WHY NOT TRY SCIENCE

SOME TECNICS FOR LANDSCAPE PRODVCTION

BY JAMES C. ROSE

If not openly attacked on the basis of unnecessary expense, it probably will be admitted that landscape development adds greatly to the cost of shelter. Yet, only the most unthinking architect, or the most greedy speculator, could deny outdoor space as an essential element in our environment. By the same token, one must admit that free space is not sufficient in the landscape, any more than it is in the building, until it is organized for use.

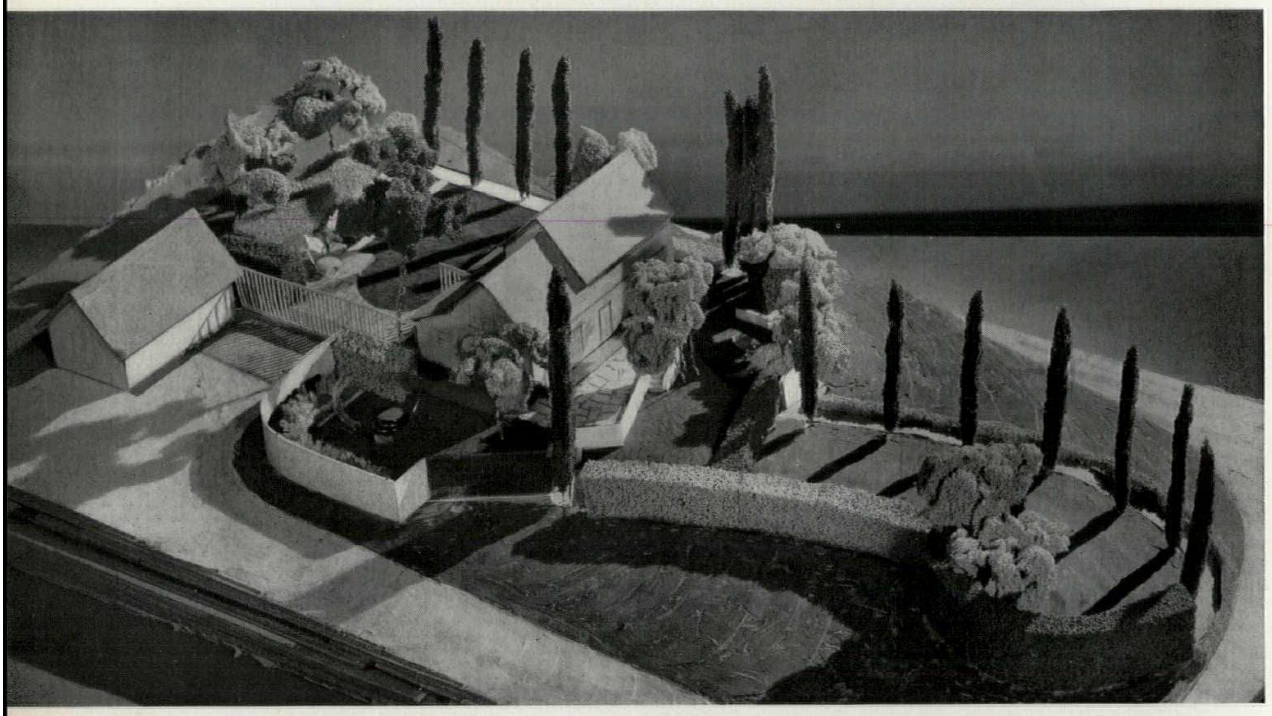
The economic organization of space depends upon an efficient system of producing materials and an expedient method of design in terms of the material produced. Landscape, as yet, has developed no system of production on which to base its design standards and keep pace with advanced methods of building. Except in a few of the newer forms, such as the highway and power dam which derive their impetus from engineering rather than tradition, science has not become an integral factor of landscape thinking.

For instance, new design problems originate with advances in horticulture, plant breeding, growth in nutrient solutions, and better control of above-ground conditions; as well as with a constantly shifting set of requirements for landscape uses. However, we do not find a corresponding invention of design forms to reflect the advances and products of science. This does not mean that science is entirely ignored, for it is possible to use almost every scientific advancement within a thoroughly eclectic design just as it is possible to use glass block and steel for the Beaux Arts building. But the result is purely ornamental because the materials are not permitted to express their potentialities in dynamic equilibrium.

II

Economy and expediency in producing useful landscapes revolve on three major factors in planning: maintenance, plant control, and grading.

When science becomes an integral part of landscape development, the very technics of control produce a definition of form and a juxtaposition of living and non-living materials which limit and reduce the maintenance. For example, some vines require special growing surfaces entirely different from others. Plants grown in nutrient solutions require a rigid set of controlling conditions. Certain activities as well as certain plants need the protection of a particular kind of wall or windbreak: others need exposure. Newly-developed ground surfacings have infinite possibilities of form and an important relation to plant control as well as use. When any of these requirements is scientifically provided for, it automatically suggests a form, probably unprecedented, which puts maintenance on an intelligent, clear-cut basis.



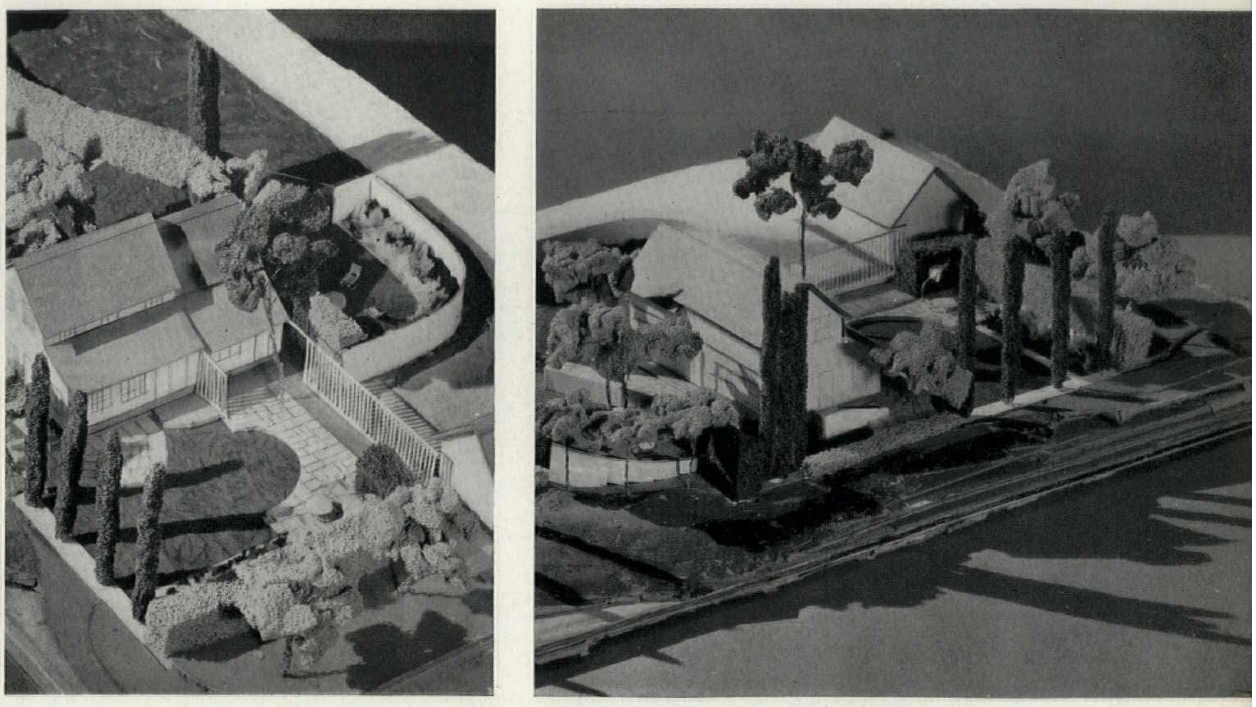
THE AUTHOR'S MODEL OF A LANDSCAPE DEVELOPMENT FOR MINIMUM MAINTENANCE, PROPOSED FOR A SUMMER HOME IN THE COUNTRY, IS SHOWN IN THESE PHOTOS BY STADLER

One result of the application of science to environmental control is to free us of mass, and its attendant staticity. This has become part and parcel of modern architecture, mechanical locomotion, and is even found in the most progressive experiments in sculpture. Landscape design has the means with which to accomplish the same. For example, in one small particular, when plants are used as *specimens*, rather than in mass, fewer plants are required for the same control and division of space. This is partly the result of using all sides of the plant—instead of only the one side used in massing—as a design element. Conversely, more plants, more space, and more expense are required for the same utility in massing. The result is more bulk, more maintenance, and greater inconvenience.

It is only by the isolation of specimens that plants can be controlled scientifically, developed to the ultimate of their potential characteristics, and used with elastic tensility. It is the method employed in all scientific investigation in horticulture—and in the study of building materials. It cannot be entirely contrary, although it may be more flexible, while using science to produce organic form rather than producing mere camouflage.

If science has proved anything, it has proved that so-called "natural" conditions are not necessarily the best conditions for development. If experiment with materials proves anything, it proves that the greatest utility and economy per unit comes from organic use. Therefore, the theory of "massing" plants, either as an attempted imitation of natural conditions or as an antidote to "spotty" planting where specimens are used, but not organized, is essentially a negation of individual potentialities produced by the scientific method, and a denial of the economy of organic use.

Rationally, we have no basis for thinking of scientific control as anything but a means to new and fascinating possibilities in landscape design. This has been true for architecture and industrial design as well as for the other arts where science has penetrated.



SHADOW PATTERNS OF THE MORNING SUN, AT LEFT, AND THE AFTERNOON SUN, AT RIGHT, WERE CONSIDERED. TERRACES FOLLOW THE LAND SLOPE AND ARE DIRECTED FOR BEST VIEWS

It is perfectly possible to use plants with the same knowledge and efficiency with which we use lumber, brick, steel, or concrete in building. And when we apply the science of growth to our landscape design standards, so that we can determine accurately the form characteristics and definitely establish growth rates for individual plants under given conditions, we will be able to use plants with the same expediency as the factory-made, modular unit in building.

Another source of expense in the traditional landscape is the grading necessary to fulfill an academic notion of segregated, geometric shapes in plan. A side slope (or, worse yet, diagonal) can absolutely ruin the pictorial grandeur of a mall. It appears, however, that it is not absolutely necessary to flatten out the earth for all types of activity, and that some variations in topography might be used as part of the three-dimensional organization. The purpose would be to develop economic ground forms for specific uses. The result would be a new dimension at considerably lower cost.

III

The advantages of an expedient and economic system for landscape control are apparent particularly in relation to housing, community recreation, and the private dwelling, where it is most needed. But who is it that keeps whispering, "You can't do that; it's not in keeping"? Could it be the architect who has just "restored" that hundred-year-old Colonial house, complete with modern plumbing and electric lights? Or is it the client who floats in chiffon across the terrace, extolling the "medieval grace of iron clothing" for the garden? Perhaps it is the landscaper who fears that we will "destroy the precious individuality of the local landscape"—the while he eats contentedly from a table set with fruits and vegetables which never would have existed were it not for the same scientific development he condemns in the landscape. What a handicap it is for those who not only think of *art* only as an "embellishment" separated from living but also put *science* in the same meaningless and unreal category.