January, 1950  
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Drawing on cover by students of architecture in school of architecture and planning of Denver University.

LAURIE M. SHOEMAKER, Treasurer
RICHARD R. OSBORNE
3513 Broadway St., Denver 4, Colorado

Published Monthly. Sent free to all members of the Association. Supporting Memberships $2.00; Sustaining $5.00; Patron $15.00; Donor $100.00. Copyright, 1950, by Colorado Forestry and Horticulture Association.
PLANT NOW—

A new year is beginning and there will be many new homes to be planted and old homes to remodel. The wise gardener plans now so that full attention may be given to the actual planting when the frost goes out of the ground in spring.

Decide on your needs now and then contact your favorite local nurseryman and ask him to help you work out the details of arrangement and recommend suitable plants to fill each requirement.

Enjoy the beautiful pictures in the attractive catalogs which come to you from all over the country but remember that many of the plants illustrated in these out-of-state catalogs may not be adapted to successful growth in Colorado. Your local nurseryman has had many years experience with adapted plants and can save you much money and disappointment by suggesting those things which are most likely to thrive here.

Many nurserymen can take you out to their fields of growing plants and show you just what each kind looks like. Then you may select the specimen which best fits your needs and finances. Plants which have been grown locally may usually be moved to your home with little risk of loss.

All good gardeners like to experiment with a few difficult or “impossible” things, but it is well to make the bulk of each planting with the tried and reliable things.

REMEMBER—
It’s Not a Home ’Til It’s Planted

See the September issue of “THE GREEN THUMB” for a list of members of the COLORADO NURSERYMEN’S ASSOCIATION.
PLANT BEFORE YOU PLANT

George W. Kelly

You have a new home with a house standing on an area of bare rough ground, or you have an old place which has never been properly planned or has been neglected for many years. You realize that the first step is a carefully worked out plan, but you are not sure how to go about it. Of course, you might go to a professional landscape architect or one of the local nurseries who maintain a landscape planning service and turn the problem over to him, but for lack of finances (you are always broke when the house is completed) or because you want the fun of personally doing the work, you would like to make your own plan.

Here are given 10 logical steps which you should take in properly developing your plan. This procedure would work equally well if you needed to plan the landscape development of a home, a park, a commercial or public grounds.

Survey of Needs

1. First you should make a survey of the things desired in the finished grounds. To accomplish this you must consider the habits and customs of the people (you and your family) who will use these grounds. Do you spend much time at home? Do you entertain much and like to eat outdoors? Do you love flowers? Do you like to work outdoors? Do the children or the dog need a playground? Do some members of the family have gardening or outdoor hobbies that should be provided for? Better give this careful thought and put the results down on paper so that you can refer to it later.

The list might include a rose garden, a dog yard, a shady nook with platform where the peas could be shelled and tea served, a pool, a snowball bush, a birch tree, a dry wall and a long border for the iris collection.

Survey of Existing Conditions

2. The next step would be to make a careful survey of what you have to work with. How big is your lot? What kind of soil do you have? What is the slope of the land? How much of this area will receive too much or not enough sun or wind? What are the immediate surroundings and what are the distant views?

Right here I would make a plan showing the existing conditions and draw it to scale on paper of some sort. I would draw in the house, the boundary lines, any walks, drives, ash pits, phone poles, neighbors' fences or other features that were present and must be worked with or around.

A simple way to get the data necessary for making this first basic plan is to start at one corner with a tape line and measure the length and width of the lot marking the distance from this corner called "0" to the point opposite each feature necessary to include. At 6' you might be opposite the first side of the house, at 10' the first edge of the front porch, at 20' a telephone pole in the parking, at 35' the edge of a terrace and at 50' the lot line. Pick out a scale to use which will allow the greatest dimension of your grounds to fit on the size of paper available. For instance if your lot is 135' overall and your paper is 20" long you could use a scale of 1" equals 8'. This would make your drawing 16 5/8" long allowing for margin on a 20" paper. If you can get graph paper the squares will be already marked off and will eliminate some measuring and figuring.
3. After you have these two sets of facts—what you want and what you have—then you can begin to pare down or fit the first list to the second. Before doing any work on this fitting in of desirable features it might be well to decide what will be the dominating theme or character of the whole development. Will it be most appropriate to make it ultra-modern, naturalistic, formal; or be influenced by some foreign or ancient design. Look around you as you drive home tonight and notice that the most satisfying plantings are those which conform to one scheme or theme throughout with all the parts fitting together in unity. Landscape architecture is an art comparable to others like painting, sculpture, music or architecture, but landscape architects work with living plants and the pictures created are living pictures which must have continual care to remain as originally created. All the basic rules of other forms of art apply here, such as unity, balance, simplicity, scale, lines, proportion, rhythm, texture and color. The best result is obtained when everything is arranged for the greatest amount of beauty at the same time retaining maximum utility.

4. The next move after the general idea of the development has been determined will be to roughly lay out the grounds into the principal divisions as to their use. In most cases there will be three—the public area, that between the street and the house, once called the “front yard”; the service area, including drives, clothes yards, ashpits and such; and the garden area, which may be developed to suit the requirements and pleasure of the family. In the more modern designing of homes there is increasingly more attention paid to arranging the rooms of the house and the outdoor “rooms” to fit together as to their uses, that is the service area and entrances adjoining the kitchen and the garden area easily entered from the living rooms. In many modern developments the “front” room and “front” yard are not adjoining the street at all, but face the most desirable view. Likewise, the “front” and “back” doors may both be on the same side of the house, adjoining the street, leaving undisturbed a larger garden area on the opposite side.

When these principal areas have
Main Features

5. In planning the further details it might be well to have a check list to remind you of the things that should be considered.

   a. Shade and windbreak.
   b. Background and foreground.
   c. Framing or hiding views.
   d. Softening severe lines.
   e. Extending important lines.
   f. Adding to the beauty and utility.
   g. Providing color interest year 'round.
   h. Attracting birds.
   i. Marking boundaries and giving seclusion.
   j. Providing for hobbies and other uses.

been roughed in, the next move would be to locate the drives, walks and definite outline of areas. This would immediately give an idea of the restrictions and boundaries of spaces available and enable you to proceed with rather definite plans for the various features wanted.
Good Design

6. In the individual designing of these features and in their association with each other it should be constantly kept in mind that there should be definite rules for their proportion, scale, texture, lines, masses, colors and balance. These are some of the things that make a planting satisfying if they are properly considered. The same features may be arranged in the same yard so that they all contribute to a satisfying picture or they may be just so many independent features like canned goods on a store shelf.

Materials to Use

7. Up to now you have been concerned with effects wanted. Now you should begin to consider more the materials to create these effects. The trees, evergreens, shrubs, perennials, annuals, bulbs, grasses, and articles of stone, wood and metal.

Since trees are the backbone of any planting, I would first consider them. Their first use might be for shade — shade for the house from the heat of the sun in the southwest and shade for the recreation area in the garden. Then there should be considered the importance of properly located trees to give background to the house and grounds, and trees to frame it from the important (approach) view.

If trees are the backbone of a planting then shrubs would be the flesh and muscle. Their uses are many and varied. The first consideration might be their use as screens for objectional views — the alley, the neighbor's clothesline or kitchen window, the vacant lot next door or your own ashpit. Then they might be used to mark boundaries of areas, to soften severe architectural lines, especially as a foundation planting. They might be used to secure seclusion for certain parts of the garden or to supply fruit for the birds or just for their own beauty of flower, fruit or leaf.

Then the perennials, annuals and
bulbs would put the covering skin on the whole picture and supply many of the finishing touches of beauty. The lawn would supply the foreground carpet or a background for flower beds and other small features.

Special forms of plants should be considered for appropriate places—hedges, espalier trees, tall slim trees, vines or ground covers. The inanimate materials should be considered for their part in the whole picture—stone for walls, platforms, rockeries, walks, steps and fireplaces, and brick for these same uses or the construction of garden house or pergola. There might be many places where wood would be used—for fences, gates, trellises, seats or screens. Water might be used to create reflection pools, lily and fish pools, fountains and naturalistic streamways. Beds of specialized plants such as roses, iris, cacti or tulips might fit in the general scheme. Gardens may be judged roughly for the excellence of three qualities—the design, the materials used to carry out this design and the later maintenance. If the plan calls for a tall slim tree to screen a phone pole, then the tree which most nearly does this and fills other requirements of size, color, life, health and beauty should be selected. If a wall is needed it should be determined whether brick, wood, stone or metal would fit best in the design, be most economical and provide the greatest beauty. The kind of lawn grass should be selected which would best tolerate the particular amount of use, water and sunshine that it would be likely to receive. If a low shrub is appropriate for growing under a window, the kind should be chosen which will most nearly grow to the required size. Here is where you must either learn the habits of plants and qualities of other materials or depend on some dealer to advise you.
The Plan on Paper

8. With all the little details pretty well worked out in your mind it is time to begin to put them down on paper. This is necessary for several reasons; because you are liable to forget before time to carry out these plans, because you must draw the various features up to scale to be sure that they fit together or to be able to pass on your ideas for someone else to carry out. You may plan each separate part perfectly from your one point of view, but it is only when you can look down on a paper plan that you can visualize how these separate parts are going to fit together. It is much easier to move a large tree on paper, if it should be wrongly placed, than after it is actually planted in the ground. Blue prints, colored perspective drawings, elevations, and cross sections may often be desirable to thoroughly set down a permanent record of the features wanted. Make accurate measurements of materials and the spaces to be filled and enter these details on your plan, drawn to scale. For future usefulness every plan must include date, direction, location, scale of drawing, name of property and name of maker of the map.

The Plan on the Ground

9. Now you are ready to order the necessary materials and begin to put them into place when the proper season arrives. This can be a very interesting job. Before starting the actual planting or construction you should lay out the location of all necessary features on the ground to correspond with the specifications on the plan. Here you may use named and numbered stakes, outlines scratched on the soil or, if necessary, grade stakes. Some minor adjustments may be made at this time, but it is best to stick rather close to the accepted and previously worked out plan. As most contractors leave the grounds about a new building rather rough you should carefully work out grades and level the soil where needed, then prospect to discover any unsuitable soil, or litter. The soil should be improved by the addition of some form of humus or fertilizer and carefully cultivated before anything is planted. Remember that a penny saved here may cost you many dollars in later work, fertilizer and poor growth of plants, for most grounds will not be disturbed, except for the surface, for many years to come.

Planting and Construction

10. Now you are ready to plant and this is a subject worthy of a separate story. Much of the effectiveness of the whole plan depends on getting the plants back into the ground in good healthy condition so that they may immediately begin to grow vigorously.

2. Survey of Existing Conditions.
3. Dominating Theme.
4. Principal Divisions.
5. Main Features.
7. Materials to Use.
8. The Plan on Paper.
ALL COLORADO IS OUR GARDEN

Extracts from a talk given by Carl Feiss at the annual dinner of the Colorado Federation of Garden Clubs, October 24, 1949.

All Colorado is our garden. The prairies are vast rolling lawns of wild grasses spangled with sunflowers. The forests are the base plantings for the mountain walls, and the warm, dark shrubbery for rock gardens whose infinite variety and incredible beauty attest the unequalled skill of the one Great Landscape Gardener. And there are many other examples of Nature's gardening competence in Colorado. The desert, the canyon and the mountain top are supreme tests of skill and taste. The forests shame the nurserymen from border to border, the whole state grows and blossoms and serves to feed either the mind or body of man from its varied crops. While we did not originate this garden, plant its fields and forests, select its flower seeds or prepare the soil, ours is now the maintenance for today and for the future. Having decided to live here we must assume this obligation for we do too careless damage with it now.

The passing of our great mining era is followed by changes too great and too rapid to detail here. The mule and wagon, the stage coach and narrow-gauge railroad are gone, and in their place great smooth ribbons of road sweep over the passes and through the canyons. The gold and silver rush is over, but the tourist rush is on. Again Colorado's landscape takes a beating. Our National Parks are overcrowded now. There are inadequate funds in the National Park and National Forest budgets to
CONSIDER ALL THE VALUES

The proposed Echo Park Dam would create some economic values for Utah. What esthetic value would Colorado lose?

GEORGE W. KELLY

A BAG of wool might equal in weight that of a small piece of lead yet who could say that one was more valuable than the other. Are we justified in taking space in our garden to grow roses when we might grow a few more beans or carrots in the same space? The esthetic and economic values are measured by different yardsticks, yet who can say that one is more valuable than the other. We are too often inclined to value the economic things and not consider the esthetic things until we have lost them. Many of the Eastern states have lost much of their natural beauty and are now trying, at great expense, to get it back. In Colorado we have just begun to appreciate the scenic values that we have and we must begin at once to protect these values from destruction by careless lumbermen, stockmen, miners, dam builders, or others.

No one should say that we must protect beauty at any price, any more than they should say that only economic values should be considered. Each project must be carefully weighed to determine the real values present in that particular thing, and the decision to destroy one thing to create another must be carefully weighed to avoid losing things that we will be sorry for later.

The recent controversy about the access road to the proposed Echo Park dam has considered only whether Colorado or Utah would profit from the business and jobs created by this construction. There may well be greater values that will be lost which we are not considering. This dam will be 725 feet high and back the water up the Green River 64 miles and up the Yampa 44 miles, inundating such places as Pat’s Hole, Harding Hole and the canyon of the Lodore. Some of the few people who have particularly explored this country describe it as only slightly less spectacular than the Grand Canyon.

This country was considered worthy to be set aside as a National Monument a few years ago. If we allow these primitive areas to be ruined for the creation of a commercial development of questionable value, we may soon wake up to find that none of our irreplaceable national attractions are left for the enjoyment of our descendants.

We are all too inclined to turn the expenditure of this 139 million dollars over to a group of engineers who are notorious for their ability to see only the engineering angle and not consider the other values, which in many cases may be greater. This is our money that it is proposed to spend and we should KNOW what the benefits to be gained are and what the losses might be. If this area had access roads constructed to it it might as well become the biggest tourist attraction in our state. We have too long ignored the fact that our state can never become a great industrial or agricultural state—that our greatest asset is as a recreational state. Let us not sleep while these attractions are destroyed.
The Colorado River Report of 1947 proposes two power dams to be built within the Dinosaur National Monument, which is located in Colorado and Utah. The Echo Park dam, three and a half miles downstream from the confluence of the Green and Yampa Rivers, at 5,048 feet above sea level, would create a reservoir extending sixty-four miles up the Green River and forty-four miles up the Yampa. Below Echo Park, the Split Mountain dam would back water up to the Echo Park damsite, inundating Island Park, Rainbow Park and Little Park within the monument. Among the power facilities proposed would be a three-section tunnel from the Split Mountain site eight and three-tenths miles downstream to a power plant five miles upriver from Jensen, Utah. In 1947, the estimated cost of these two projects was $66,000,000.

The effects of these projects have been described as "a lamentable intrusion" on the monument, "totally alien to its geography and landscape." The construction of power lines, truck roads and other inevitable structures would ruin the natural values present. Many of the outstanding geological and scenic features of the monument, including Pat's Hole, Echo Park, Castle Park, Harding's Hole and the famous Canyon of Lodore would be destroyed. The two rivers, now winding between brilliant cliffs rising thousands of feet, would become a placid lake, the whirlpools, islands and rapids completely submerged. Valuable archaeological sites would be inundated, wildlife values lost and geological formations of real scientific importance removed forever from study. The plans for the pressure tunnel from Split Mountain, as well as for the dams themselves, are in process of more detailed study and revision, and there is danger that the dinosaur quarry, one of the most valuable fossil deposits in the world, might be damaged irretrievably.

Fred Mallery Packard, Field Secretary of the National Parks Association, says in an article in a recent issue of the National Parks Magazine:

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Dinosaur National Monument, as the report points out, "is characterized by a notable combination of geological, scenic, biological and archaeological values and by its wilderness quality. One of its exceptional attributes consists of contrasts in the geologic formations and the scenic character of the canyons of the two rivers. It possesses great importance for the part it can play as an introduction to the geology and scenery of the West for the residents of the middle and eastern states. It is of national significance for the combination of its qualities, it is distinctive of its kind, and justifies its existence as a unit of the National Park System." Located within twenty miles of transcontinental U. S. Highway 40, it should become easily accessible as soon as funds are made available.

While some of the present features would not be affected by the dams, and some recreational benefits might result, they do not compensate for these losses. "The policy of the National Park Service has been and is to make the protection of the natural and archaeological values of the area the controlling factor in administering it. Before changes in the status of the monument are authorized in order to recognize water control as the principal consideration in administering the unit, it should have been clearly and certainly shown that it would be in the greater national interest to develop the area for such use than to retain it in its natural state for its geologic, scenic and associated values and for the enjoyment of them by the nation."

COME
to the Evans School, 11th and Acoma, 7:45 P.M., January 13. Friday the thirteenth should he a lucky night for us.

SEE
thrilling and beautiful kodachromes of a boat trip from Green River, Wyoming, down the canyons to the Hoover Dam.

HEAR
Dick Griffith tell of this trip which has cost the lives of so many men.

LEARN
of Colorado’s wild canyon country which may be flooded soon in the dam program of the reclamation service. All members and friends are invited.
The Roadside Improvement and State Parks Committee

This important committee has been meeting for several months to formulate plans and decide policies. Carl Feiss, director of the School of Architecture and Planning of Denver University, has been its chairman since the beginning. As he has accepted an important position in Washington, Harold Lathrop has consented to take over the chairmanship. Harold Lathrop has had many years experience in state park work and is at present western field representative of the National Recreation Association.

On the occasion of the transferring of chairmanship December first, Mrs. John Evans entertained the committee at the Denver Country Club.

This committee consists of representatives of many organizations which are interested in preserving the beauty of the state and adding appropriate parks and plantings where needed. There are many things in the state which should have their immediate attention.

The membership committee plans to send out bills immediately to all those members who have not as yet paid their dues for 1950. Send yours in now and add the name of a friend who might appreciate our work.

"Makers of Beautiful Gardens"

Roy E. Woodman and Bros.
Landscape Gardeners and Nurserymen
Denver, Colo.  SPruce 5509

A SATISFYING LITTLE GARDEN

The accompanying pictures were taken last August in the garden surrounding the home of Mr. and Mrs. Raymond E. Sargeant, Jr., at 2124 E. Fourth Avenue. They are published at this time partly to remind us that the spring planting time will soon be here and partly to show a garden which, because of good design, is effective all throughout the seasons.

The formally clipped hedge of privet serves to separate the different parts of this garden and to give it interest and character. Here, as in most good works of art, simplicity is the greatest feature which makes for beauty. A few well chosen perennials give color throughout the summer and evergreens continue color interest all winter.

The clump of perennial phlox near the center of each picture are the same and the tall juniper near the left are the same, which will give one the relation of one picture to the other. Miss Julia Jane Silverstein was the Landscape Architect who planned this garden.

"Makers of Beautiful Gardens"
TODAY when almost everyone has heard or read about hormones, it is only natural that the question of just what a hormone is should arise. There are two general kinds—animal and plant hormones which although different chemically are similar in their action. Both kinds are alike in that they control physiological processes like growth and are effective in extremely minute concentrations. In order to distinguish plant hormones they are usually referred to as phytohormones.

The history of phytohormones really began with the observations of Darwin in 1880 who noticed that plants exhibit the peculiarity of bending toward the light. The cause of this was unknown until 1910 when a Danish botanist, Boysen-Jensen, found that the bending of a plant toward light is caused by the unequal distribution of a phytohormone manufactured in the growing tips of the stem. Several years later a Dutch botanist, Went, originated the plant physiologists' guinea pig, i.e., the so-called Avena coleoptile technique for studying the location and functions of phytohormones. In the early "thirties" a man by the name of Kogl and some co-workers succeeded in isolating the three most important natural plant hormones which are known as auxin a, auxin b, and heteroauxin or indole acetic acid. (It seems that these substances which are found in such minute quantities are given very long, often quite unpronounceable names). Since this latter was an easily synthesized chemical it opened up the possibility of synthesizing and testing similar compounds for their phytohormone effects. Pioneers in this field were Zimmerman, Crocker and Hitchcock working at the Boyce-Thompson Institution. They found many chemicals with growth regulating effects similar to the natural phytohormone, indole acetic acid. These men were largely responsible for the use of synthetic phytohormones in stimulating the rooting of many hard-to-root plants. Their work called attention to the possibility of growth control in horticultural crops and stimulated tremendous scientific and popular interest.

Many scientists who have worked with hormones have discovered that the use of hormones in connection with certain plants or parts of plants has produced amazing effects. For example, one man was able to produce seedless tomatoes without pollination by spraying the flowers with synthetic phytohormone. Another man showed that potatoes could be induced to remain in a dormant condition until nearly midsummer by spraying them with minute concentrations of the myrel ester of alpha naphthalene acetic acid. This treatment also prevents sprouting in storage of such root crops as carrots, turnips and beets.

Perhaps the most dramatic use of synthetic plant hormones developed during the war when it was discovered that slightly increased concentrations of certain synthetic phytohormones would cause the death of many her-
aceous weeds. In this way the weed killing compound, 2,4-D which we buy at the seed houses as “Weedone”, “Weed-B-Gone” or some other trade name was discovered. Probably no single discovery in the last 50 years has been of greater importance to people whose livelihood depends on plants.

But these are only a few things that can be done with these phytohormones. It has been found that it is possible to control the time of bloom of the pineapple in the tropics by spraying with synthetic phytohormones. It is now possible to harvest pineapples any month in the year. What a far reaching economic effect this will have in those areas where pineapples are a major crop.

The work at the Colorado Experiment Station has been concentrated on studies of the effect of certain synthetic phytohormones on potatoes and certain potato diseases. They have found that if these materials are applied to growing plants at certain critical times during the growing season, it is possible to significantly change their skin color and improve their cooking qualities. Other experiments indicate that it may be possible to control the perennial problem of “scab” in potatoes through the application of certain chemicals, if done at the proper time and in the proper concentrations.

Though many uses are known for these synthetic phytohormones, no one has yet found a satisfactory answer as to how they act. It is a study which is demanding the interest and work of scores of research workers the world over. The problem is concerned with the biochemistry of both normal and abnormal cell growth which, if understood, would give us an understanding to life itself.

Figure A.—Scopoletin extracts from castor bean plants treated with herbicidal dosages of the ammonium salt of 2,4-D. C—control; 1, 2, 3, 4 and 5 plants treated with increasing amounts of 2,4-D. Picture taken with ultraviolet light.

Figure B.—Longitudinal sections of a stem of a castor bean plant killed with a herbicidal dosage of 2,4-D. Note the abnormal growth and the presence of the fluorescent scopoletin especially in the cortex.

THIRD ROCKY MOUNTAIN HORTICULTURAL CONFERENCE

Reserve Time for This Important Event to be Held February 6 and 7 at the Cosmopolitan Hotel, Denver, Colorado

THOSE who have attended the conferences of the past two years will not want to miss this bigger and better event. Those who have not attended before should make plans now to spend the whole two days learning of the new and better things in Horticulture for the Rocky Mountain area.

Some of the out-of-town speakers will be Thomas Martin from Provo, Utah who has charmed audiences the past two years, W. R. Leslie, Superintendent of the Experimental grounds at Morden, Manitoba, and T. S. M. Lease of Great Falls, Montana. Others participating will include A. C. Hildreth, of Cheyenne, W. J. Henderson, Gordon Mickle, Chas. Drage, B. Wilford, and W. D. Holley from Fort Collins, Carl Ingerman, Moras Shubert, S. R. DeBoer, Harold Labrop and many other local authorities. There will be lecture sessions Monday morning and afternoon and Tuesday forenoon. The annual dinner will be held Monday evening and Tuesday afternoon will be given over to outdoor demonstrations. All sessions will be held in the Silver Glade room of the Cosmopolitan Hotel. The rooms and balcony on the mezzanine floor will be given over to exhibits of various horticultural products. Take time to see these when you attend the Conference. Many local dealers and producers and some from greater distances are anxious to show you their best products or garden equipment. It is their support and yours that will go a long way in making the 1950 Conference a success.

John Nash Ott Coming Again

Mr. Ott’s new picture, “Our Changing World,” has recently been released, and we are fortunate in securing it for the first showing in this area. Save the evening of Thursday, February 23, to see this remarkable picture. It will be shown at the Phipps Auditorium. Tickets will be on sale early in February.

Mr. Ott has spent many years taking this picture and has made trips to Australia, Labrador and many other parts of the world to get the necessary shots. The picture illustrates the evolution of the earth geologically and the development of plant and animal life on the earth. Using the “time-lapse” system which he perfected this picture will show in a few minutes processes which actually took years or centuries to happen. No one who saw his picture last year, “Plants in Action,” will want to miss this picture. Mark the date now.
THE success of any program of conservation depends upon the education of the lay citizen.

A program of conservation education should include within its scope adults as well as children and youth. The need for conservation is so urgent that we dare not wait for a new generation to be brought up before we start a conservation program. If we do, in many parts of the Americas there will be but little left to conserve. If we are not to face disaster, the present generation of adults must come to understand and apply conservation principles. We need, in every community, a conservation-education program for persons of all ages, and with its different phases in the closest possible relation to each other.

The people of the world in general, and of the Americas in particular, face just two problems of the first importance: (1) the development and maintenance of just and peaceful relations among nations, and (2) the wise use of natural resources. The organizations must realize that if we do not solve these problems, it will matter very little what we do about most of the other problems that we face.

If conservation education is to be most effective for either young people or adults, conservation must be treated primarily, not as a subject to be taught at certain times, but as a way of looking at things which affects, and is affected by, practically all human activities and all subjects of study.

Conservation ideas and principles must permeate all our educational efforts. In the school, the teacher of history, mathematics, biology, literature, or any other subject must be also a teacher of conservation. The clergyman in both his preaching and his pastoral work must continuously help his people understand the need for conservation and their duty to maintain and improve the God-given resources which have been so grievously damaged by man’s ignorance and selfishness. The youth organization and the civic association must plan their entire programs so as to make conservation a matter of major emphasis.

The economic welfare, not only of future generations, but of the present generation, now and in the immediate future, requires better methods of resource use. If this generation is to maintain its standards of living, to say nothing of improving it, it must practice conservation.

**Are You Phytophilous?**

By M. Walter Pesman

Don’t worry if you are phytophilous, practically every reader of the GREEN THUMB is, — or will be. “Phyto” means plant, and “philous” has to do with loving; plant-loving is not too fatal a disease, even though many people carry it with them all through life. Most of them die with it.

Dr. Franz Verdoorn used the term in his address on the site of the projected Los Angeles County Arboretum. That site is at the Rancho Santa Anita at Arcadia. It is one of the forty arboretums established in 1948 in North America. Evidently the time is ripe for arboretums and botanical gardens.

You can have a pamphlet on “The Modern Arboretum”, by Franz Verdoorn, by writing to the Los Angeles County Arboretums in Arcadia, Cal., and enclosing twenty-five cents.

Should you have an overdose of Phytophily, look at the large pamphlet at Horticulture House, called “The Arboretums and Botanical Gardens of North America”, by Donald Wyma. It contains a complete list, and a list of books on the subject.

But it does not mention a Rocky Mountain Botanical Garden for Denver. Not yet.

**American Horticultural Council Reorganizes**

On October 30, 31 and November 1, I attended the fourth yearly session of the American Horticultural Council held at the Essex House in New York City. Prominent horticulturists from all over the United States attended. This idea for United Horticulture has been the objective of several well-known horticulturists for many years and at this meeting plans were formulated to start a definite action program. Robert Pyle has been president from the beginning and chief exponent of the value to America of a United Horticulture.

Active committees were set in action at this time to develop cooperation among various groups of horticultural people for the advancement of their special interest in gardening. The Garden Writers started a very effective organization to promote more and better horticultural writing, the specialized plant societies agreed to cooperate in many such things as nomenclature and color descriptions and the directors of garden centers mutually discussed their problems of Finance, Personnel and Programs. Other committees reporting were on Horticultural Education, Research, Awards, Testing, Nomenclature and Horticulture in Industry.

Dr. Wendell H. Camp of the New York Botanical Garden was elected the new president to succeed Robert Pyle. A new basic plan for memberships is being worked out which will permit a large popular membership at $5.00 who will receive regular bulletins of the latest things in horticulture. There were also plans made to ask representatives from all existing horticultural organizations to send representatives to an advisory council planned to coordinate all their activities for the advancement of Horticulture in the United States.

This new organization should help to make a more beautiful America.
THE DETRIMENTAL STUB

A DEAD or diseased branch is sawed from a tree. If the job is done properly, the wound heals quickly and both the health and appearance of the tree are improved. If a projecting stub is left, it is questionable whether or not there is any improvement in appearance, and the health of the tree actually may decline as a result of the pruning. When a pruning job is finished, the absence of stubs is the hallmark of the skilled arborist; stubs, "on which you can hang your hat," bespeak ignorance of the nature of tree growth, or carelessness, and typify the work performed by untrained operators.

The manner in which trees grow makes it almost impossible for stubs to be anything less than detrimental to the health of the tree. From the cambium, a layer of cells just beneath the bark of all twigs, branches and the trunk, comes all new wood growth. Twigs and branches increase in length through the addition of new wood cells at the tip; they, and the trunk, increase in diameter through the development of new wood tissue just below the cambium layer. The inner portions of the stem, the sapwood and the heartwood, lack the ability to produce new growth. Moreover, the heartwood is susceptible to attack by wood destroying fungi. Consequently, if the sapwood and the heartwood are exposed and remain without protection, decay and eventual death occur. When a branch is stubbed-off, the cambium of the stub, deprived of its food-producing leaves, dies back to the main stem. The exposed surface of the stub cracks and checks, water pockets develop, and favorable conditions for the growth of wood-rotting fungi are provided. Once established, these fungi work downward through the stub and into the heartwood of the main stem. Cavities develop that often extend the full length of the trunk.

At the base of a stub that has died several years previously may be found a ring of rough, callus-like growth. This wood tissue is produced by the cambium of the main stem, and is piled up year by year around the stub. If the stub is short, eventually it will be entirely enclosed and aseptically sealed in by this callus growth, which will afford the same protection against disease as does the bark. Before growth closes, however, the tree usually has been invaded by fungi that gained entrance through the stub.

In all pruning operations, to lessen the possibility of decay, it is desirable that the wounds caused thereby be covered by callus growth, healed in other words, as quickly as possible. This healing process is facilitated by cutting the branch flush with, and parallel to, the stem from which it grew. Generally, this results in an oval-shaped wound with the longer axis parallel to the stem. Depening upon the size and shape of the cut, the species of tree and other conditions, the bark may be chiseled to a point both above and below the wound. This eliminates decay-promoting water pockets. Moreover, since the sap movement is parallel to the length of the stem, wounds that are pointed at both the top and bottom heal rapidly and without further die-back of the bark. As the final step in pruning, all wounds should be painted with an antiseptic dressing.

As presented in "The Shade Tree Digest" by Swingle Tree Surgery Co. for over thirty years we have been helping the people of this region with their planting problems. Many of our employees have been with us for a number of years, during which time they have become familiar with most of the needs of this territory. They will be glad to help you.

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Mt. Morrison, Colorado

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A Very Happy New Year

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JANUARY GARDENING

What gardening chores could there be in January, you ask. Of course, the ground is frozen up and the plants are dormant. January should be the big planning month—the time when we surround ourselves with seed catalogs, gardening magazines and horticultural books and let our minds wander to the big things that we will do in gardening this fresh new year. Probably the greatest good comes from our gardening efforts because we are annually having our faith renewed in the rightness of everything as we see the seeds and twigs break forth in new leaves.

When the warm days do come and the ground can be worked there is little time to plan, so now we should make our plans definite enough so that we can concentrate on carrying them out later with the minimum of wasted time.

We have often wished as we plant the seed or pick the fruit, that we knew more about these plants—where they came from, how they grew, what relation they bore to other plants, how many kinds were included in one family or what their cultural preferences were. Now is the time to study these things. If you do not have the necessary hooks, all members may borrow hooks on all horticultural subjects from the library at Horticulture House. Series of classes may be arranged on any allied subject at Horticulture House or in connection with your own local organization.

Take notes as you study. Even though you never refer to these notes, you will find that it helps to remember desirable facts. When you have decided on some addition or change in your garden, work it out in detail on paper so that you will not forget.

In Colorado we usually have our coldest weather in January, so our chief outside chores may be to prevent snow damage. Bracing trees or tying up shrubs and low evergreens may prevent some snow damage. There may be several days when the sun will be very warm and the air dry, that plants will need water.

Picture on back cover of a section of naturally landscaped road along the Poudre River in the Roosevelt National Forest. Photo by U. S. Forest Service