

LANDSCAPE VALUES AND BIO-AESTHETICS

[Professor Costas A. Cassios](#)

National Technical University of Athens
Greece

INTRODUCTION

"Landscape", in a broad sense, is everything which surrounds us and generates, through vision, a mental perception of the environment. Man has always lived, grown and acted within landscapes. A landscape which is natural, man-made or a mixture, according to its scale, the degree of its details and the way which it affects us, can be described as "micro", "macro" or a "mega" landscape.

The various degrees of naturalness, artificiality and the scale variations generate an inexhaustible number of landscape combinations which become an everyday visual experience. However, within this landscape variability, it is possible to isolate certain elements, characteristics and functions in order to analyse, study and plan. "Landscape value" is an accumulation of characteristics which, through their interaction and function, produce results which appear as harmony or unity.

The harmony and unity of a landscape, perceived through several visual mental and emotional processes, creates aesthetics which become part of bios - bios for human creations, for natural formations and the whole world.

LANDSCAPE VALUES

Intrinsic Values

Values in the landscape can be divided into two major classes. One is intrinsic value which is not apparent, while the other is explicit value.

Implicit or internal landscape values are those which arise from the elements and functions from which the landscape infrastructure is composed. Soil fertility, climatic conditions or plant heredity are among the values which cannot be seen in a natural landscape. However their role is vital in producing a valuable "explicit" result. These intrinsic or intangible landscape values play a very important role in maintaining the landscape quality.

Man, with his activities through time, has greatly influenced and deteriorated these intrinsic landscape values. Unfortunately, these negative impacts are not early seen, nor estimated quantitatively. They are accumulated throughout time and sometimes we only notice them when it is too late.

Very recently, in North America and Europe, the effects of acid rain on forests has become an important issue. This vegetational destruction results from an accumulation of the acid air pollutants (sulphur oxides and nitrogen oxides) into the soil causing an acidification and deterioration of the rich humus soil. Result of such alteration is the "die back" of coniferous forests and thus, a complete alteration of the explicit aesthetic appearance of the landscape.

Bio-aesthetics deals with the maintenance of the intrinsic forces, which finally shape landscape and the environment. If one of our objectives is to sustain life on this planet, it is important to start looking more carefully at the maintenance of its intrinsic values. Without healthy and clean soil resources, vegetation could not be maintained. With the lack of clean air and climatic condition, changes could generate expansion of plant and animal diseases. With polluted and contaminated water, life on the landscapes will be eliminated, and the trophic chain threatened. Continued soil erosion will reshape the hills and floods will follow, while man-made landscapes, like cities and villages, will become more exposed to natural disasters.

Action for Maintaining Intrinsic Landscape Values

Ignorance of certain environmental aspects was an excuse for the lack of prevention. Today, however, with technological achievements, it is inexcusable not to start taking preventative measures against the destruction of the world's intrinsic value. Maintenance of the natural beauty and aesthetic values begins with the maintenance of the environmental characteristics which are invisible on the surface.

There are several ways to do this. On a national and international level, soil conservation with regard to quantity and quality should become a top priority issue. Without soil and soil fertility, life is in danger. Soil formation takes thousands of years to be produced by the weathering of the bedrocks and only a few minutes to be washed out and lost into the seas.

Landscapes with diversity, harmony and unity are formed on regions which have available and productive soils. For the next millennium, with the current rate of population growth, soil is among the most important resources to be maintained in order to feed the earth's population. Soil alone, without water and proper climatic condition, is not enough to support life.

Water conservation and water resource management is another important intrinsic landscape value to be maintained. Water quality is as important an aspect as water quantity for our planet. Water pollution and contamination from human activities has reached uncontrollable dimensions. Over-fertilizing, plumbing, watering, along with industrial effluents and radioactive waste disposals have caused water resources to be reduced and, in some cases, eliminated. Without good water, plant and animal species are in danger and thus man and his creations. If, for the next millennium we are going to protect nature, we have to start with the maintenance of quality water.

Climatic condition is also an important landscape intrinsic value. Climate is influenced by accumulated negative human activities over a span of time. Changes in air and soil temperatures or rainfall rates, have a direct effect on flora and fauna, as well as on human life. The projected increase in our planet's temperature by a few degrees will result in an ice-melt, and an increase of the sea level up to a few meters. The result from such change will be disastrous for the seashore and islands which will be covered by the sea.

What can we do in order to fight such a disastrous climate change? There are several worldwide actions which should be taken immediately. One, to halt all the nuclear weapon trials. Second, establish a complete monitoring network for carbon dioxide and ozone measurements to eliminate the sources of air pollution and destruction of the ozone's thin shield layer. And third, properly educate the population about their rate of consumption, types of products and the scarcity of natural resources. Without such preventive actions, our planet in the next millennium will be covered with landscapes similar to pictures of the moon brought to us by astronauts.

The aforementioned are just a few among many important intrinsic values which generate the landscape visual experiences. Ironically, the very same intrinsic landscape values coincide with the main explicit values which support life on this planet.

Landscape Explicit Values

The explicit values are those of the landscape as it appears before our eyes; those which are produced as a result of the existence and function of the intrinsic values. A forest or rocky outcrop is the output of the unseen dynamic conditions which occurred in the landscape's ground, air and waters.

Maintaining the aesthetic appearance of the landscapes also helps to maintain a healthy and functional environment. It is difficult and often impossible to know what is happening in the micro-cosmos which underlies each landscape. Thus, we must rely upon what we sense through vision as "Phenotype". Existing vegetation always reflects the physical condition of the region's environment.

The quality of a landscape and the aesthetic degree of its appearance, is a matter of composition and proportions of natural and aesthetic elements. Land formations, water bodies, and vegetation are among the natural ingredients of the landscape. Form, line, color and texture, along with scale, constitute the aesthetic characteristics.

The way in which aesthetic elements are composed generate the final visual output which receives evaluation -- such as harmonious, beautiful, offensive, etc.. In bio-aesthetics, efforts should be concentrated to maintain for the next millennium, natural landscapes which appear healthy, harmonious, diverse and unique. However, this is not an easy task. The difficulty lies in the evaluation and management of such landscapes. Again, it is a matter of our society's willingness to sacrifice some of the goods gained by landscape resource exploitation.

Thus, the issue of aesthetic values remains an issue of politics. Politics and policies are the core of environmental quality and aesthetic landscape values. Politicians and decision-makers determine the future of the environment and generate either hope or disaster for the present and future. It is up to each of us to select whom we promote to decision-making posts. We must ask ourselves -- what are their ethics, their visions for the future; and how do they feel regarding landscape quality or life? Finally, it is a matter for biopolitics, to determine the quality of life for the next millennium on the planet earth.

Professor **Costas A. Cassios**, M.Sc., Ph.D., was educated at the University of Thessaloniki. In 1965 he received a B.Sc. in forestry from the University of Thessaloniki and in 1969 graduated from the Industrial School of Piraeus with an M.Sc. in statistics. He received an M.Sc. in landscape architecture-forestry and a Ph.D. in regional planning for outdoor creation and environment protection at the University of Wisconsin, Madison. Currently Professor of physical geography at the National Technical University of Athens (NTU) in the Department of Surveying and Rural Planning, he is also Adjunct Professor in the Department of Landscape Architecture, School of Environmental Science and Forestry, Syracuse University of New York. He has been head of national parks for the Greek Ministry of Agriculture, was a member of

the Reforestation Section FAO Program and of the Outdoor Recreation and Landscape Architecture Section for the Forest Research Institute, Ministry of Agriculture. He became an expert and chairman of the Council of the European Committee of Nature and Environmental Protection, and in charge of the planning of more than 20 parks for the forest service of Greece. He was a member-monitor for the Balkan Peninsula for IUCN and a Member of the MAB Greek National Committee. He has acted as landscape architecture consultant for projects in Libya, Saudi Arabia and Bahrain, and has published over 40 scientific publications and articles on landscape architecture and environmental planning and protection.