beautiful garden hybrids for wholesalers all over the world, makes it indeed seem strange that our gardens are not resplendent with them in the summer months, but this may be put down to the fact that our people are negligent of all bulbous bloom. The cyclamen, the fritillaria and the freesias are all readily grown here. Lilies-of-the-valley are readily flowered in the house, but so far as I know have not been a success in out-of-door gardens. The tuberous begonias are particularly luxuriant in this climate. Of all the blooms that grow in the bulbous section, I know of nothing finer for display for early spring and summer than the irises. They are our own American flowering flags, "fleur-

de-lis," and the magnificent Spanish iris or *Iris hispanica.* Surely there is nothing else of the flower kind that so nearly equals the choicest of the orchids as these hardy irises; they are so simple of culture, succeeding in almost any soil or position, and the bloom lasts so long. I do not mention varieties because any catalogue will furnish these. There are several handsome English types grown in and about Los Angeles, a few of the German and many of the dainty Japanese type. The colors of the Japanese iris are unequaled, and they are particularly effective in depressed positions as in the small arroyos or along the bank of a tiny stream or pond. When not blooming, the plant is inconspicuous and requires no particular care. Anemones, brodiæas and watsonias are grown with equal ease. Hyacinths require a little special shading during the forcing period. It is very easy for them to become too warm or too dry when planted in the garden bed, and the result is that they bloom before they have acquired a proper stem. It would be well to keep them covered until a flower stalk has been perfected, though there is danger, of course, of weakening the plant by too much shade.

PALMS AND TROPICAL PLANTS

LINNÆUS always refers to the palms as the kings or princes of plant life. I cannot question the fitness of the term. Rising superior to the petty things of the field, graceful, gracious, and sometimes really glorious, it seems as if the palm-tree could never be downed by adverse circumstances, and like many an ancient line of kings, the only way to get it out of the world would be to behead the last representative of line. The true palms are practically divided into two great sections or divisions, and for our purpose it is sufficient to know them thus: as the fan-leaved, and the pinnate or feathery-leaved palms. The varieties best known in this country are the *Washingtonia, filifera* or common fan-palm, which is a native, and the *Phœnix*, of which our best-known representative is the *Phœnix dactylifera* or date-palm, and the *Phœnix canariensis*, that most glorious specimen of the palm family which our misguided home builders persist in putting in their "two-by-four" dooryards. Of the *Phœnix*, there are some thirty-four or thirty-five varieties to be seen in different portions of California, and they are especially interesting to the human race because they are great food-producers. *Phœnix canariensis* is a magnificent tree. *Phœnix reclinata* is especially graceful. *Phœnix rupicola* and

Phœnix roebelenii are particularly dainty specimens of this large family.

In considering the planting of palms one should always consult a competent landscape gardener, as too frequently they outgrow their surroundings. The date-palm does not reach maturity until it is seventy-five years or more of age, but it takes at least ten years to get a plant large enough to be a feature in the grounds. On the other hand, *Phœnix canariensis* is so rapid a grower that in many cases in the Southern cities, a few years has made it necessary to remove from a fifty-foot lot a single *Phœnix canariensis* because it overwhelms the entire space.

Graceful palms which appeal to the keenest artistic sense are found in the seaforthias and the cocos. The best-known representatives are *Cocos plumosa* and *Seaforthia elegans*, but other members of this branch of the family will come to be equally valuable. In a private collection at Montecito, near Santa Barbara, there are a very large number of rare cocos, many of which have not yet fruited, but are known by variety names more or less reliable. Occasionally one finds these varieties in nursery stock, and any one of the list is extremely valuable from a decorative point of view. Most of the cocos are found in Southern Brazil and in the great basin of the River Platte, and are bound to be introduced to our gardens in time because of their exceeding beauty. The Kentias are also feathery-leaved palms, as are the chamædoreas which, although they come to us from Mexico and Central America and are easily available, are as yet

THE PALM AND THE PINE

Lords of the mountain and the plain in fraternal embrace in a California garden

hardly known. Of the fan-leaved varieties the best known are the *erythræas*. *Erythræa edulis* is well known as the Guadalupe, and many gigantic specimens may be seen scattered about over Southern California.

The sabals are not quite so adaptable, especially in Southern California, but when plenty of water may be allowed the *Sabal palmetto* will be thoroughly at home. One of the finest of the "fan-leaved" section is *Livistona australis*, a most noble tree.

For beauty, adaptability, enduring qualities, freedom from disease and ease of propagation, there is nothing more suitable for general planting as an ornamental tree than the many, many varieties of palms. Throughout Southern California they are entirely hardy, with scarcely an exception, even to the most delicate varieties, while in the North with a little choice of location the hardier varieties seem equally at home. The secret of success with palms is that they must have good drainage. They suffer from wet feet, and yet the hardier sorts will often survive an ordeal where hard-pan or floods keep them constantly wet. An Arab proverb concerning the date-palm is that it has "its head in the fire and its roots in the water," but the fact is that sandy soil, good drainage and freedom from pests are the prime requisites of successful palm-growing.

The finest collection of palms in California, and probably the finest grown out-of-doors in the United States, is that belonging to Mr. J. W. Gillespie of Montecito, Santa Barbara County.

To say that one has visited a plantation of palms, or even to say that one has seen and rejoiced in the beauty of 170 varieties of palms in a California garden, does not apparently convey much to the average mind. Ever since I visited Montecito, in February, 1903, I have been repeating this statement, only to be looked at with a mild unconcern (a way my friends have of calming my enthusiasms) and an "Ah, yes; really so many?" but no one seems to realize what this means, what this may mean, to the future of California.

Great collections of any sort, but especially of plants, are likely to be looked upon by the general public as simply a harmless sort of fad indulged in by the owner, and unless the possessor becomes suddenly deprived of his means, and either sells or exhibits, and thereby proves the commercial value of his collection, even his next door neighbor can rarely be induced to comment in other than a serio-comic manner regarding "the fad and the faddist." I think, however, that any lover of plants, and especially any lover of our California Beautiful, would only need to be led into the entrance paths of Mr. J. W. Gillespie's fine thirty-five-acre place at Montecito and to cast his eyes over the waving palm leaves, and down through the graceful scene formed of oaks and palms, and tree-ferns and vines, with here and there a brilliant bit of color to relieve the green, immediately to recognize that in introducing these rare ornamental trees and demonstrating so thoroughly their absolute adaptability to our climate and soil, Mr. Gillespie has bestowed a benefaction upon the State, which may have even more meaning,

more value, than would the endowment of another college, or the erection of a public library.

I do not fancy long lists of names, but there are growers who will be much interested in knowing just what varieties of cocos have been tested at Montecito and proved valuable. Were I to enter into an elaborate description of each kind I should soon have a volume to publish; but while I have already elaborated upon a few of the most available for the general grower, I shall content myself with giving a list of cocos any one of which is beautiful, all of which will succeed anywhere in California, and most of which are far more appropriate for dooryard growing than the varieties now furnished the public by nurserymen who have a keener eye for the almighty dollar than for beauty or suitability. While only a very few of this list can now be found for sale in the United States, yet gradually they will be procurable and the demand of the people for more suitable varieties may induce some men of enterprise to take up this very desirable work of introducing and propagating such trees and plants as are really of value in this climate, instead of allowing the land to remain encumbered with undesirable trees, shrubs and plants by ignorant and unambitious growers.

I have divided the list into two groups: the plumosa type, with slender trunk and waving crest of plumes; and the hardy type, which includes several dwarf varieties with exquisite blue-gray coloring, which would be especially desirable for lawn ornamentation, for the small inclosed courts which belong to many of our fine homes of the early mission

type, or for potted plants on balcony or in conservatory

Of the dwarf forms *Cocos gaertneri* is one of the prettiest of the blue-leaved sorts, and has a pleasant fruit. *Cocos maritima* and *Cocos bonnetti* are also specially desirable. While *Cocos plumosa* is the variety most advocated by the commercial growers, yet when side by side with *Cocos botryphora* (from which, when young, it can be distinguished with difficulty by the amateur), there is no comparison between them, so much more graceful and beautiful is *Cocos botryphora* after it has attained some maturity.

The trees at Montecito introduced by Mr. Gillespie are: of the plumosa type, *Cocos plumosa, Cocos flexuosa, Cocos datil, Cocos marie rosa, Cocos comosa, Cocos botryphora, Cocos romanzoffiana, Cocos coronata;* of the hardy type, *Cocos argenta, Cocos braziliensis, Cocos alphonsei, Cocos maritima, Cocos blumena via, Cocos schizophylla, Cocos tapida, Cocos butyracea, Cocos australis plumosa, Cocos eriospatha, Cocos australis, Cocos gaertneri, Cocos odorata, Cocos campestris, Cocos patered, Cocos yatay, Cocos bonnetti.*

Many of these are gray-leaved of that peculiarly soft blue and gray and green mixture that only plant chemistry can produce and which blends so wonderfully with the brilliancy of our sky and the distant purples of the horizon. Many of them are dwarf forms and specially suitable for planting in gardens where the space is limited.

I am greatly enamored of the plumosa type as well, with their slender trunks and their soft plumes waving

gently with the slightest breath of wind. Sitting in the white-paved pergola at Montecito, with overhead a leafy shelter of pink-flowered passifloras, looking out over the little lake, its surface dotted with water-lilies, its banks fringed with drooping shrubs and vines, the hum of the bee and the bird in the air—I looked down over this wonderful collection of nearly 200 rare palms and listened to the music that floated up from their waving branches like that of a thousand silken-stringed Eolian harp; and there came into my mind visions of a people that shall be strong with the strength of great hills, calm with the calm of a fair sea, united as are at last the palm and the pine, mighty with the presence of God. I turned to greet my young host with the thought that it is indeed a privilege to bear, as he does, and as others may, a commission to make Beautiful California more beautiful. Shall we not all, as home builders and as our means may allow, thus try to serve the State?

ROSE CULTURE IN CALIFORNIA

WHO does not love the rose? Our very earliest literature, both sacred and profane, makes mention of the rose. Rose-poetry, and the art galleries of the Old and the New Worlds, all chronicle the queenly progress of the rose. Rising from the simplest origin, the rose has become one of the most complicated of hybrids. Our name Rose comes from the Celtic "rhod," meaning red, and the Northern countries of Siberia, Iceland, Greenland and Kamchatka have all produced valuable species, while China, Persia and India have furnished the finest. America and Europe have furnished a hundred native species, and from all this material have been evolved thousands of varieties. The hundred-leafed "Rose of Pliny" was introduced to England's gardens in 1596, and the most eminent rosarians of the world's history are found among the English. All lovers of roses would do well to read the writings of "Canon Hole," as S. Reynolds Hole is lovingly called by authorities on rose culture. There is a certain charm about the stories of the "Queen of Flowers" so that while they may lack something in literary value, certainly they give one a new attitude toward flower culture generally, and roses in particular. The Ellwangers, too, father and son, have

written entertainingly and well about rose growing, and H. B. Ellwanger's book on roses is the sort of a text-book that will never grow old, and will give a basis for study in rose culture that no other book with which I am acquainted can give.

"Why," I hear some one say, "roses just grow without any care here. All one has to do is to put them in the ground and see that they get some water once in a while. Why all this study and making work of it?"

Well, well! So roses do grow, rampantly and luxuriantly, under these sunny skies, but some one did a lot of experimenting in the years gone by to find just what sorts will grow best under the peculiar conditions found here. Remember that Nature gave but two, possibly three, roses to California when dispensing her stores about over the world, and neither of these resembles, either in appearance, habits or requirements, the French, English, Scotch and American variations that we are so eagerly seeking for in our gardens today.

Perhaps in your Eastern home you have been very successful in rose culture, and you have always secured your stock from Messrs. So-and-So of some place in Pennsylvania, where they use only so-called hardy stock; so in starting your new garden in the West you duplicate your last year's order, and your roses come by express. They run the gauntlet of weather below zero all along the line, reaching you a month or so later than they should, and our brilliant sun does the rest. You say a few unkind words

about "hardy stock"—for which the Eastern nurseryman is not to blame, however—a few more about your own "bad luck" in gardening, and then, worst of all, you grow discouraged; you have lost valuable time, and you must begin all over again.

Now I should advise, as of first importance, Western- or Northern-grown stock. There are plenty of honest growers of nursery stock on the Pacific Coast, and they have made the experiments and will save you time and loss of money. Experiment if you like; try to grow from cuttings, which your neighbors donate, if you will. Half the fun of gardening is in this sort of experimenting; but if it is roses you want, and want those right quickly, then buy good-sized plants, well rooted, of a reliable firm of rose growers, and put your ground in proper condition to receive them. Further suggestions as to planting are given toward the end of this chapter.

The roots of your rose trees are not very large, and, provided the soil is kept stirred and "sweet," roses will stand some crowding. The surface of the ground, however, in this climate, should always be kept open. Roses surrounded with grass, as on a lawn, for instance, are rather unsatisfactory.

Splendid hedges may be seen in Southern California made entirely of roses. The white single Cherokee is very useful in this way, especially near the sea, where the blossoms reach greatest perfection and where the foliage seems to be more dense and compact than in the interior. A

A SOUTHERN ROSE BOWER

The "Floweret of a Hundred Leaves" in riotous and undisputed possession

splendid combination which I have seen is the single Cherokee, and the Gloire de Rosemane, or "Ragged Robin." The Gloire de Rosemane is also single, dark crimson, and very sweet-scented; but it makes a better thicket or copse than a hedge, as the foliage is not dense, and it straggles a good deal. By planting alternately one Gloire de Rosemane to every four or five Cherokees, one is sure of, first, a glossy, compact hedge; second, some blossoms, white or red, the year around, and a splendid perfume from the "Ragged Robins," which always have a few blossoms to offer, no matter what the season may be. The Gold of Ophir can be trained into a good hedge and its blossoms afford a good setting for a garden with their rich coppery tints. The single and double Lady Banksias are favorites with many, and certainly make a durable hedge.

Where a very low hedge or border is desired, nothing nicer can be found for the purpose in this climate than the polyantha rose, Cecile Bruner. Most good climbers will conform to hedge-making, but par excellence are the Cherokee single, and double, and the Banksia.

In the section of climbers, very much depends upon their suitability to the location. For instance, the matter of choice in color is momentous. A Reine Marie Henriette, with its brilliant red clusters, will be a delight in any neighborhood, even though the foliage is sparse and shabby in color, unless the vivid clusters happen to show up on the face of a yellow mansion—then it is different. I know, too, a very splendid garden and handsome residence that is com-

pletely killed in its color scheme by having too many climbing roses of varying colors in the foreground.

On my olive-green cottage I have varieties of white climbing roses, some of which have just a delicate shade of pink in their hearts. Near the rear of the house is a Reine Marie Henriette, which has climbed over the eaves and on the roof, and there is scarcely a day in the year when there is not a vivid and most effective mass of color against the gray of the shingles.

A very popular climber of good blooming quality is Reve d'Or, a buff rose. William Allen Richardson is a rich orange-yellow that deserves attention. Madam A. Carriere is pearly white, with long stems. It has good foliage, and is one of the most constant bloomers I know. Claire Jacquire is a good climbing polyantha of deep orange color, and thornless; while for garden-house or trellis no better rose can be conceived than our own California production, "The Beauty of Glazenwood," with its exquisite shadings in pink and yellow.

Now a rose is a rose to me, and I must confess that I get absolute satisfaction and joy from roses like the Gloire de Rosemane, and an infinite amount of pleasure from contemplation of the old-fashioned cabbage rose, with its heavy penetrating fragrance that brings pictures of far-away homes of childhood; but there are growers limited in space who will wish to know just the sorts that will be most available and desirable for cutting and that can be depended upon for fine buds for decorative purposes.

Now, of course, your catalogue would tell you all the details, but by the time you have read the descriptions of the cataloguer you are bewildered and do not know what you want any more positively, perhaps less so, than when you began. It's strange how profuse those cataloguers are with adjectives and adverbs, that make one rose appear as desirable as another! You have space for two dozen rose bushes we will say. Then have at least two of a kind, in order that you may have enough buds of one kind for decorating. You may wish to have even more of some favorite. White buds are always in demand, and when not desirable to use exclusively, make combinations possible. So then try Kaiserin Augusta Victoria, with splendid large buds and full flowers like camellias. I have fallen victim also to the charms of the white La France, Augustine Guinoiseau, delicious in perfume and charming for bouquets. The Nephetos is well known and has delicate long-pointed buds. It is not very strong in growth. Now, for pink buds, nothing can excel in beauty or profuseness Maman Cochet, one of the best field roses in this section, a heavy constant bloomer, with long fine buds of a pearl-pink color.

Another pink rose very good for baskets, and a profuse bloomer, is Madam Lambard, showy pink in color, with rather round buds. Madam C. Testout is an improved La France that does good work in our climate. Of the red and crimson roses none has yet taken the place of Papa Gontier, with its splendid buds and good habits. The Princess of Teck will take the place in a measure of the old

favorite Jacqueminot. The Meteor is a desirable rose, but requires a warm, sunshiny location to get the best buds out. Etoile de Lyon is a good yellow tea rose that with proper care will bloom the year around. Isabella Sprunt is brilliant yellow, and a constant bloomer. And—our list of a dozen good varieties is complete—try Helen Gould for a steady bloomer with fine foliage. It is not unlike the Madam C. Testout, and will mix well with buds from that sort.

As for the time of planting, one may plant roses almost any month of the year, if well-rooted plants are secured; but the ideal season is, in the ordinary year, February and March, while in some seasons April has been perfect, and the first week or two of May possible.

It should be remembered by all rose growers that a season of rest is imperative for roses as for all shrubs, and yet, after the blooming period is over, the hot weather and drying-out process may very easily become the dying-out process unless the plant is carefully watched.

The pruning of the rose bushes is not a process of as much seriousness as we are often led to believe. The principal art consists in cutting out from the heart or center of the bush the stubby, short-jointed growths and the wiry, half-grown branches. A "shortening in" or clipping of the robust shoots is desirable, of course, only to keep the shrub within bounds. There is much more of art and skill required in properly pruning a climber than in caring for the shrub, or bush rose.

In regard to irrigation I would say that roses should not be watered daily, but that at least once a week (or more or less according to soil and locality), they should be given a thorough soaking. They may be easily overwatered, as mildew and insect pests attack them when they are weakened by overproduction, and of course the too frequent watering vitiates the sap and causes early decay.

I do not advise the amateur to spend much time in growing slips or cuttings. As a pastime it is all very well, but if you are after immediate results in a fine garden, and cut flowers for your house and friends, then buy well-grown plants, two-year-old if you can afford it, and insist that they be properly "canned" or balled. In planting have the soil well stirred and a hole at least two feet deep. Should your soil be very heavy and of a character to need sub-drainage, then put broken stone or brick in the bottom to secure drainage. The most profuse bloom will be found in localities where there is a little, or even a good deal of clay. Where the soil is sandy and light, clay and fertilizers must be introduced. Roses are gross feeders, and can hardly have too much well-rotted fertilizer, but in my opinion this should be thoroughly mixed with the soil and not allowed to lie on the surface of the ground. Use leaf-mold liberally and tamp thoroughly. You know the test of a good gardener is that he "weigh ten stun and ha'e large feet." Where roses come balled from the nursery the ball is hard and often quite impervious to moisture, and unless the soil about is equally well packed all nourishment runs away from the roots.

If one desires to grow his own stock, the best rose cutting is one not over two inches long, of hardwood, and with two buds, one at the top and one at the bottom. Just a half leaf is left on so that evaporation may not be too rapid. These cuttings should be set very closely in the sand and buried to the top bud. The best hot-bed for Southern California is one made as follows:

First make an excavation three feet deep, providing for drainage. Place in this excavation eighteen inches of stable manure, fresh and with not too much straw. In packing it in be sure to pack the corners firmly, otherwise the soil will run down and spoil your heat. This should be thoroughly wet down. On top of this put one to two inches of garden loam, then a layer of five inches of sand, clean but not coarse. Set your cuttings in this to the top bud, then cover with felt or paper to hold in the moisture, and give very little water, but give that little thoroughly so as to reach every part of the bed. Place a glass sash with the glass whitewashed, then a framework covered with cloth, and you have a perfect hot-bed for rose or other hardwood cuttings.

FERNS AND FERNERIES

"And Every Leaf an Autograph of God."

JOHN BURROUGHS has said: "One secret of success in observing Nature is capacity to take a hint; a hair may show where a lion is hid. How insignificant appear most of the facts which one sees in his walks, in the life of the birds, the flowers, the animals, or in the phases of the landscape, or the look of the sky—insignificant until they are put through some mental or emotional process and their true value appears. The diamond looks like a pebble until it is cut. One goes to Nature for hints and half-truths. Her facts are crude until you have absorbed or translated them. Then the ideal steals in and lends a charm in spite of one. It is not so much what we see as what the thing seen suggests. We all see about the same; to one it means much, to another little."

Before planting your out-of-door retreat for ferns, if you may not go into the hills and study your plan from Nature, at least put yourself in the right mental attitude by reading some of the beautiful stories of wild woods life such as are written by Burroughs, or Mabie, or Van Dyke, and I am sure your results will be far more satisfactory.

Now, as to how, and where, and what to plant. When

it is considered that of the adiantum alone there are over eighty species and that of the three great divisions of the fern family there are hundreds of forms known as decorative plants, it would seem that a choice might be difficult, but in California for out-of-door planting the selection of ferns for a fernery may be summed up in this way: avoid so-called hardy Northern ferns, because they do not like our dry air and have too long a period of sleep. On the contrary, seek for the ferns of tropical or warm countries and help them adapt themselves to our conditions.

Literature is full of allusions to the filices, or fern family, and students of folk-lore of every land find fable and tradition without end in which the mysterious way of fern reproduction by spores is celebrated. What country child does not know that if only you can get the fern-spores at just the right time of early dawn and without any one witnessing the act, then place them secretly in the soles of your shoes that you may walk invisible among your kind and listen to the wood-folk, the elves, the gnomes and fairies in all their counsels which are held in a voice so fine that ordinary mortal ears may not hear! In German folk-lore you may be told that it was the fern root upon which John the Baptist lived during all his long wanderings in the wilderness, and since I have eaten the sweet roots of the polypodiums of Northern Oregon I am inclined to think I could subsist a few days on a diet of sweet fern roots.

The medicinal qualities of some ferns are well established, and aspleniums, *Cetarach officinarium*, scolopendri-

AN OUT-OF-DOOR FERNERY

A quiet nook for afternoon tea

ums and others take a place in the pharmacy. Some of the adiantums (to which belong our common maidenhair) are supposed to give relief to various pulmonary disorders, and in Mexico where the "herb doctor" is not entirely relegated to the past, *Adiantum tricolepsis* is prescribed for chills and fever, under the name "Silantrillo de Pozo."

Though there is plenty of real estate in California, people will persist in buying fifty-foot lots and then standing on their absolute rights as to building limits. It seems as if they delight in "elbowing." As a consequence there is but scant space for gardening on many of the city lots, but a bit of green may be had against a sheltered wall, or in a north corner, and ferns can be made very useful in a decorative way in a small space. There are creeping ferns and tree ferns; ferns that live in trees, and ferns that live on rocks. They vary in size from species that a tiny coin may cover, to the tall tree-ferns of the tropics. Much used in decorating with flowers, they are not really difficult of cultivation if a little study of their habits is first made.

Cultivated ferns that will grow in an out-of-doors fernery are *Adiantum rhodophyllum*, *Aspidium bulbiferum*, *Asplenium bulbiferum*, *Nephrolepis exaltata*, and its variety *bostoniensis*, a number of the polypodiums. *Pteris tremula*, and then of course a generous allowance of lycopodium, which is a fern-like moss which may be freely introduced among the ferns indoors or out.

Now all ferns like about the same treatment in a general sort of way—leaf-mold, loam and silver sand. There

it is in a nutshell, but, as you know from observing the habits of our native ferns, some seek shallow soil under the rocks; some like a little clay; some grow on the edge of the water; while others like to be well drained. In building a rockery for ferns, a north side is all right, but there must be some light, as, while the direct rays burn, yet the fern must have warmth. Avoid sour or heavy soil. Plenty of good loam, then your rocks selected, if possible, with an eye to their artistic and picturesque arrangement; then, after building them together, scatter your mixture of loam and leaf-mold about in the crevices, and place your ferns. Wind is not desirable any more than sun, and of course frost must be provided against. An excellent shelter or grotto may be made on a lawn or away from other buildings, from the green arundo, this cane—just common Texas cane, as it is called—being the prettiest for this purpose. Cut the leaves off, but leave the sheath. As it grows old it silvers beautifully and becomes a thing of real charm in its own coloring. Do not confuse these canes with the bamboos, which are worthless for such purposes; and again, do not upon any account be tempted to paint the exterior of your shelter! I can think of no greater atrocity that might be committed in this connection, unless it might be that you would have the stone-cutter square up your rocks.

At the risk of making an imperfect sort of catalogue I must name a few ferns that are successfully grown under glass or even in a living-room in this climate, if the conditions of light, air and water are fulfilled properly. *Adian-*

tum cuneatum is the standard maidenhair for house planting and cutting. *Adiantum gracillum* is very fine leaved and delicate in appearance and will require careful treatment. *Asplenium bulbiferum* is hardy and graceful for use in interior decoration, making a good table fern. The nephrolepes are all satisfactory in the house, and *Polypodium aurea* is highly recommended. *Pteris serrulata* and *Pteris tremula* are also very pretty house plants, while I must not omit another standard adiantum, *Adiantum williamsii.*

The Japanese fern-balls, so much used on this coast, are of the Japanese climbing fern, and are gathered from the trees and wound about balls of moss. No one in this country has been really successful in imitating the Japanese in making these balls. Sometimes the Japs get overeager to get their balls to market and do not let them lie dormant long enough, and then the florist who imports them has many complaints registered about the poor foliage of the ball. They should properly be allowed to remain dormant from October to January each year, and in this way can be used for three or four years successfully. When received here, they are dormant and require about six weeks of sprinkling to bring them to perfection.

I have seen our native ferns used after the same manner by taking the roots, carefully washing from them all the sand, then binding on the exterior of an "olla," or Mexican porous water-jar. Use a black thread to bind with, and do not be sparing of the roots. The natural seepage of the water through the porous jar will soon start the delicate green

and your cool drink will taste all the fresher and cooler for the suggestive surroundings.

No Southern California collection would be complete in my eyes without a number of our own beautiful native ferns. While not so rank or so large as the ferns of the North, yet there is an exquisite delicacy about our Southern adiantums and polypodiums that should not be overlooked. The "gold-back" and "silver-back ferns," as the gymnogrammes are popularly called, are interesting, and the cheilanthes are all very dainty little wood sprites. Two fine aspidiums, two aspleniums, and *Woodwardia radicans* are easily transplanted to civilized gardens. Many of our ferns are really Mexican species that have strayed over the border and give rise to many scientific theories as to whether they belong to species almost extinct or whether they have been recently evolved, and will become in time more generally distributed. As one looks at the delicate little ferns growing on the hills and in the ravines, it seems almost incredible that man owes to them largely for the great stores of coal, petroleum and other carbonaceous substances upon which this age is dependent for so much; for it is a well-known fact that to ferns and other cryptograms has belonged the task of transforming the carbon in the atmosphere, to the ground in solid form, where in Nature's laboratory it has been transformed into the substance that we use commercially.

So frequently do I hear people about me confuse the beautiful decorative asparagus so commonly grown in California with the ferns, that I shall spend a few moments

A CLIMBING GARDEN

Boston ivy, wistaria and grape. Detail of home in Mission style

upon what is fast becoming one of the "common" plants of California gardens.

These ornamental forms of asparagus are nearly all natives of South Africa. *Asparagus tenuissimus* is most commonly grown by the florists, and is hardy out of doors. It is a variety similar to *Asparagus plumosus* and climbs more readily, but is not so useful with cut flowers. *Asparagus plumosus* is distinguished by its flat, more fern-like leaves; it is an excellent house plant, and attains great size. One I have in mind is now seven or eight years old and fills a great bow window and runs about the walls of a cottage living-room in beautiful festoons, giving its owner but little care. In sheltered locations out-of-doors, free from frost, it is a fine porch or trellis vine. *Asparagus sprengerii* is of not so pretty a green color, but is even a better keeper when cut. It is this wonderful keeping quality that makes the asparagus so valuable for decorative purposes. In fresh water they will keep three or four weeks, greatly enhancing their value over that of ferns. There are now over one hundred species of these decorative asparagus under cultivation, and are easily propagated, either by seed or divisions of the roots. They require a rich sandy loam, and regular but not too frequent watering. I have found that when *Asparagus plumosus* shows signs of fading or yellowing as a house plant a slight stimulant in the way of a dose of ammonia is a good thing once in two or three weeks. Mix in proportion of one tablespoonful of washing ammonia to one gallon of tepid water.

THE MISSION OF THE VINE

THERE is so much in modern life that conduces to ugliness in our surroundings! If you do not believe this, think of the way in which we depend upon the telephone in every department of life. The business, the household, even the social machinery must use the telephone—and—then—think of the poles!

There must be stables to house the horses and the carriages of the well-to-do, yet every architect knows that it is a difficult matter to place artistic and appropriate outbuildings on the same grounds with the palatial residence and not have them seem obtrusive. In the small city home the back fence and the sheds of our neighbors are often a serious blot on the landscape, and the sensitive eye is offended daily by some bleak, bare "necessary evil" in our surroundings because of somebody's convenience being dependent thereon. I am often delighted to see how some simple quick-growing vine is used to screen off such disagreeable objects and only wonder that more home-makers do not try to cover up more of the ugliness about them in this way.

When vines are to be trained upon a house the variety is sometimes an important consideration. While in the Eastern States much objection may be rightly raised to vines

upon a house, and especially if it be a frame house, because of dampness and the consequent damage to the building, the same objection will hardly hold good in this country where there is so little danger of mold or unwholesome conditions.

On the contrary, because we have long, dry seasons, damage is sometimes done to frame houses by the pushing little vines penetrating the cracks and crevices produced by the summer-time warping. I have, however, seen but one serious case, and that was because the wire-vine was used and allowed to run directly on the building itself. On the whole, in spite of the prejudice of many builders, the vine-clad cottage or house in California is to be encouraged, and no garden is complete—if it can ever be truly said to be complete—without many vines and flowering climbers. In California we have innumerable evergreen varieties, and in landscape effects the eye turns with satisfaction from the perpetual blue of sky and the brilliancy of sunlight to the restfulness of green foliage on the house or in the fence corner, or trailing over a wall or an uneven slope of ground.

Perhaps in no detail of the garden, however, should the matter of choice of varieties be more carefully exercised than in the selection of vines and climbing plants.

Where a dense mass of foliage is desired in a vine the *Ampelopsis quinquefolia* and *Ampelopsis tricuspidata* are most attractive, while *Ampelopsis veitchii* is a very strong grower whose foliage in the fall takes on delightful red and copper-colored hues.

The only fault that can be found with the ampelopsis is that it is deciduous and has a rather long period of leaflessness. To my mind, however, the delicate tracery of the bare limbs of this vine are very beautiful outlined on a wall, and the great beauty of the longer season of its growth is sufficient compensation for the period of waiting.

To those who wish a vine that is practically an evergreen, I can recommend nothing better than *Bignonia tweediana*, which clings fast to either wood or stone and has a brilliant green foliage and bright attractive yellow flowers. One recommendation for this variety is that in case of an accidental or desirable detachment of any portion or all of the vine from the building, the growth of years is not lost in spite of the necessary cutting away, for the well-grown root will send out a new growth which is almost magical, and, after a severe cutting back, a few months will restore what it has taken years of first growth to secure. As this vine is almost invariably rather bare of leaves near the ground, it is to be used preferably where it may be trained high.

Bignonia venusta is very valuable as a climber but drops its leaves during the winter. *Tecoma capensis*, with its gorgeous scarlet bloom, I find most attractive.

The tacsonias and passifloras give a wide range of color to choose from but are often made undesirable, being so subject to insect pests. This difficulty may be easily overcome, however, by the careful gardener, who will properly use white hellebore. While one is planting, one may as well consider the matter of "perfume in the air." Of course there

WINDOW-GARDENING

A balcony garden is one of the delights of an ideal home

are always the climbing roses, dozens of varieties now-a-days, and new ones constantly being added to the list. There are other sweet-scented blooms besides, and I wish to urge especially the claims of the honeysuckles.

Whenever I make plans for the castle in the Land of Heart's Desire the honeysuckles go down first on the list because I have tested them thoroughly, and there is nothing that will take their place. *Lonicera* is the family name of the honeysuckles, and *Lonicera caprifolium* is the sweetest of them all, being the typical sort, with large white and yellow blossoms.

The books say it is deciduous, but my experience is that it must make all its changes in the night, for mine is practically evergreen and everblooming. It will grow anywhere. The pretty red *Lonicera fuchsiodes* is another everblooming variety, but it is scentless. *Lonicera semperflorens* is another scarlet variety which blooms profusely all summer long. A beautiful Chinese variety is *Lonicera standishii*, with dark green foliage and lovely pink and white blossoms. A Japanese variety that gives pleasure with its prettily mottled foliage is *Lonicera japonica aurea reticulata*. *Lonicera flava* is a native vine with large yellow blossoms. One cannot make a mistake in having a number of varieties of honeysuckle.

The jasmines come under the list of desirable sweet-scented vines. The three yellow varieties are much used, *J. humile*, *J. revolutum* and *J. nudiflorum*.

There are at least a dozen white varieties, all very good

climbers. *Morrenia odorata* is a splendid vine with distinct foliage and very fragrant white bloom. The plumbagos have a very delicate fragrance, hardly perceptible to some. *Plumbago capensis* has a beautiful sky-blue flower, while *Plumbago capensis alba* is the same in pure white. Just why the splendid rose-colored variety is not frequently grown I cannot say, as it seems to be easy of culture. Thunbergias are heavy-sounding but they are really graceful members of the climbing class. Of the annuals there are many sweet-scented. The morning-glories, the sweet peas, and last but not least the much-abused nasturtium. I prophesy that some day the nasturtium will be made a fashionable flower. It is sweet-scented, a remarkable climber in some varieties, and of colors that make it valuable in lighting up dark corners. Truly no garden is complete without many varieties of nasturtiums, and that they are sweet, is attested by birds and bees as well as flower-loving girls.

City porches are apt to seem dreary, dusty places. A few hardy vines can make a transformation, however. There are the lovely Mexican morning-glories, and the Japanese varieties grow as quickly and furnish a delightful variety for the eye with their curious markings.

Cypress, with its tiny crimson trumpet, is a vine that belongs to the city porch. In California, wherever frost does not strike, *Asparagus plumosus* will grow as rankly and readily in the heart of the city as in a glass house in other States. In the city there is often the ugly straight passageway to the rear area. A little green drapery of

hardy vines at the entrance will break the harsh lines and suggest pleasanter retreats to the mind. There is a good deal in this work-a-day life that is necessarily disagreeable, but we should keep the necessary evils in the background.

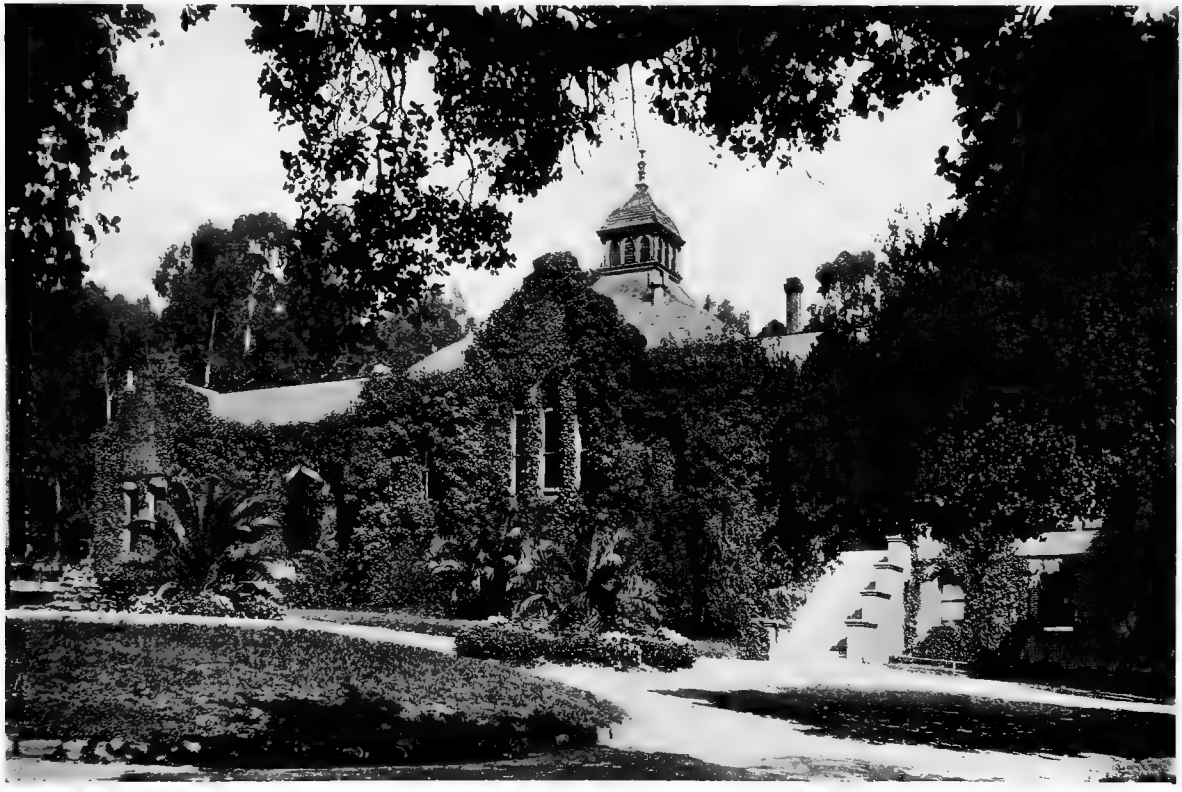
There is a stupidly constructed little portico outside the window of your flat; not large enough for a chair, indeed it seems to have no purpose in existence; but it has, for it is just right when viewed as a shelf for plants and a few hardy ferns. A lovely drooping asparagus will thrive here, and give the entire neighborhood a restful bit of cool green to look upon during the heated season. I sometimes wonder that landlords building flats and tenement houses do not widen their window sills and throw out little cornices, and even include an occasional roof-garden for the very sake of encouraging these miniature gardens among their tenantry. They are eagerly taken possession of by the average woman, who is at heart a lover of flowers, in proportion as she has womanly instincts. But then, since landlords are generally men-people, and build their houses to fit their own points of view, it is only as we womenfolk demonstrate that roof-gardens pay, that we can hope to see our tenements made more agreeable.

"E'en in the stifling bosom of the town
A garden in which nothing thrives has charms
That soothe the rich possessor; much consoled
That here and there some sprigs of mournful Mint,
Of Nightshade, or Valerian, grace the wall
He cultivates."

Sometimes I think these owners of the tiny town gardens, or even of only a window garden, get much of the real joy of the cultivation of plants, and I frequently run across the owner of a few tiny pots and boxes of plants, which he is cherishing in among brick walls, who has more actual possession in the way of plant lore, and real love for nature study —and that in itself is riches—than many a more favored man with wide fields and all the freedom and opportunities of country life.

Wistarias are especially suitable to the sheltered places of our city gardens. The genus *Solanum* has contributed three excellent species, the best of which is *Solanum wendlandii* which when blooming is very magnificent. *Solanum seaforthium* is an excellent bloomer, while a beautiful white variety is *Solanum jasminoides* which much resembles the jasmines at a distance.

Most vines, speaking in a very general way, need strong nourishing soil and plenty of water. There are, however, notable exceptions. Here in California where there is so much of broken land and side hill slopes, it is often desirable to use a vine of trailing habits. A family of great use, particularly in the dry places of the Southland, is that of the mesembryanthemum. Of trailing habits, these plants are easily propagated from cuttings, and are enduring even in extreme heat. Most of the four hundred or so species of this genus have been introduced to us from the Cape of Good Hope, even those which we term native and which are found near the seacoast throughout California, namely,



VINE-COVERED BUILDING

Boston ivy, after a dozen years of sturdy growth

Mesembryanthemum crystallinum and *Mesembryanthemum æquilaterale.* These very showy varieties are much used for terracing and for side hill slopes; and there are a half-dozen other sorts, of extreme delicacy of appearance which are most effective upon walls overhanging the sidewalk, or even, as I have seen them, festooning a broken earth wall in a sunken garden for a depth of not less than fifty feet. The delicate-hued blossoms—sometimes pink, white, cream or yellow—are starlike, and in the sunlight make a dazzling show. These small flowered mesembryanthemums are especially effective against a gray stone or cement background, and frequently may be used to great advantage.

Probably one of the most effective uses for a vine in California is in conjunction with the pergola. One of the best vines we have for this purpose is the exquisite "wire-vine," *Muehlenbeckia alba.*

This vine is much more commonly used in Northern California than in the South, but it has been amply demonstrated that it will withstand even the hot winds of the summer season in our interior valleys, and anywhere near the coast there is no drawback to its perfection. The small delicate leaf, the fine black stem and the massing of the streamers remind one of the most delicate fern, and I can think of no more refreshing or beautiful vine for draping the summer retreat, such as the porch or pergola, than this *Muehlenbeckia.*

BOUNDARIES—NECESSARY AND NEEDLESS

TO MY mind, a fence is very often both unsightly and offensive. There is a confined and mean character to a property where boundary lines are too clearly defined.

I suppose that, as a race, we have inherited a fear of intrusion of undesirable visitors from those unfortunate forefathers of ours who were constantly involved in feuds which necessitated moats and fortified walls about the residences of importance, and drove the common people to huddle together either under the shelter of their lord's castle walls, or by the erection of a common protection in the shape of an outer wall which assumed the proportions of a fortress about the villa.

In new countries, and in localities where the enforcement of law is difficult, and man too crude to have respect for anything save his own will and desire, I can see the necessity of the fence as a protection against depredation and intrusion; but as a community becomes civilized, fences are supplanted by hedges and artistic walls, designed to suggest, rather than to enforce, a line of demarcation.

And so, as I go through the villages of California looking, looking, looking for that which is beautiful, striving always to chronicle the best and to hope for better, I am

led, in a measure, to judge the progress of the town toward the best standards, by the status of the fence question.

Somehow the village, with its miserable, circumscribed "two-by-four" lots, its half-built, wholly unpainted, wooden, or pretentious iron, picket fences, and the ragged wire netting with its half-hung gateways and broken-down posts, stirs up an irritation within me that I realize is worthy of a greater cause. I can close my eyes now and look down the principal resident streets of a half-dozen different towns in Southern California, fairly successful from a commercial standpoint perhaps, but artistically considered, and as places for home-making, failures.

Now, of course, the first question to be answered is, is a fence absolutely necessary for protection? If it is I have nothing to say. There may be dogs, and cattle, and careless people who must be guarded against, and if there are no laws that can be brought to bear in restraining them from intrusion, then of course we shall have to fence against them, but it is an easy matter to inculcate a right sentiment in most neighborhoods if it is rightly set about. However, if there must be a fence, why not make an effort to have something artistic. A low stone wall, or a low wooden curb covered with vines, or a neat iron fence, or, if it must be wooden and cheap, why not make a low rustic fence from the pretty bamboos, or even from the boughs of the eucalyptus, or the poplar, or cottonwood; but whatever it is, remember it need not be more expensive simply because it is agreeable to the eye. I do not fancy the much-used wire

nettings except they are used as a foundation for vines or plants that conceal the wires from view. So covered, it is both useful and artistic. An entire block of houses might be fenced with the two-foot wire netting, and either the lavender or pink ivy geraniums, honeysuckle or other vines, roses, or any other of a great variety of quick-growing plants will speedily give it an attractive look.

One of the charms of Montecito and Santa Barbara is the free use of stone in the walls about the fine estates there. There are literally miles of well-built stone walls, which will be more beautiful after the "newness" wears off, and they become vine-clad, and the mosses and lichens find them out. I was also interested in walls built of the round "cobblestones," which are often taken out of the land which they afterward inclose. By use of a little care very artistic walls may be built of these stones, but they should be left in the colors painted by nature. I speak of this because I have seen with my own eyes "the impossible." Coming over a country road, I passed a neat domicile, painted white, surrounded with trees and flowers, and the whole neatly inclosed with a wall of smooth "cobblestones," all carefully whitewashed.

One of the quaint sights of Santa Barbara is a fence, a relic of pioneer days, built in what we are told is the Mexican fashion, inclosing the grounds of the Natural History Societies' buildings. In the early days of Santa Barbara it was doubtless necessary to build such fences against the incursions of cattle running wild over the hills.

ENTRANCE TO A GARDEN

Suggestive of the day when a man's house was his castle. Eucalypti stand like sentinels on guard behind vine-covered walls

The original idea of the hedge, as indicated by the word, was as a fence or protection. The ancient Romans inclosed their vineyards and their gardens with hedges, and in England we find that hedges came in vogue with the Roman invasion.

It is in Britain and Italy that we find most commonly the hedge, both as a "living fence," as some one has called it, and as a part of the pictorial design in landscape making. They are not so much used in France or Germany, while Scotland and Ireland have very gradually included them in the landscape features.

Here in America the hedge has grown slowly in popular estimation among the farmers, because of its cost; not so much its original cost as in the expense of keeping it in proper condition. Comparatively, wire fences are much cheaper than hedges.

It should be remembered, however, that in California most of our land is too valuable to be treated as we would treat ordinary farming property in other States; also that the running expense of keeping up a hedge is reduced to a minimum, since our hedges may be grown from persistent varieties of plants, and from plants that are free from disease.

Probably for some time to come we may not hope to see hedges substituted throughout our country districts for fencing. Barbed wire is too cheap and too absolutely practical for us to hope that mere beauty may claim attention with our very practical orchardists and farmers; but on

the other hand many of them will be induced to give up the extra strip of land the hedge exacts, and to cheerfully meet the extra expense of putting in and maintaining the same, when they fully come to realize that protection means a great deal to the growing crops and that rightly selected hedges planted in the right places, and maintained in a proper way, will increase the crops protected by it and insure better growth in every way.

I am interested in the English use of hedges as screens. The Englishman's idea of utility enters into the plan of his entire estate, and the fact that a kitchen-garden is necessary to the success of his establishment does not mean by any means that the kitchen-garden shall obtrude upon the vision of the guest in his drawing-room; therefore the kitchen-garden is properly screened from view, from the house and other portions of the grounds, by means of a hedge.

This same theory applies throughout the plan, and the result is a degree of privacy for every portion of the estate and for the toilers upon it, and there is, besides, a decided addition to the landscape, as well as a blotting out of all undesirable features.

Why, even on the small city lot, must we gaze, and gaze, and gaze, year in and year out, at the decidedly unattractive lines of our own, or our neighbor's small wooden barn or outhouses, when the throwing up of a screen in the way of a hedge or fence covered with vines will blot out the ugly thing from our vision, and we need not recall its pres-

ence save when we must make use of it in the economy of the household?

Once when calling on some friends who had just begun housekeeping in a tiny rented cottage, newly built and without lawn or garden, the young husband, an ardent lover of flowers and shrubs, took me into the tiny back-yard and asked me if I thought it possible that it could ever be anything but hideous. It did seem hopeless, for it was scarcely twenty feet square, and surrounded on three sides with a six-foot board fence, while neighboring sheds peered over the walls in a most inquisitive manner. Another day I was again taken into the tiny place, but instead of a bare breathing space, I found a veritable little bower of green, a truly pretty place for the little bride to look upon from her kitchen windows as she goes about her household duties. Sweet peas cover one wall, while riotous vines have covered the others, and trail lovingly over upon the intruding roof-top. Quick-growing geraniums, and sunflowers, and asters, are massed in the corners, and beds of pansies and violets and plenty of pretty, graceful foliage plants fill the center of the space. There is no attempt at elaboration, but just the covering up of the bare board walls and sheds, and the result is charming and worth while.

Once more I will suggest a few plants for hedge-making and planting that have been tested for this climate. For the city lots, roses make a most enjoyable hedge. Successful varieties are the Cherokee, single and double; the Gloire de Rosemane; the Banksias, with their dainty little blossoms,

single and double, in yellow and white; the Beauty of Glazenwood; and, for a low-growing hedge, the dainty little "Gentleman's Rose," Cecile Bruner. Many vines trained on wire netting are serviceable, while the *Ligustrum ovalifolium* or privet, the common box or *Buxus sempervirens*, arbor-vitæ, and the pittosporums, are all excellent hedge plants. I must not overlook either, for the city lots, the many loniceras or honeysuckles. All varieties of this vine are useful in hedge-making, but the Tartarian and the English yellow and white are the most hardy.

For country places any of the above will do, and then there are several that have been tested and proved useful on a large scale. From among these I would suggest the Osage orange (*Maclura aurantiaca*), the honey locust (*Gleditschia tricanthus*), the buckthorn (*Rhamnus catharticus*), Japan quince (*Cydonia japonica*), and the Norway spruce (*Abies excelsa*).

Without any hesitation, however, I can say that our own native Monterey cypress is the best hedge tree for this coast, where the hedge is to be made on a large scale.

Great care should be taken to so plan your hedge that it can be gotten at for trimming, and to keep the small animals from making it simply a retreat for themselves.

TREE-PLANTING AND PROTECTION

IN spring-time we renew—and review—life. The sound of the whispering pines brings to us vivid memories of the fall vacation. The brightness of carnation colorings suggests the seaside and the great gardens at Ocean Park and Redondo, where the spicy odors mingle with the salt savor of the west winds. When the oak log on the open fire snaps and sparkles and sends out a pungent perfume, it brings before my mind's eye a succession of beautiful pictures of oak groves: those veiled with long gray moss at Santa Barbara and at Paso del Robles; a side hill at Glendale where the soft-foliaged white oak veils the hillside, and "the little truant waves of sunlight pass," while the lupines and the collinsias nod below; the great campus at Berkeley framed in what Keith calls the "Tree of Character"; the valleys of the North where grow the weeping oaks, our native trees, justly celebrated for their stately appearance.

"He who plants a tree plants to all posterity." The phrase lingers in memory, but it is not true, not at least in the southern half of California. Nowhere in the world does plant life flourish, only to languish as rapidly, as in this portion of our State. He who plants a tree does indeed do honor to his fellowman in this treeless region, but he who

cares for it, and cherishes it, and protects it against the lineman, and gives it a drink of water in unusually dry seasons—he it is who deserves to be eulogized by posterity.

I, who am almost a lifelong Californian—so nearly one that I can conveniently forget the first few lisping years when I didn't know enough to clamor for my right to go west and grow up with the country—I, who have known Southern California in both wet and dry years, and have seen thousands of trees planted only to be forgotten and neglected and to die, would plead that we have more genuine tree lovers, who will plant and protect. Our slogan in this war against the forces of the desert should be "Plant and Protect."

I am inclined to think that perhaps we have throughout the State sought a little too eagerly for trees with persistent and evergreen foliage. It is natural that, with our open seasons and perpetual sunshine, we should incline this way; but the elm, the maple, the Oriental plane or sycamore, the poplar, the horse-chestnut, are all as beautiful in California as they were in the Eastern home, and just as deserving of a place by the roadside.

Then in our admiration of the spreading pepper tree, have we not sometimes overlooked the fact that, after all, along the ordinary roadside, we do not need the heavy shade in Southern California and on the coast, and that less "ground space" is taken up by the trees that grow straight and with slender trunks?

The intelligent planting of one mile of trees is worth the whole of five miles planted at haphazard.

AVENUE OF EUCALYPTI

Few of our cultivated trees surpass the stately eucalypti in beauty of form and foliage and luxuriance of growth

Before tree-planting can be of real avail, there must be some legislation in each of the municipal governments which will regulate and make uniform the planting of city streets. It is absolute folly to plant trees that are not to be protected. A concerted action for uniform planting in any village or town is sure to result in the saving of money, the increase of property values, and the beautifying of the landscape. Every city, town and village should have its commissioners or park committee, and its street superintendent; and in the larger cities a tree-warden is absolutely essential as an officer of the municipality, apart from the park or street commission. A united effort should be made and continued—and here let me say that continuity plays a large part in successful tree-growing in California. You may plant one thousand trees to-day, but if you properly care for only fifty of them between this day and the same date next year, and leave the others uncared for, you will have just fifty trees (if you have good luck) next year. No one may plant trees in Southern California and then leave them unprotected and uncared for. The chances are all against success, and the money expended is thrown away.

Then the choice of the tree is an important matter. Trees most gloriously beautiful on a country roadside are entirely inappropriate for a down-town street in a busy town. The splendid sycamore that adorns the spacious lawn of millionaire J's fine estate would be entirely out of keeping with the cottage of my friend on the fifty-foot lot, yet a graceful jacaranda would be just right for the small gar-

den, and might be coveted for its beauty by the millionaire.

Throughout Northern and Central California the problem of selection is governed less by the probability of successful growth than in more arid sections. Yet, nevertheless there are many reasons why trees should be just as carefully chosen for their peculiar suitability to the exact locality under consideration.

In the selection of trees for street and roadside purposes, we find much difference of opinion, and certainly there is the possibility of a very wide range of judgment as to selection. While in municipal planting we should guard against mere sentiment or selection of purely personal character, yet there are many reasons why a community or even individuals should exercise a careful judgment in listing trees for general planting. Personally, I think the Northern part of the State can well afford to emphasize the desirability of deciduous trees, since heavy rainfall and less sunshine during the winter season make it desirable that heavy foliages should be avoided. Then, too, the evergreens are prone to deepen in color the further north we go, and the effect on the landscape is dull and monotonous. A list of deciduous trees that have been tested for California north of Tehachapi may be briefly stated and will be found entirely desirable in all except the more mountainous regions. The big-leaf maple, or, as it is frequently called, California maple, is a native tree, perfectly adapted to all soils and conditions, and is a peculiarly good curb-stone tree. The silver and Carolina poplars are very popular as ornamental trees and are very

easily propagated. The Carolina poplar should be selected from the male tree, as the female tree is sometimes troublesome because of its downy seeds. The elms are very desirable as street trees, having stout, round trunks and good foliage. The Scotch, the cork, and American elms are all desirable, but the cork elm has made Stockton and Sacramento peculiarly beautiful, and many other Northern cities are adopting this particular species. The Oriental plane, the Italian chestnut, the English hawthorn, the linden and both walnuts, California and English, are all popular. In the interior towns the Texas umbrella and the locust are desirable.

Very much of the planting of trees in Southern California is as yet experimental, and only in the older communities is there much, if any, precedent established to guide one. Then, too, because we have valley and mountain, seaside and desert to be considered in our territory, local conditions must always be considered, and no positive or set rules, except those which common sense would dictate, can be universally applied; so that, in considering the question of irrigation, I would say that the only way one can know how often and how much water should be given trees, is by observation and exercise of judgment.

Less water is required in winter than summer; less water is required near the sea than in interior valleys. Loose, open soil requires less than clay or adobe. Generally speaking, young trees should at first have water at least every two weeks, and great care should be exercised never to allow a

crust to form after irrigation. In other words, I believe that while "water is king," in California, "cultivation" comes close after as queen of the garden, and that the "man with the hoe"—that same hoe wielded early and late—is the man that will win success. The greatest success with trees that I have noted in different parts of the country is where either the deep culivation of the plow or the hand-work with the hoe had kept the soil well stirred and open. Furthermore, this treatment will greatly simplify and economize the matter of irrigation. As for mulching, that is quite another story. In the coast counties, unless the soil is poor and needs the enrichment of manures or wood loam, I should be chary of the use of mulches. Dry straw and leaves will lie unrotted for years, and keep the earth too dry and loose. On the contrary, near the mountains, where cold weather and heavy rains lend aid to disintegration, the matter of mulching would all depend upon the actual need and the consideration of the expense item. In the interior valleys young trees may well be protected from the heat of the direct rays of the sun, and if the nights are frosty, some tender sorts might need to be covered, but all this depends upon varieties, and the advice of the nearest nurseryman should be sought. Generally speaking, however, I would not "coddle" trees any more than I would children. Give them good, wholesome food and water and ordinary protection, and then let nature do the rest. Near the sea, protection against wind is often needful to make a right start, but with due regard to choice of varieties the young tree soon gets so it may depend

upon its own "backbone," and where anything like an acreage is planted, one tree serves to shield another, so that artificial protection only adds to the expense.

There has been so much demand throughout California for some plan of street tree-planting that I am very glad to here incorporate the instructions given by a most competent committee in one of the smaller cities of the South, with the hope that the specific instructions may be useful to other small towns, while the general instructions cannot but be helpful to the amateur tree-planter:

"First, let the hole dug be of ample dimensions; for the average nursling, say, four by six feet and four feet deep; then fill in with good surface soil and mix in some manure. When the tree is set, place the base at least three inches below the surface of the sidewalk; press the soil firmly about the ball or root; shape a large saucer about the tree; mulch the surface with coarse manure and give the plant a thorough watering. When hardpan is encountered, a blast should be made at the bottom of the hole in order to allow water and roots to penetrate deep into the soil. Arrangements can be made through the leading nurserymen to provide men who are licensed by the city to do blasting. The holes for planting, when practicable, should be prepared before planting-day, especially so where blasting is required.

"Where large holes are dug and refilled with good soil, they should be thoroughly wet down, at least four days before the tree is planted.

"When trees are planted on the dividing line between

two lot owners, it is suggested that those having no other trees in front of their property will care for the trees on their right, facing the street.

"The city ordinance provides that trees shall be planted at the following distances from the property line, and not closer together than twenty-five feet: on 10-foot sidewalks, 8½ feet; on 12-foot sidewalks, 10 feet; on 14-foot sidewalks, 11½ feet; on 16-foot sidewalks, 13 feet.

"Section four of the same ordinance recites that 'It shall be unlawful for any person to cut, girdle, mutilate, or in any other manner damage or injure any tree or trees planted in any of the streets. Penalty $5 to $10 fine, or thirty days' imprisonment;' and Section five follows with: 'Any person who shall violate any of the provisions of Section four of this ordinance, shall be fined in the sum of not less than $5 or more that $100, or be imprisoned in the city jail for a term not exceeding thirty days, or be liable to both such fine and imprisonment.'

"Distances for planting—On blocks 200 feet long, five trees fifty feet apart, excepting the end trees, which should be forty-five or forty feet from the next trees, according to the variety.

"On blocks 300 feet long, seven trees fifty feet apart, excepting the end trees, which should be forty-five or forty feet from the next trees, according to the variety.

"On blocks 600 feet long, thirteen trees fifty feet apart, excepting the end trees. The pepper trees occupy more space and should be set ten feet in from the outside line of

ROADSIDE TREES
Avenue of Cedrus deodara at Altadena

the block, the other trees five feet from the same line.

"While planting trees on our streets, it is important to bear in mind that it is done mainly for ornament.

"We do not require much shade and should avoid dense foliage. Each tree should have ample space in which to mature to its full beauty.

"It is earnestly recommended that on planting day, trees already planted and requiring it be properly trimmed, and that on vacant lots rubbish be collected and burned, or removed."

Suitable trees for high ground near the sea are: *Acacia melonoxylon* (Blackwood acacia), *Acacia floribunda, Jacaranda mimosæfolia, Ligustrum japonica, Prunus integrifolia* (California Coast cherry), *Cocos plumosa*, the cork oak (which needs deep soil), *Ceretonia siliqua* ("St. John's bread") *Eucalyptus sideroxylon* ("pink-flowering") *Eucalyptus cornycalyx* ("sugar gum"), *Schinus molle* (the pepper). The last three are for wide sidewalks only.

Frequently we see great damage done to walks or paved streets by the roots of trees planted along the curb. In making recommendations for street planting I have invariably named trees that were comparatively free from this fault, or trees that would bear a certain amount of "root-training."

It is well known that the Japanese have put to practice for generations this theory of "root-training," as witness their tiny dwarf trees, beautiful in their eyes, which, though hundreds of years old, are only a few feet in height and of peculiar shapes brought about by a scientific pinching back and

training of the roots. While we Westerners would not willingly dwarf the nature of a tree in this way, yet we may use the same theory in "training" sidewalk trees. The roots go down into the soil after the manner of the branches above ground in their search for light and air moisture. I am told by successful planters that in making the hole for the tree, which should be both wide and deep, the lower part of the excavation where the roots rest should be filled with rich, well-prepared soil, while the "filling in" may be of poor gravel and clay or sand. The roots will take the hint, you may be sure, and travel down into the good soil as fast as they can. Some varieties of hardy trees will stand considerable root-trimming, and after the first year's growth has established them in the soil the use of a sharp spade run down next the walk will cut off such errant roots as may be seeking the surface, without causing any real injury to the tree.

INSECTICIDES AND PLANT DISEASES

WHILE I cannot but feel that "the poor little bugs should be given a chance for a living," I constantly am asked for directions for cleansing shrubs, trees and flowering plants from the various pests that beset them. Two-thirds of the evils that afflict our gardens come from neglect. Rose bushes that are kept carefully washed daily are not likely to have small insects on them to any annoying degree, for the small insects do not relish a daily shower-bath. Among florists no treatment at all is generally used, save the vigorous shower-bath to cleanse the garden of ordinary pests. Prevention is best made early in the season, for after a garden once has come into the hands of the enemy it is difficult to get control again. There are, of course, sudden invasions of disease that may be subdued only by the complete annihilation of the plant in order that the insect may be eradicated, but generally speaking even the troublesome scale will not find its way to plants that are kept free from dust.

Hellebore is the best general insecticide I know. For bushes and vines, first sprinkle with water and then scatter the powder over them. Few insects or worms can withstand this poison. Care should be taken to secure the fresh white hellebore. Tobacco dust and tobacco tea are useful when

the green fly is troublesome, and are easily applied to house plants by means of a small syringe. Where scale has taken possession of house plants it can be most easily removed after a treatment with kerosene emulsion. Where an effective emulsion is desired for use on house plants it may be made in the following manner:

One part of slightly sour milk, two parts of kerosene; churn together with a syringe or agitate with an egg-beater until a white jelly shows that the two liquids are united. Use one part of the jelly thus made to eighteen or twenty parts of water and spray thoroughly over every part of your plant.

If a larger quantity of emulsion is desired for use on the garden or out-of-door plants it may be made by the following recipe, which is considerably cheaper than the one before mentioned:

Take of kerosene one gallon, of water half a gallon and of soap a quarter of a pound (the common yellow laundry soap will do); break or cut up the soap, add water and boil. Remove from the stove, and, while boiling hot, add the kerosene, stirring or churning briskly for several minutes. This emulsion will be thick and creamy, and may then be diluted to several parts of water, say twenty parts, for spraying.

For "red rust" and other mildews or blights, the Bordeaux is the proper mixture. This may be purchased prepared from almost any nursery, but the following directions are given by authority as practical:

Dissolve one pound of powdered copper sulphate in one

A FLOWER GARDEN IN THE AIR
Jacaranda mimosæfolia at blossom time

and a half to two gallons of water; then in another vessel slake three-quarters of a pound of fresh lime. When completely slaked add enough water to make a creamy white-wash; pour this slowly into the solution of copper and add water sufficient to make ten gallons; stir thoroughly and use with a sprayer.

FOR SNAILS OR SLUGS

Put out cabbage or lettuce leaves, which they prefer to other vegetation, and at night when they come from their hiding-places to feed, examine by means of a lantern and pick them off. Also place out very old boards under which they will hide and can be found there at daytime, and proceed as above. Use salt, or wood ashes, or lime around valuable plants they are likely to attack. In following this latter instruction great care must be exercised. The salt is perhaps the most dangerous, but any of these may do the plant more damage that the snails. Probably the wood ashes are safest.

Just ordinary soap-suds will generally rid the plants of "mealy bug." Indeed, my experience has been that but few of the low forms of life that attack our house and garden plants can survive a good scrubbing or shower-bath, hence I keep as a motto for the garden, "Cleanliness is next to Godliness."

The best method of averting trouble with insect pests is that of prevention. The garden should be kept clean from rubbish. Fallen leaves from plants that are diseased should be burned. Young trees should be protected from attacks

of insects where they may be expected, and fungoid growths and mildew can often be averted by drying out the soil, digging it up to let in more oxygen, and otherwise "keeping things sweet."

TREATMENT OF PLANT DISEASES

It would be impossible in a work of this character to describe very minutely the various plant diseases. Generally speaking Californians have not suffered a great deal from epidemics of disease among plants. Where Eastern growers have, for instance, several types of disease in carnation culture, we in California are said to have but one. This is discerned by the appearance of small dark spots at the base of the leaves, which will occasionally turn black. Where advanced, the only remedy is to root out the plant and burn; but early in the season the use of Bordeaux Mixture described elsewhere in this chapter will cure and prevent the spread. Rose rust will find its way as well into the garden and may also be treated with Bordeaux Mixture successfully. Indeed for nearly all of the fungi diseases the Bordeaux Mixture is the only necessary treatment. A mysterious disease has affected the La France rose for a number of years, but no pathologist has yet been able to offer a remedy or even to completely diagnose the disease.

It would be impossible to describe the different forms that these parasitic fungi take upon different plants, but the best means of averting trouble is to prevent the attacks. Fallen leaves from plants which have been attacked by fungi should be gathered and burned, and all diseased wood

should be cut out and destroyed. If the garden is kept perfectly clean and the plants are kept free from dust, planted where there is a proper drainage and cared for in a thorough manner, they will rarely get headway. Most of the sprays for treating fungi depend for effects upon copper or sulphur. For surface mildews nothing is better than sulphur, while the best general fungicide is the Bordeaux Mixture.

BACK-YARD PROBLEMS

Among the links between man's mind and nature we may place, as one of the most obvious, man's earliest attempt to select and group from her scattered varieties of form that which—at once a poem and a picture—forms, as it were, the decorated border-land between man's home and nature's measureless domains, the garden.—Bulwer.

IT IS Samuel Parsons, Jr., who, in his clever little book upon planning home grounds, distinguishes between the vines that contribute to the natural and picturesque in the garden and those vines which are civilized and conventional in their habits and tend to dignify the surroundings. Somehow we associate certain vines with certain conditions. Rightly or not we consign the dense evergreen growth and the somewhat indifferent character of the bloom of dolichos, the Australian bean, to covering up the shabbiness of rear yards, back-fences, shabby buildings and outhouses, while the rampant nasturtiums with all their vividness of color, their sweetness of perfume, and their faculty for giving a crisp young look to the premises, are very apt to find themselves close neighbors to the cabbages, and cauliflowers, and other kitchen-garden and "hidden corner" adjuncts of our domains.

Personally, I hope some day to be possessed of a garden where there shall be not even a suggestion of a "back-yard." It is the fault of the city, and of the manner of men's crude planning, that gives us back-yards, anyway. I can remember as a child shuddering at the sight of the ugly rear fences which had encroached even upon the sacred precincts of "Nob Hill," in San Francisco, and upon which I could look down from my play-room window; and I then and there resolved that when I grew up and became very, very rich, I should go a long way off from the noisy, crowded, ill-smelling city and should build me a lovely residence with four fronts and no "back-doors"; and that it should be surrounded with a great garden that went all the way around—and with no garbage barrels in sight. I haven't found the "Land of Heart's Desire" yet, nor have I been able to get away from other people's great board fences, but I have learned a secret, while on the way, that is helping me to cover them up. The ugliest sight in the vicinity of your outlook may be cut off from view by the proper planting of some hardy vine, and the English idea of leafy screens to shut in, or cut out, sights that do not lend pleasure is an idea worth preserving and enlarging upon.

The hydrangea is a splendid growth for filling in these ugly places, and will seem to redouble its effort to make large growth and fine bloom when placed under the shelter of the too common high board fence that makes the line of demarcation between one back-yard and another in the city.

Wire-netting fence, of about three feet in height, is most useful when used to form long wall-pockets for plants on the surface of these same ugly board fences. It is sold by the foot in all hardware stores. The fencing should be nailed against the boards very securely at one edge, then bands of iron or strips of wire may be passed around at intervals, looping the lower edge up so as to make a hollow receptacle. This can be lined with moss, preferably with live lycopodiums and then filled with soil. These receptacles are ideal for delicate vines and ferns, and the inside of the "ugly board fence" can be entirely concealed from view by its use. The hose can be turned upon these receptacles without damage, and the plants thus kept fresh and beautiful.

Not every full-foliaged plant will grow against a wall gracefully. Over and over again I am asked to name some plant that will make a suitable covering or screen at the base of a porch; or against the foundations of a house; or as a background against a wall or board fence with other plants near by. I am much pleased with coprosma for all these purposes.

Coprosma baueriana comes to us from New Zealand. It has a bright glossy leaf of brilliant green, the texture being such that if the surface of the leaf were varnished it could not shed dust more readily. Coprosma has not very sturdy habits, and is easily persuaded to lean against the wall for support, speedily covering the surface. It can be used as well for low hedges, but its place for real service is, as I

GARDEN ARCHITECTURE
An original solution of the back-yard problem

have suggested, against the base of bare walls as a screen

Now there are corners in the garden, and summer-houses and necessary barns and outbuildings that one may like to conceal with a wild and picturesque tangle of leafy branches and twining tendrils, but there are other places where we desire neater, quieter effects.

There are hardy annuals and hardy perennials, and it is of the latter that I wish to write. In most parts of California, once planted, these need scarcely ever be renewed, and by using care in the original planting, one may really plant for all time. There are then, first, for use in covering brick, stone, plaster or even frame houses, the very interesting varieties of bignonia. *Bignonia tweediana* clings fast and flat to stone or wood alike. It has a bright green foliage, and, at least twice a year, bright golden yellow flowers. It is especially useful on tall buildings and may be kept clear at the ground, covering only the upper part of the building and festooning, in graceful lines, towers, chimneys, or ramparts of one sort or another.

There is another bignonia, more properly named *Pithecoctenium buccinatorium*, which I have seen in but one place, and that on a fine private residence at Santa Barbara owned by E. W. Hadley. This bignonia (*Bignonia cherere*, for short) is the most vigorous grower I have ever seen of the vine kind. It has glorious great clusters of trumpet-shaped crimson flowers which, if my memory serves me, have yellow throats. *Bignonia cherere* would be worthy of extreme effort to secure.

Bignonia venusta is a very desirable hardy resident of the garden, and makes a flame of orange color on the rooftops from September to April. Another bignonia-like plant is *Pithecoctenium muricatum*, with rather woolly flowers in white and pale yellow. Where orange and yellow are to be avoided there is a rich purple-flowered bignonia, *Bignonia lindleyi*, which blooms in panicles when young. The ampelopses have already been referred to, and *Ampelopsis veitchii* affords much pleasure in the fall, with its delightful red and copper hues, the leaves being very brilliant just before they fall, even where Jack Frost never appears. *Ampelopsis quinquefolia* is the well-known Virginia creeper, and also has a fine red foliage in the fall. *Ampelopsis tricuspidata* is the Japanese "Boston ivy." It has fine bronze shades in summer, but is entirely deciduous through the winter months.

The bougainvilleas are becoming so well known that they scarcely need further introduction, yet probably there are no hardy vines in our gardens that are more misused. In the first place, they must be very carefully considered in the color-scheme of the whole. A misplaced *Bougainvillea spectabilis*, or *Bougainvillea glabra*, can absolutely overshadow every other bloom in the garden, and make one sigh for the absence of color. The red variety, *Bougainvillea lateritia*, is much more easily placed in relation to other colors, but unfortunately it is not nearly so hardy, and is difficult to procure true to description.

There are many varieties of bougainvilleas which are

grown in the European countries as "stove plants" that will doubtless be brought to bear our out-of-door conditions in time, and will be very valuable additions to our list, but in the meantime let me beg of all amateur gardeners to "think twice, and then twice again," before they plant any variety of bougainvilleas lest their final condition shall be worse than their first.

Now there are not nearly enough clematis vines used in California, or jasmines, either. The jasmines are all graceful and will climb well with but a little encouragement. *Jasminum gracilis* is a very sweet-scented white variety, and *Jasminum fruticans*, so frequently found in the Southern States, has pretty soft yellow blossoms. Of the clematis there are almost innumerable varieties in every hue of the rainbow. Many of the varieties grown on this Coast come direct from China and Japan. A very hardy white-starred variety, the *Clematis montana grandiflora*, comes, however, from Himalaya, and a very welcome alien it is. *Clematis campaniflora* has, as its name indicates, a bell-shaped blossom, in color a light blue. This variety is Portuguese. *Clematis crispa* is a great favorite, being of a lovely violet shade, while *Clematis coccinea* is a scarlet Texan that will be prized. One can hardly make a wrong choice in selecting clematis, as it is invariably beautiful and hardy in this climate, unless there are certain varieties that prefer the shady side of the house.

It is just as well to note in this connection that the matter of a little more sun or a little more shade will often affect a

vine in its infancy that will seem, after it once makes a start, to have no effect upon it. Just so regarding wind. The clematis seems to resent having its pretty skirts disarranged, while the tecomas and trumpet-shaped flowers do not mind a hurricane because they are so "well-reefed."

OUT-OF-DOOR LIVING ROOMS

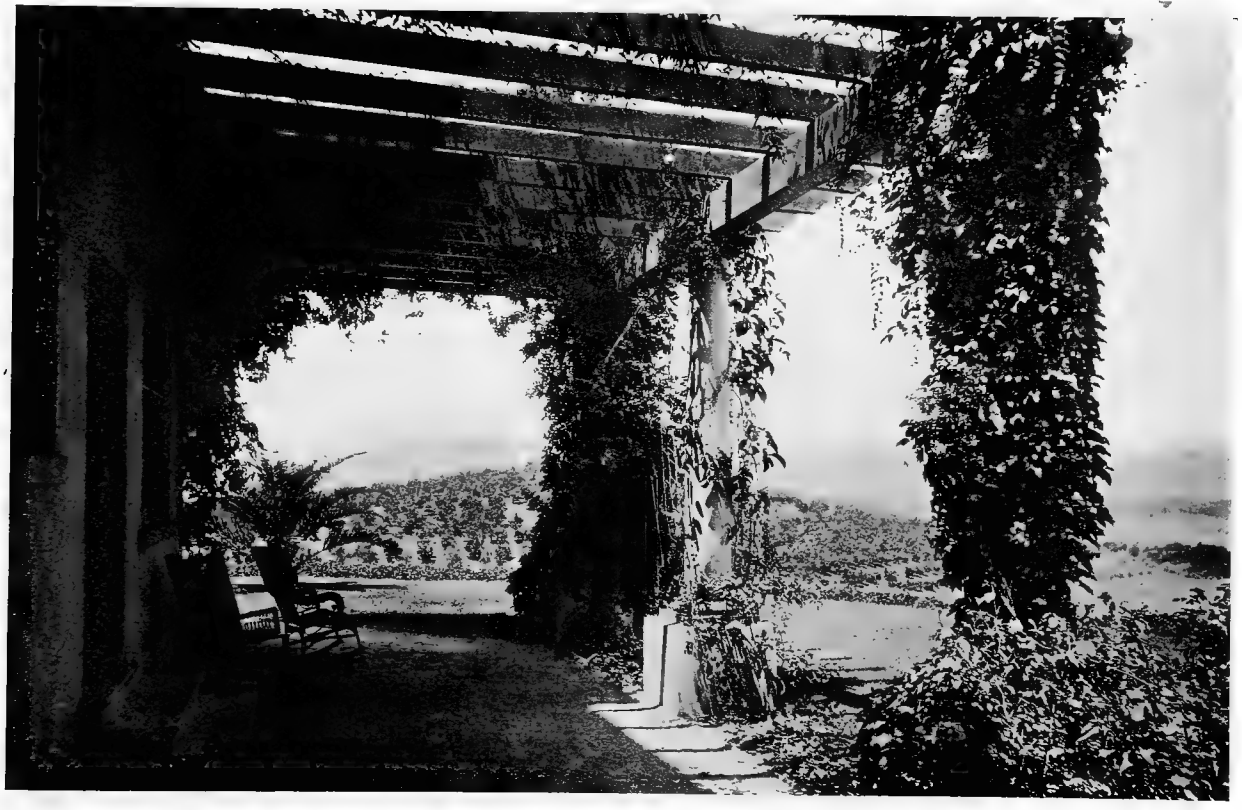
"STAY a great deal in the open air." How frequently we hear the phrase in California, and how much we enjoy as individuals the carrying out of the advice, especially when we are so fortunately situated as to be able easily to avail ourselves of the privilege; yet, as householders, what little preparation is made for enjoying with any degree of regularity fresh air and brilliant sunshine! We make excursions, and revel in the memory of days when, casting business and all personal cares to the wind, we sat under this or that tree, or climbed to a certain hilltop for the view, or stretched ourselves at full length in the edge of some grassy field and felt the heart-beat of great Mother Earth. There is scarcely a day in the year in California when we may not enjoy God's out-of-doors, but there are many people who are not strong enough to drive, to walk or climb mountains, who may not live this out-of-door life because we make so little provision for comfort and seclusion in our gardens and porches. We recognize the value of the daily sun-bath and of vigorous exercise in the open air, yet we plan our gardens all open to the street, leave our porches open to the rude gaze of every passer-by, persistently cramp our garden space with this or that crude

building, buying fifty-foot lots and covering them with our badly contrived architecture; and this in the face of the fact that many of us have been ordered to California to live out-of-doors.

Oh, we are a decidedly inconsistent people! I could count on my fingers the well-planned arbors, summer-houses, covered seats, or even open and partially sheltered garden seats I have seen in my travels through the gardens of California. I do not even try to find a reason for this condition of affairs. There really couldn't be any worth considering.

A carriage or entrance porch should never be considered in connection with a house veranda. Every family needs, and every family could enjoy, much of their daily life in the open air if the matter of privacy were more generally considered in building the veranda. There should always be a pleasant outlook, though this may be of only a tiny garden —yours, or your neighbor's. Here one may relax, and not stand in fear of the intrusion of the stranger-guest.

Indeed it is essential that this family gathering-place should not be in any sense a reception-room, but rather that only those who are intimates shall find their way here for relaxation and rest. Up-stairs verandas or porches are especially desirable, and are invariably picturesque additions to a building. Climbing plants add to the charm of a veranda, but they should not be permitted to overwhelm it, nor to take away the important features of plenty of sunlight and free play of air.



A PERGOLA OUTLOOK

A modern adaptation of the Italian villa

The pergola is closely related to the old-time arbor and is particularly desirable in this land of clear skies. No roof above, and yet a shelter. A hammock swung in a pergola is ideal. Overhead, leaves and tendrils twine in and out; the air circulates freely about you as you sway in your comfortable swing; yet you are free from draught and may look out over whatever scene your pergola is designed to disclose. Early Oriental life brought into being the pergola. Fruits ripened in mid-air are sweeter and wholesomer than those that rest on the ground; hence the pergola was most frequently used for fruiting vines. The most charming pergola I know is one where passion-flowers and the delicate wire-vine mingle their tender leaves and beautiful blossoms with the sturdier stems of the grape, and in the fall, when the flowers are gone, one may feast with eyes as well as stomach upon the purple clusters of the Isabella grape, the perfume of which is not the least of its charms.

One feature of the pergola which seems often lost by the modern architect is that, properly, there must be always a definite outlook upon some scene of beauty and interest. The idea of the artist is to temporarily shut in the observer in order that at the end of the walk, or mayhap at some opening at a proper point, the eye shall meet with a surprise in the way of a long vista of mountains, a bit of silvery blue water or some peaceful valley or garden scene. In Italy, the home of the pergola, I remember to have heard that in the grounds of a certain wonderful palace was a mag-

nificent pergola, the vista from which was of the glistening waters of the Bay of Naples. Commerce and modern buildings having crowded close upon the palace grounds, the view of the bay was curtailed and marred in an artistic sense. The lordly owner ordered that a great wall should be erected to cut off the offensive building from sight. He then directed one of the greatest artists of the age to depict with his brush on the inner side of this wall the beautiful view of the bay as it had been; and so cunningly framed by natural vines is the great masterpiece that frequenters of the pergola looking down from above are fairly deceived into believing themselves still looking out upon the Bay of Naples.

The hills of Italy cannot give a more artistic vantage-spot for the pergola than do those of California.

Amalfi and Ravello, Naples or Florence, can show no more beautiful opportunities for this form of out-of-door architecture than beautiful Belvedere, or Berkeley, or Montecito, or San Buenaventura, Los Angeles or San Diego.

In planning the pergola, the architectural thought is to have its component parts light in color, in contrast to the dark foliage of the vines. Some important point in the garden, such as the end of a walk, or the edge of a cliff, will give the desired vantage-point for a view which will come as a surprise to the guest.

The subject is too large—this of pergola building—for a single chapter, and as I glanced over these few sentences in which I have tried to describe their charm, I am hoping

that no one will confuse the arbor with the pergola. The arbor is a more definite construction for the support of vines, and may furnish rest and shelter but it cannot be said to have the dignity of the pergola. The arbor is simpler, and not destined to call upon the resources of the architect's artistic and creative faculties, as does the construction of the pergola.

The pergola may be Italian, Persian, Indian or just plain American; there is no greater opportunity for originality afforded the designer than in the construction of the pergola.

It is a very easy matter to spoil the artistic effect of the garden in its relation to the house by introducing a summer-house that does not conform to the general plan. I am constantly struck with the thought that the American has not yet learned the value of the summer-house, since where they are timidly introduced, they have a foreign air, as if they were to be with us only as an onlooker!

The common use of rustic work that is extravagantly artificial in character, the too often bizarre and unreal forms that are used in the making of garden-houses in some way seem to disturb the sense of harmony. And yet the garden-house, the arbor and the pergola may all be made so satisfying to family life—so important to American family life—since they offer inducements toward a measure of relaxation almost foreign to our people without which we shall continue to earn the title of the most nerve-worn nation of the earth.

In this climate, temperate as it is, there yet seems to be a certain danger in sitting in the open air exposed to wind or to a draught. In the summer-house this may be avoided in one of two ways: we may simply have a resting-place with roof overhead and free circulation of air beneath, with perhaps a near-by wall or hedge to serve as shelter from the wind; or, with more elaborate construction and the free use of glass, the complete shelter may be gained.

A delightful corner in a tea-garden at Coronado is in a tiny three-walled house on a promontory overlooking the sea. The walls on the east and west are of glass. The rear wall, on the south, is solid, while the fourth wall is missing. One could rest for hours in such an inclosure, free from all danger of cold, yet having the sea in full view, a free outlook on the garden, and the knowledge that no callers would intrude.

THE EQUIPMENT OF THE AVIARY

VERY frequently I hear it said: "There are no birds in California; one so seldom hears a bird song." This is, and is not true. The feathered folk are inclined to make their homes in localities where trees and shrubbery are plentiful, and many portions of California are practically treeless, but even then they are not entirely devoid of songsters, for everywhere one finds the meadow-lark with its glorious hymn of praise for sunshine and sweet air. In all localities where plantations of trees have been made I find that the wild birds immediately take up an abode and become a factor in the community.

Do you remember how the birds sing "Sweet, sweet, sweet," over in the Elysian fields? One hears such tender little stories these lovely spring-time days as one passes through the shrubberies in the wilder parts of the park, and any one who wills may learn the bird language. There is the eager chirp, the tender trill, the low twittering of the tiny lovers, and then—alas that I must chronicle it!—these feathered folk have harsher notes, and there are coarse, discordant sounds that reveal depths of tempestuous feeling, and cruel, jealous tones that prove that here, too, the course of true love runs not always smooth. I have fancied at times

that there were, among my bird friends, some with a deep sense of humor. The linnet has a chirrupy, laughing way about him, and I know the tame blackbird about the barnyard has a genuine air of the wag, and not only will he twit you about your peculiar ways, but he will play waggish tricks on his feathered kind with all the gusto of the magpie.

And then our California mocker is such an active fellow. Did you ever watch him build his nest? In and out, up and down he flies, choosing here and there and discarding, oh, so much that other birds would prize. He will painstakingly gather fibers from the palm leaves and the mid-ribs of such leaves as the eucalyptus affords, and carefully weave them into his nest, until an improved spiral-spring mattress "isn't in it" for comfort. He will swing it, too, in such a way that it will sway gently with every passing breeze, and his pretty quiet little sweetheart will be perfectly content to stay at home day after day as long as her liege lord does not fail to report himself before unseemly hours of night have overtaken him.

"Do you ask what the birds say? The sparrow, the dove,
The linnet, and thrush say: 'I love, and I love!'
In the winter they're silent—the wind is so strong;
What it says I don't know, but it sings a loud song.
But green leaves, and blossoms, and sunny warm weather,
And singing, and loving—all come back together.
But the lark is so brimful of gladness and love,
The green fields below him, the blue sky above,
That he sings, and he sings, and forever sings he:
'I love my love, and my love loves me!' "

AN ITALIAN GARDEN

The roofless pergola and garden-seat are as well adapted to California skies as to those of Italy

Bird songs are never inharmonious. Sometimes there is a plaintive minor strain, for the feathered folk seem to have their trials in life like the humans. However, in all the years I've been listening, I never yet have heard the meadow-lark or the thrush "get off the key" or "out of tune." It is an inspiration to see the lark prepare himself to fill the air with melody. As I am crossing the mesa in the early morning I often see one come up out of the soft green grass near my path. He tips his head and "sizes me up," his bright dark eye twinkles and he seems to say: "I think a tune would cheer her up and give her something to think about." He walks back and forth a moment, just a little nervous, like the professional tenor, until he has chosen from his great repertoire; then, as if to attract my attention, he flutters up and down, and up and down, into the air, until his plump little body is full of the ecstasy of motion, and soaring about my head for a moment, he cries out: "Sweet, sweet, sweet!" and then, as I answer, "Yes, I know it is sweet—sing for me, sweet," his throat swells and trembles, and then comes the flood of melody, hymning, and praising, and love notes and joy,—just joy—joy—joy,—of living in this "Land of Heart's Desire."

Many people, however, are not content to know just "the natives" when it comes to bird folk, and so while I have been looking the country over for beautiful gardens, I have kept half an eye out for the home-builders who love birds, and some delightfully quaint ideas and achievements in aviary building, and success in stocking the same, have I

found—in every case an otherwise beautiful garden may be made doubly charming by adding birds to its attractions. There is the dear little cottage on Holt Avenue, in Pomona, where two delightful women have made a home for their bird friends—as near heaven as possible—by erecting a cosy little aviary up on the roof-top, just where the dormer-window would otherwise have been. Bird songs overhead the livelong day in that home!

Then there is the utilization of a basement corner in a fine city residence. How the birdies do enjoy their fountain, and how very charming to the family in the dining-room above must be the songs of the feathered orchestra in the basement below!

The largest and most completely equipped and stocked aviary in California, and it is said by some authorities in the whole United States, is to be found in San Diego at the home of Mr. J. W. Sefton.

The Sefton home, on the corner of Sixth and Laurel Streets, is a handsome residence with a setting of shrubberies, vines and flowers that would make it one of the "show places" of the city in any event, but with the added charm of the great aviary that occupies a large portion of the grounds in the rear of the residence, it is indeed a most popular spot for all lovers of the beautiful, and since Mr. Sefton has generously thrown open the grounds to the public on three days of each week, the delight is one shared by thousands of people every month of the year.

In the aviary are over seven hundred birds living alto-

gether in the open air, and representing almost every country on the globe. Fifty-six varieties are represented, and there is absolutely no disease among them. Even more remarkable is the fact that many varieties never before known to breed when in captivity are rearing their young and otherwise testifying to their delight in the equable climate of San Diego and the rational and wise treatment afforded them by their owners. To hear Mr. or Mrs. Sefton talk about their little charges is delightful. The collection of the birds was begun simply as a matter of recreation and pleasure for the owners, and although the magnitude of the collection has brought certain responsibilities and cares, yet their tender love for the birds is most apparent in every word.

When questioned as to the methods of treatment and care, Mrs. Sefton claimed that while "bird books" were interesting and entertaining, they had found very little to really help or guide them in the care and nurture of their pets. The exercise of much common sense and carefully conducted experiment had taught them the best ways of feeding and housing, and the answers to the numerous questions that arise daily. As to matters of feeding (not a small matter at all, when one thinks of the daily demands of seven hundred hungry little bills all chirping away for their daily bread) the birds can be very largely trusted to select for themselves the proper food, provided a generous apportionment is placed where they can get at it, and by properly proportioning the kinds of grain, meat, cuttlebone, etc. Lettuce, celery, and other green stuff must be supplied daily,

while "bird-seed" must be furnished by the wholesale, the only question being to watch closely to see, for instance, that if there is a great demand by the small householders for rape, or for millet, this allowance is increased as needed in the bulk of the grains used. Materials for nest-building are furnished, too, and one of the delights of the visitor is to watch the tiny architects select just the particular sort of building material which his family has always considered best, and proceed to make his home for the next generation to enjoy. One section of the aviary is given over entirely to the finches, and a busy family they are, full of song and clever ways. Sometimes complications arise among the families, but on the whole the communities are peaceable and law-abiding and to the careful observer give many suggestions in the way of self-respect and self-government.

The breeding of the birds is a matter of much moment, especially of the rarer sorts. A rose-parrot, a bird said by the books on the subject "never known" to rear its young in captivity, has delighted Mr. Sefton by presenting him with young rose-parrots. The starlings and the redbirds have done as well. When the young redbirds came there was much excitement about the Sefton establishment. The parent birds had been very secretive about their intentions and so the presentation of the young birds was in the nature of a surprise to Mr. Sefton, who first discovered them by the uneasy actions of the parents. Mrs. Sefton was instantly sure that the parents were disturbed because they could not find a sufficient amount of "live meat" for their offspring,

for, "Hotel Green," as the big marguerite bush inside the aviary is dubbed, cannot begin to cater with insects to the demands of those birds who like their meat "alive and kicking." There was much scurrying here and there in search of bugs for the small babes, and Mrs. Sefton in telling the incident, humorously remarked, "If you will believe me, it took the time of five of us to hunt bugs for those babies, and meet their increasing demand for 'more'!"

A beautiful pair of cardinals, a nightingale and some exquisite "bleeding-heart" doves interest all visitors. It would be impossible to list the fifty-six varieties and describe their peculiarities in so limited an article as is this. Nearly all visitors are eager to see the splendid pheasants. There are the ruff, versicolor, English ringneck, amherst, and golden pheasant; and one can see the young frequently, as a splendid lot of "mothering" is done for pheasants by the buff-cochin bantams—very interesting little creatures, who seem to have no objection to acting as incubators and "foster-mothers" the year around. The quail, too, prove interesting at nesting time, and raise delightful although "flighty" broods, but the amusing and pretty anecdotes about these will have to be told some other time.

THE WAY TO ATTRACT THE BIRDS

In the first place—dismiss the cats. Somehow or other the best-bred cat cannot overcome her natural appetite for young, tender birds, and "songsters preferred" seems to be the fashion. I have reasoned and reasoned with "Katrina

van Tassel," who has been in the family for years and has the blue blood of a patrician Maltese family in her veins. Katrina always promises reform, and has a soft caressing way of professing her penitence that is very beguiling, but every spring the same story of stealthy crime is repeated. The mocking-bird will build over the gateway in the honeysuckle hedge, and with all my watchfulness, Katrina tries for a taste of young mockers before they can fly. There are reasons for not parting with Katrina. There always are reasons, you know, for granting a reprieve to the guilty one, but still I'll confess that Katrina is a great trial at times, nesting season particularly.

When the trees are grown higher, I think the mocking-bird will choose to build higher. I have warned him frequently that it would be safer. Trees, plenty of them, and of different varieties, will attract the birds even more than shrubs or flowers. In this country, the eucalyptus seems to be a favorite abiding-place for many birds. The humming-birds are especially fond of the honey-laden *Eucalyptus robusta.* The heavy white flowers have in each one a drop of honey-dew that delights the little swift-winged hummer. Sometimes I have seen ten or twelve with ruby throats and dun colors flashing about one tree.

The humming-birds are invariably attracted by brilliant-hued flowers in the garden, red and yellow trumpet-shaped flowers seeming to prove most attractive. Wherever there are climbing roses, too, you may look for their presence. In the largest rose bush in the world, which climbs over the

porch at the Arlington, in Santa Barbara, I have sometimes counted fifteen or twenty rubythroats darting here and there, or out into the pretty garden where scarlet salvias and red and yellow cannas and other brilliant-hued flowers predominate.

Then water. One man told me who had been for years coaxing the wild birds to take up their abode in his garden, that the water was the best inducement he could offer, and so here and there, on the lawn, under a low, drooping palm, over on the stone wall, and down at the foot of the walk to the summer-house, he has rough basins hewn out of the stone in which a small amount of water may be thrown with the hose daily, and how the tiny creatures do revel in it!

A little extra building material in the way of straw and thread, and mayhap a few soft feathers, or bright-colored yarn, if left about the garden, will induce the small architects to consider your building sites. Every bird has its own well-defined plans for building, however, and one of the most interesting facts about them is that for generations they build as have their fathers before them. Some birds fancy color, and will eagerly seize upon the bright-colored bits of yarn you give them, while others will reject them with scorn.

Here is as good a story as I have ever heard of bird humor.

The story in question was told me by a New York business man whose word is "as good as gold." This gentleman had strolled out in Central Park, and came to one of the small aviaries where the birds and small animals spend

their summers. It was late in the fall, and all of the birds had been removed to winter quarters save one small black duck and a stately swan. The pool in the center of the aviary was small and round and clear, with not over a foot and a half of water in it. The small duck swimming about with the swan seemed to be charmed by discovering every few moments crumbs among the pebbles shining at the bottom of the pool, and he would go down, head first, after them, while his glossy little black tail would "wig-wag" in a most enticing manner. The swan would apparently give no heed to the duck's gyrations, but just as the little black tail would point up and "wig-wag," the swan would crane over his long neck, take the duck by the tail and lift him to the surface of the pool, never stopping meantime his graceful career, as he slowly sailed over the surface. The small duck would come up quacking and fluttering, apparently unconscious as to the cause of his sudden "upsettedness," but would immediately try it again, and the whole performance would be repeated. My friend declares that he saw this done a dozen times or more, and the swan had a knowing leer in his eye that showed he appreciated a good practical joke as well as did the onlooker.

NATIVE TREES, SHRUBS AND FLOWERS

FREQUENTLY people say to me: "I love the wild flowers, and would like to introduce them into my garden, but how can I get the seed?"

The easiest way is of course to have some one else collect them for you, and so here is a list taken from the catalogue of a local seed and plant company of some of the most valuable and showy of our annuals which are now offered by most dealers and yet which are (some of them) rare and difficult for the amateur collector to secure. In the first place there is eschscholtzia, our "Golden Poppy," world-famed and beloved. It is really the duty of all flower lovers to continue the distribution of the eschscholtzia as well as its improvement, for like most wild flowers, it will respond to kind treatment with larger, finer blossoms as well as furnishing a splendid basis for the work of hybridizing. Buy a "ten-cent" package of seed and sow in the fence corners or the vacant lot across the street, and be sure to have one fine bed in your own grounds or down in the wood lot where they may "run wild."

Platystemon californicus is another poppy, not so showy, but a dear, dainty little blossom, easily grown. It is known along the seacoast as the "cream cup."

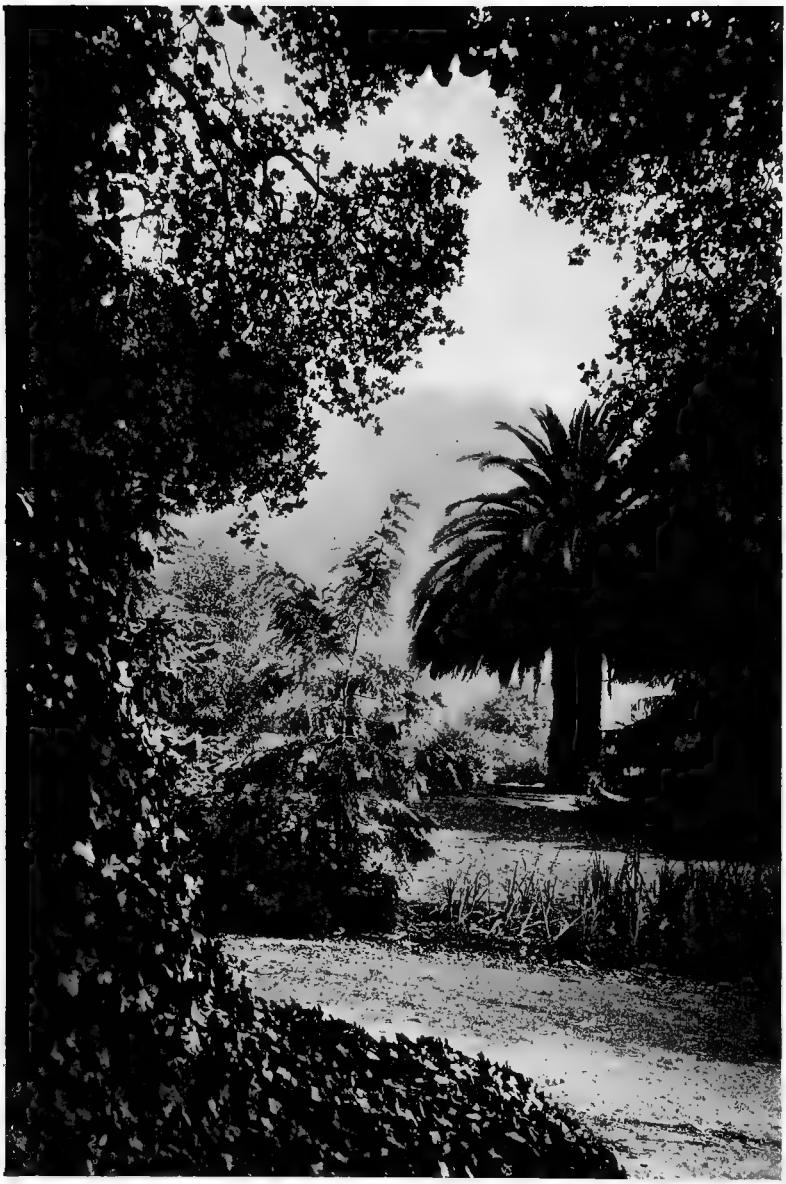
Layia elegans, *Layia calliglossa* (tidy-tips) and *Layia glandulosa* (white daisy) are all showy ray-flowers, the first named having a glow of yellow in its dainty petals.

The leptosynes are interesting, too. There are among them annuals and perennials. *Leptosyne maritima* is a great golden ray-flower, a favorite because of its beautiful cleft light green foliage; *Leptosyne stillmani* is another of smaller size.

The most royal of our native flowers is *Romneya coulteri*, which is a bush-poppy and a perennial, having grape-like white blossoms with golden centers and very enormous in size, sometimes eight and ten inches in diameter. Another bush-poppy, not so uniformly grown, but none the less desirable, is *Dendromecon rigidum*, the "butterfly-poppy"; and a bush of which certainly reminds one of the dancing, airy butterfly.

The delphiniums deserve special mention. The *Delphinium cardinale*, which is rapidly becoming rare, and whose vivid scarlet or cardinal hues cannot be duplicated in any other flower, is one of these. This larkspur and its blue sister, *Delphinium parryi*, are eagerly sought by European growers, so why not give them a place of honor at home?

Nemophila insignis (baby-blue-eyes) is a dainty annual in blue that pleases the refined taste, as does a violet or a daisy. The "shooting-stars" of the children make striking border plants and you can buy the seed under the name of *Dodecatheon clevelandii*. They are perennial and very useful as cut flowers.



A GARDEN LANDSCAPE
The difficult art of informal arrangement

Phacelia parryi is a handsome violet blue, with bell-shaped blossoms that mass well with ferns and other delicate green plants. The pentstemons attract attention, one from the San Jacinto Mountains being a brilliant scarlet, while some magnificent royal purples are produced by San Diego County.

The *Antirrhinum orcuttianum* is a graceful native snapdragon in white and violet, and *Emmenanthe penduliflora* (whispering bells) is a bushy annual with light yellow blossoms that interests the grower.

If you are so fortunate as to be able to make long rambles in search of wild flowers, you will often encounter new varieties, and strange though it may seem, California flora is as yet practically "undiscovered" to even the botanical world. Should you desire to secure bulbs or seeds of these beauties, you will need, of course, to mark the spot. Some years ago I collected for European houses, and learned that as I could not always be sure of "passing this way again," I must make note of the locality in a book kept for the purpose; and since my Mariposa lily, for instance, would die down to the very ground before the bulb was in proper condition for me to dig it, I must also mark the spot. And so tiny little cotton pennants might have been seen floating from many a shrub, or a tiny stake found beside the lily stalk in the vicinity in which I made my collections. Then when the proper season for digging or gathering seed came, I, prompted by the dates in my note-book, could return to the spot and secure the coveted prize. It would be

impossible within the limitations of this book to tell just how to secure all kinds of wild flower seed, for each variety has habits and peculiarities of its own. For instance, the poppies are furnished by nature with a power to scatter their seed, and so having gathered a quantity of nearly ripe pods, and put them in the sun to further ripen, I was dismayed to find that they "popped" all over creation, and never a one could I recall. Experience is the best teacher. I learned to study the nature of the particular plant desired, sometimes using a bit of netting to imprison the pods, and sometimes gathering them early and putting them into glass-covered boxes that could be sunned.

As a rule seeds keep best in paper, which absorbs moisture, while tin or wood are apt to attract it. Care to keep them from insects is necessary, too. The most unique collections may be made, however, in your spring-time walks, and another season one of the chief charms of your garden may come from these plants gathered by yourself. Remember, that as you go into the canyons there are exquisite ferns and mosses to be had for the gathering. Usually they should be gathered as they are "drying off" in the late spring, but should be located when they are at their best.

Now do I hear some one say that I am advocating the ravishing of the hillsides for the sake of the garden? Oh, no! I would not be misunderstood. These dainty wild things are being steadily destroyed by the encroachments of fields, and of towns. What I wish is, that intelligent people shall become acquainted with, and preserve in their own

domains, these Californians for the time to come when most of the wild lands will be covered with dwellings.

There are those who are favored with the ownership of splendid native trees, and bits of broken hills and canyons which conform to the work of the landscape artist. Let such private owners study to acquire "the art that stands nearest to Nature," and make this land even more glorious than it now is.

Sycamores and oaks are slow growers, but where planting can be made permanent they are well worth while. The oaks are splendid roadside trees, as they have a taproot, reducing the danger of encroaching upon other crops to a minimum. *Quercus lobata*, the valley oak of the San Joaquin, is a comparatively rapid grower, but needs much water and must be kept well irrigated. *Quercus agrifolia* is the "live oak," with leaves not unlike the holly, and will stand much drouth after it is well started. The native maples are very useful, and about Pasadena make a fine showing. *Acer occidentalis* is one beautiful variety, and *Acer macrophyllum* is another.

Of the shrubs, perhaps the most beautiful in the South are the ceanothus and the *Prunus ilicifolia*, this latter making a shapely, small tree under encouraging circumstances. The native yuccas are peculiar, and make attractive showing, especially when grouped with cacti or other native plants. *Yucca whipplei* is the showiest, but once blooming, has lived out its time. *Yucca baccata* is not so showy, but has a splendid panicle of bloom each season.

There are many of our native annuals that are entirely suitable for even a corner in the small city garden, and a slight separation from the more formal and elaborate arrangements of the cultivated plants will suffice, and great enjoyment may be found in the perfection, and even sometimes the improvement, of the blossoms culled from fields and mountainside. Our lupines are easily propagated from seed, and many and varied are they in hue. Of the larkspurs they are blue and white, lavender, and scarlet varieties,—many of them so fine that they are eagerly sought by collectors for the best gardens of Europe. I have never in my life seen any flower more wonderful in its growth under cultivation, or more striking in its natural environment, than the cardinal larkspur (*Delphinium cardinale*), and masses of it in the background of your garden will give great pleasure.

The clematis, including a half-dozen varieties, and the native lonicera (honeysuckle) are attractive vines, and very useful in a "wild garden." Of the papaveraceæ there are none that are not easily cultivated, and some, especially the eschscholtzia and the *Romneya coulteri*, are great favorites of gardeners. There are fully a dozen varieties of the poppy family, ranging from the tiny canbya, not over an inch in height, with dainty white blossoms, to the great romneya, which often has blossoms fifteen or twenty inches across.

"The canchalagua" (*Erythræa venusta*), with its brilliant starry blossoms, is attractive in the garden, and recalls the many traditions concerning its use in the pioneer homes

as a febrifuge. The Mariposas ("butterflies") are world-renowned, and, growing from a tiny bulb, are easily introduced to the "wild garden." Some of the most beautiful varieties are *Calochortus albus*, *Calochortus venustus* and *Calochortus weedii*. The more recent botanies list twenty-five varieties of Mariposa lilies, and the florists have increased these by many variations.

Of the shrubs I have found the varieties of ceanothus (wild lilac) and trichostema (blue curls) very delightful under cultivation, and no cultivated shrub is more useful than *Dendromecon rigidum*, which is a bush—or shrub-poppy of lovely yellow shades. *Yerba santa* (*Eriodictyon glutinosum*) is a favorite, and the wild cherry (*Prunus ilicifolia*) is a glossy-leaved shrub that equals the English holly in its beauty. Gilias we have in plenty—an extensive assortment. The collinsias, too, are numerous, and none more beautiful that *Collinsia bicolor*, which, as it grows in the shade of trees on some grassy slope, uplifts one's soul to heaven, so pure and lovely does it seem in its own aspirations. A very useful cut flower is secured from our *Layia elegans*, known to some as "tidy-tips." Its fragrance is pleasant and none of the compositæ are more attractive or more easily propagated.

"To me, the meanest flower that blows can give
Thoughts that do often lie too deep for tears."

And as I rode through a tangle of wildwood roses the other day near Santa Barbara, I could not but think that even in our gardening—most simple and pure of pleasures—we

may become too artificial in our desires, and thus lose much of joy in the life close to Nature.

Enthusiast as I am for the naturalistic methods of gardening, I should not yet be guilty of urging the owner of a twenty-five-foot lot to find a corner for wild flowers. I should feel so sorry for the wild flowers. On the whole I do not think I shall have any advice to proffer any one, regarding a garden of any sort, on a twenty-five-foot lot! Even the fifty-foot frontage of the average city home is better left an open breathing space with a bit of grass, and a green shrub or two on its borders than any more elaborate gardening.

Neither can one aspire to grassy slopes and long sweeps of gracefully outlined paths and roadways, when his plot of ground is either circumscribed in extent, or possesses no distinctive features except a dead-levelness suitable as a site for the erection of some kind of architecture more or less artistic.

We cannot all own estates nor great gardens, but a good many of us would come nearer to doing so if we were not so constantly striving to "save time" (of which we may have an eternity), by making unceasing effort to be very convenient to business and pleasure, school and church, and our next neighbors—and making cities, when we belong to the country. Land is comparatively cheap in California, and home-builders should secure more land for their homes since a genuine home can hardly be made on a small city lot—it is more apt to be an abiding-place only.

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