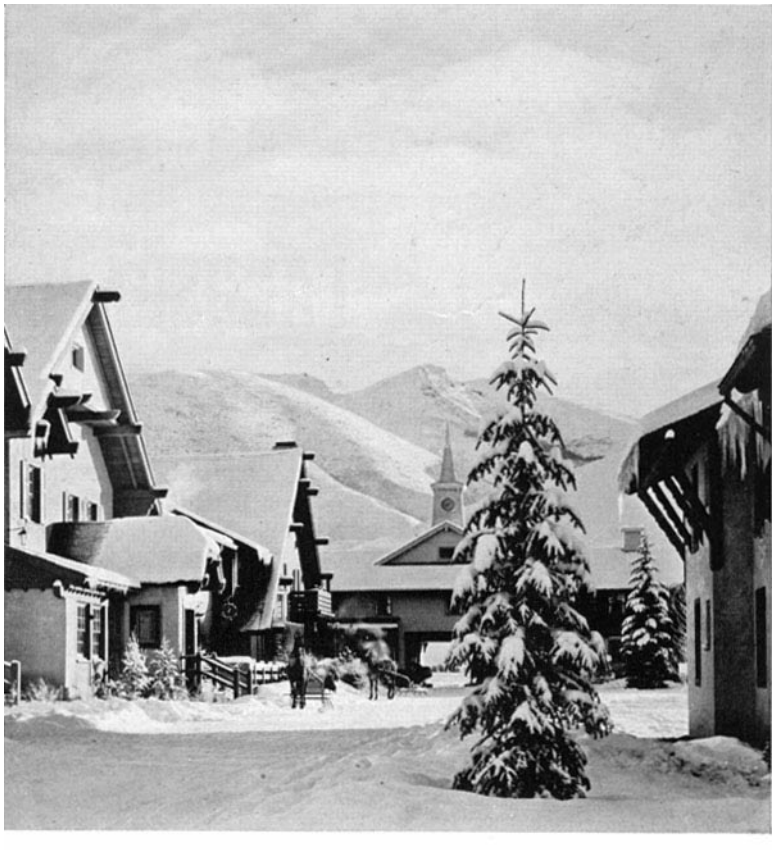
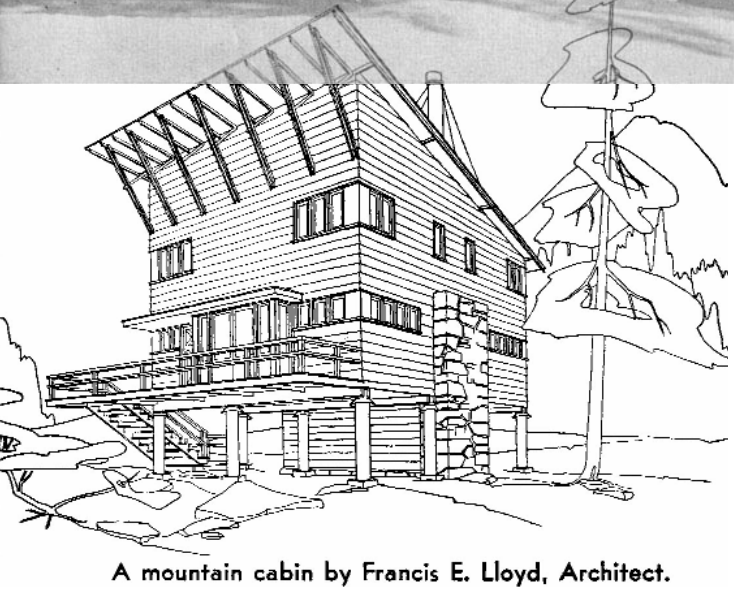
DESIGN TRENDS



Landscape Design in the Primeval Environment . . . P. 74

ARCHITECTURAL
RECORD



A mountain cabin by Francis E. Lloyd, Architect.

LANDSCAPE DESIGN IN THE

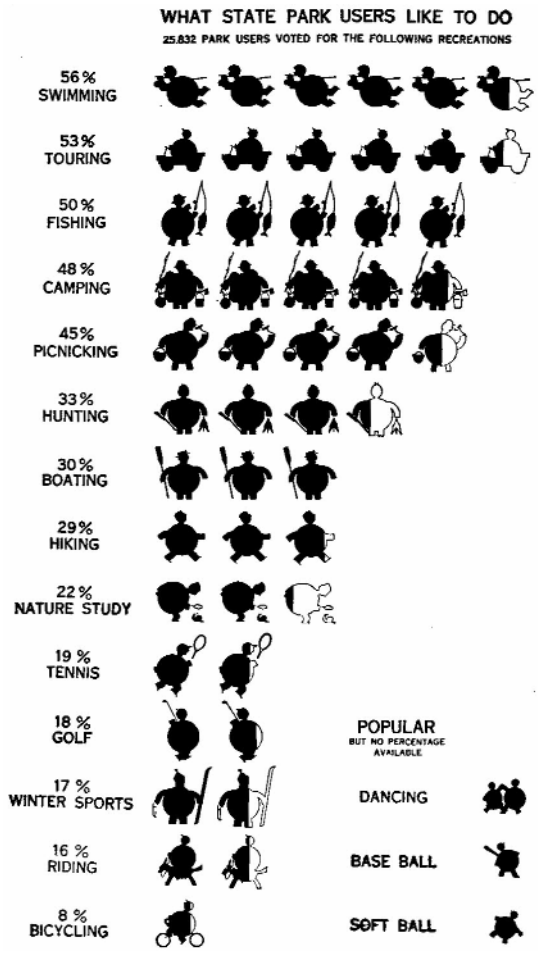
by Garrett Eckbo, Daniel U. Kiley, James C. Rose

WITH INCREASED SHARPNESS, modern life poses the questions: How can man most constructively use his free time? What accommodations are essential to his recreation? Who will design them? and how? America's rapidly increasing interest in the development of its primeval areas makes this study —last of a series of three—of particular interest. Similar analyses of the urban and rural environments appeared in May and August, 1939, in ARCHITECTURAL RECORD

THE AMERICAN PEOPLE had and largely still have a natural environment which is unsurpassed in both scale and variety. But only within the last decade or so have they begun to view it as anything other than an inexhaustible storehouse of material wealth—of minerals, timbers, and furs. Farsighted Americans long ago realized the cultural, social, and scientific potentialities of the wilderness. In 1812 John James Audubon, patiently recording American wildlife while his contemporaries staked out new claims, lamented that he was not rich again, "so strong is my enthusiasm to enlarge the ornithological knowledge of my country." And later, Thoreau urged "that every community in America should have, as part of its permanent domain, a portion of the wilderness."

But such observers merely anticipated the time when the American people would awake to the fact that they faced, on the one hand, a land from which the primeval was rapidly disappearing and, on the other, a greater need for such environments than ever before. Now—with a population largely concentrated in or near an urban environment—the problem becomes one of *establishing and then controlling an environmental equilibrium* —urban, rural, primeval.

The environmental distinction implied in the word primeval is largely one of time: as such, it denotes that which came first. All habitats and life itself have their origins in the primeval. But the adaptation of the earth and its natural forces

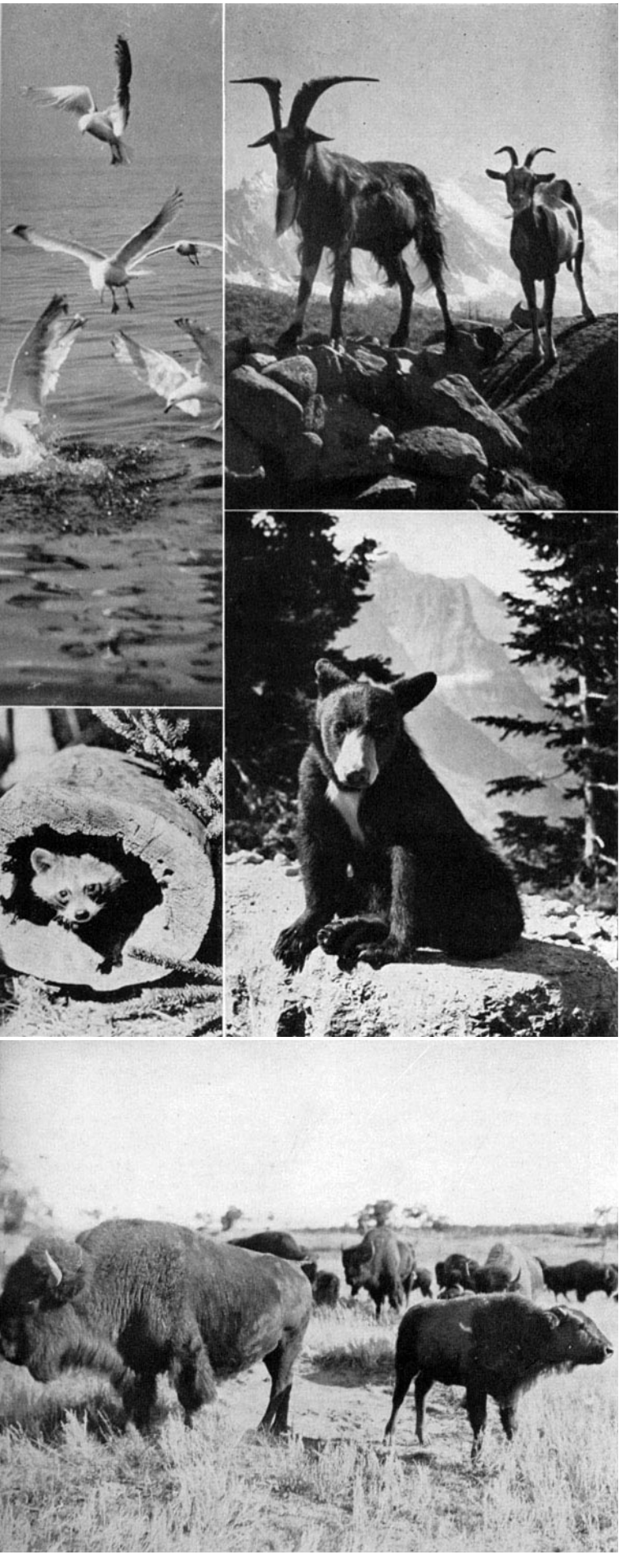


PRIMEVAL ENVIRONMENT

to the needs of various types of organic life has constantly developed new types of habitat, of which the human is only one. The dominance of man is predicated on his having exploited the more primitive forms of life and materials until he has developed what Benton Mackaye defines as "the habitats of fundamental human relations"—urban and rural environments.

The importance of the primeval—its integral relation and the extent to which we are dependent upon it in modern life-is apparent in both a physical (or material) and emotional (or recreational) sense. For instance, trees and other plant forms originate in the wilderness, are developed by science, and are then used in the organization of city streets, playgrounds, gardens, and for the production of fruits and vegetables. Poultry, livestock, and beasts of burden are all products of the wilderness which have been adapted and exploited by man. On the other hand, various forms of life that are not completely domesticated, such as fish, game, and different plants and insects, are often controlled to the extent necessary and desirable for the type of exploitation intended (sport, study, etc.).

The geographical distinction which separates man from the wilderness is produced by the cultural, social, and economic needs of his own advancement, *i.e.*, complicated trade relations, group activity in recreation and work, industrialization, mobility. These activities fall naturally into geographical cen-



ters of easy communication and distribution (water ports, trade posts, etc.), where the urban environment develops, and into centers of agriculture, mining, lumbering (river beds, uplands, and parts of mountain regions), where the rural environment develops. The main factor which distinguishes both the urban and rural from the primeval is that, although the primeval may be exploited by him, *it is not inhabited by man.* This does not mean that it is an "untouchable" wilderness with an arbitrary fence around it. On the contrary, its intimate and tangible relation to both man and the environments which he does inhabit is apparent in the ease with which human habitats return to the primeval (Mayan cities, Stonehenge, archeological ruins, etc.).

Design for primeval inhabitants

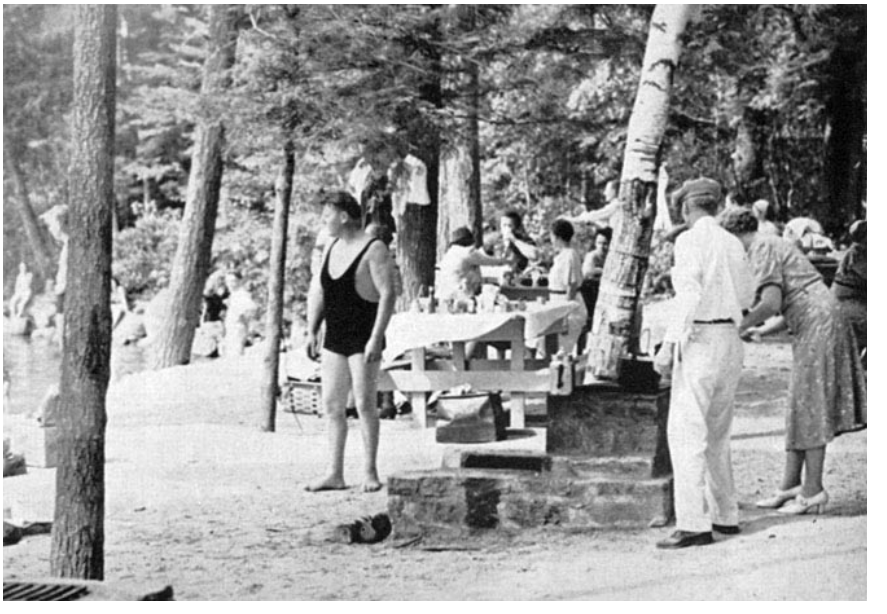
As all design of the urban environment is based primarily on the needs of the city dweller, and that of the rural environment on the inhabitants of the country, any intelligent planning of the primeval must be based on *the needs of its native "population"—beasts, birds, insects, and plant life.* It is the, adaptation of the wilderness to the needs of its own "population"—either by man or nature or both—that provides its chief recreational value to man. Thus, when he controls the survival and selection of the primeval "population," he is at the same time providing for his own.

A primeval system must first establish and then control a dynamic equilibrium between man and nature. This means that we must build up the primeval itself, creating the best conditions which science can provide for the native inhabitants, and protecting them against ruthless invasion and destruction from any form or source (human, animal or insect, fire, flood, etc.).

Science shows the way

Recent technological advances at once reveal the complexity of the problem and indicate a trend toward more scientific control of the wilderness. For instance, scientific methods of determining food, feeding, and other wildlife habits, together with a technic for the production and distribution of forage, have in some instances completely reversed the wildlife depletion. At the same time, more than fifty million acres of swamp land, which formerly provided habitat for wild life, have been converted to farm land by advanced methods of drainage. In other sections, zoning of primeval areas has reduced the amount of arable land (particularly in lumbered and burned sections of northern Wisconsin, Minnesota, and Michigan) which can be sold for farm use. This cuts the cost of maintenance on roads to isolated and unproductive farms, and the money is used in reforestation and fire control.

The U. S. Forest Service includes silviculture, nursery and planting methods to insure forest reproduction, selection and breeding of individual trees and tree species to increase future forest values and current forest inventories, as well as sustained-yield forest management. This is undoubtedly one of the most striking examples of a technical service whose planning for primeval inhabitants simultaneously develops the recreational value of the wilderness for man, and concretely benefits both the rural (control of floods and erosion) and urban environments (development of new plant forms). A corollary is the development of new industrial technics using raw materials, one time abandoned as "waste," on a productive basis in excess of that found in their original use. For instance, 50-60% of the actual lumber grown, or available on the stump, was at one time "waste," but has lately become an important source of building materials such as wall board and



plywood.

The problem of designing a primeval environment, however, is far larger than the mere development of new methods for utilizing the "leftovers," or the "economic" exploitation of raw materials with potential commercial value (salt and borax products from desert areas, for example). For, in planning the primeval, we must consider also its *interplay with the urban* (almost every stream of importance in New Hampshire has been impaired for recreational use by industrial sewage) and the rural (destruction of the Western grass lands equals dust storms in the Mississippi Valley).

Clearly, it is not enough to "establish monuments and reservations" and "preserve the natural scenery." As already pointed out, it is neither possible nor desirable to put a fence around an environment that is a result of complicated and delicately balanced reactions of natural, ecological, and biological forces. Since the primeval is really a distinction of time, what is satisfactory for today may disturb the environmental equilibrium of tomorrow, unless it is shifted and modified to meet new elements in the balance. Even a thoroughly scientific and rational technic can destroy the balance if it considers only one objective.

Man in the primeval

Even the fragmentary coordination of technics in the attempt to establish an equilibrium for the plant, animal, and insect life fulfills its purpose, in a qualitative sense, to a greater degree than the specific planning for human enjoyment of the primeval. The majority of our "resort" areas and too many of our parks, although planned to provide man with *access* to the primeval, actually defeat their own purpose—the primeval *retreats* before this advance.

As Lewis Mumford points out, the purpose is "to make the region ready to sustain the richest types of human culture and the fullest span of human life—offering a home to every type of character and disposition and human mood, creating and preserving objective fields of response for man's deeper subjective needs. It is precisely those of us who recognize the value of mechanization and standardization and universalization who must be most alert to the need for providing an equal place for the complementary set of activities . . . the natural as opposed to the human . . . the lonely as opposed to the collective. A habitat planned so as to form a continuous background to a delicately graded scale of human feelings and values is the genuine requisite of a cultivated life."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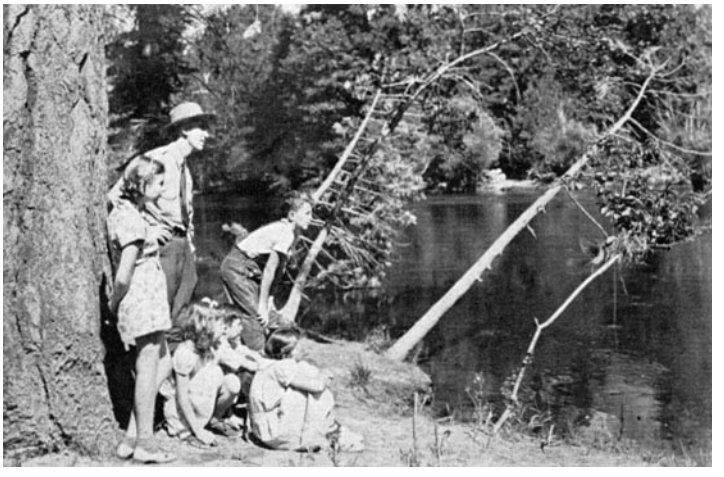

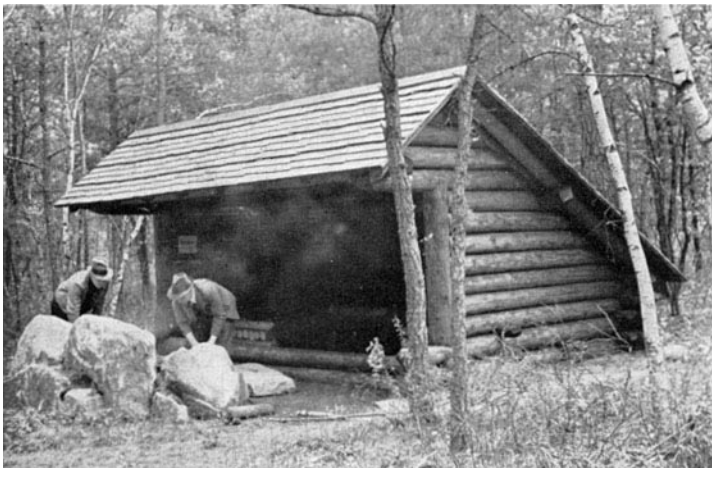

As a start toward this end, the Recreation Committee of the National Resources Board has divided the primeval into four classes to meet the varying needs of the population. The following types of activity are recommended to go with the classification:

DEVELOPED—specific areas especially equipped for concentrated human use. This is the link which integrates urban and rural with the primeval wilderness. It is the last point designed exclusively for the needs of human activity (and the point from which man goes deeper into the areas designed to satisfy his own subjective and objective need for contact with nature). It includes such recreational types as

1. camping and picnicking (with facilities provided for both day and vacation needs).
2. summer sports (swimming, diving, boating, beach activities, etc.), including instruction and facilities.
3. winter sports (skiing, tobogganing, bobsledding, ice-boating, etc.).
4. recreational drama, including music, play, and festival organization, amateur and professional productions, summer companies, etc.
5. arts and crafts, including woodcraft skills such as fire lighting and lean-to building, as well as horseback riding, archery, pistol practice, etc.

SCIENTIFIC—areas which contain special zoological, botanical, geological, archeological, or historic values especially developed as natural museums or collections for the enlightenment of interested groups or individuals or students of the natural sciences.

MODIFIED—areas where man has made alterations with emphasis on the needs of the native population, and some provisions for travel and communication. This includes such activity types as:

1. nature tours, group and individual.
2. camping, with and without facilities provided.
3. practice of arts and crafts, with restrictions.
4. some sports, including hunting, fishing, hiking, cross-country skiing, etc.

PRIMITIVE—mainly unexplored or partially explored areas with conditions of transportation as well as vegetation or fauna unmodified by man. The main types of activity are: scientific investigation; study and collection of natural species valuable in cross breeding for the development of new forms; exploration; and satisfaction of the last degree of subjective and emotional need for contact with the primitive.

Design implications . . . access

It is true that the primeval resources and their ultimate value to man depend upon scientific control, but the extent to which the recreational value thereby created can be used by man depends upon its accessibility. "This does not mean," says Lewis Mumford, "that every type of environment should be equally available to every type of person, and that every part of the natural scene should be as open to dense occupation as the concert hall of a great metropolis. This vulgarization of activities, that are by their essential nature restricted and isolated, would blot out the natural varieties of the habitat, and make the whole world over into a single metropolitan image. In the end, it would mean that one must be content with only one type of environment-that of the metropolis . . . a degradation in both the geological and human sense."

There is, however, a discrepancy between the distribution of population and the accessibility of primeval recreation which cannot be overlooked. For instance, although 45% of the population in the United States lives within 55 miles of the sea and Great Lake shores, only 1% of this area is available for public use. Inland primeval areas are also insufficiently accessible to urban and rural populations—partly due to occupational shifts and the difficulty and cost of transportation. The situation has been somewhat alleviated by legal processes such as zoning and the right of eminent domain, donations from individuals, public subsidy of transportation, and programs of the state parks.

Towards "the remodeling of the earth"

But the problem is more qualitative than quantitative since wholesale invasion of the wilderness is by no means desirable. Oil the other hand, access which is necessary to make the primeval useful in satisfying the varying degrees of human needs cannot be camouflaged out of existence by "styles" of architecture which are supposed to retain the "feeling" of a particular section, or by "rustification" which is supposed to "blend" with nature, and simulate the honest craftsmanship of the pioneers. There is no reason for abandoning the scientific and rational methods of building and construction simply because we come close to nature. The clean cut, graceful forms of the T.V.A. constructions are certainly less destructive of nature than the heavy, often purely ornamental forms used mainly for their association with primitive technics, rather than because they are the best solution of the problem. The result of such affectation is usually a mutilation of nature which has nothing in its method that is common to that of the pioneer. It cannot be justified even on the aesthetic basis of "harmonizing" with nature. Harmony is the result of contrast: opposites that complement one another.

Thus, we come back to the biological conception of environmental design as found in scientific agriculture, and as exemplified by the life cycle and group habits found in many of the lower organisms. Man's forms must be designed to meet his biologic needs. His social and scientific as well as cultural advancement have placed him in an evolutionary position where he can no longer survive without the protection from the natural elements which science has provided. He has also found that the so-called "fittest of the species" which survive in a struggle on an elementary plane are not always the most desirable, and that the "natural" environment is seldom the best for the optimum development of desirable human, plant, animal, or insect species. Through the application of science he has the means of developing those species which will benefit his own existence and controlling those which do not, and by that method he will retain dominance.

The design principles underlying the planning of the urban, rural, and primeval environments are identical: *use of the best available means to provide for the specific needs of the specific inhabitants; this results in specific forms.* None of these environments stands alone. Every factor in one has its definite influence on the inhabitants of the other, and the necessity of establishing an equilibrium emerges. To be in harmony with the natural forces of renewal and exhaustion, this equilibrium must be dynamic, constantly changing and balancing within the complete environment. It is this fact which makes arbitrary design sterile and meaningless—a negation of science. The real problem is the redesign of man's environments, making them flexible in use, adaptable in form, economical in effort, and productive in bringing to individuals an enlarged horizon of cultural, scientific, and social integrity.