

POSITIVE AND UNFAVORABLE VISUAL EFFECTS OF THE FOREST LANDSCAPES

Emil Galev

University of Forestry, Faculty of Ecology and Landscape Architecture, 10 Kliment
Ohridski Blvd., 1756 Sofia, Bulgaria. E-mail: emil.galev@abv.bg

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Abstract

Visual impact of forest landscapes is the focus of discussion in the paper. Their influence on passengers and onlookers sidelong roadways and trails is described in detail. A great number of practical examples have been examined with the purpose of drawing some general conclusions from this problem to the advantage of landscape design practice. The result of the analysis shows different degree of landscape damages visual impact over the observers. Using color photographs and taxation indices for the same forest stands the survey concludes that from the standpoint of aesthetics or recreation value forest products such as scenic beauty can be assessed either with psychophysical measurement procedures or with taxation indices of the forest subdivisions. Two such procedures are compared for convergence. The methods gave similar results with respect to their theoretical foundations and their independently derived scenic beauty metrics. It is hoped that the comparison of these procedures will facilitate needed discussion on their appropriateness and usefulness in multiple use forest management and planning efforts.

Key words: perception, forest landscapes, visual impact, design project, scenic beauty, aesthetics, landscape preferences.

Introduction

Every model of visual preference must be set within its theoretical context. The author believes that individuals have shifting visual preferences and that the judgments which people make are principally colored by their cultural background, active purpose and geography. The idea of a universal all-purpose all-condition preference scale seems to be an empty one.

The cultural context question was well stated by Kluckhohn and Murray (1967):

“Every person is like all other persons and very person is like some other persons, and every person is like no other persons”. The simultaneity is important.

Material and Methods

The research approach for identifying indicators and criteria for visual assessment of landscapes have to include detailed study of past research.

Visual perception of landscape accompanies all recreational activities

and proper assessment of the aesthetic qualities of great importance for the organization of leisure, especially in mountainous forest regions. „Only in the mountains covered with forests one can admire beautiful natural landscapes that provide aesthetic delight the eye of the observer and make people even more to love nature and mountains. Forests are giving life to the mountains.“ (Tamamdzhiev 1940).

According to Destan (2001) forest landscapes should be regarded as a recreational resource and as such it is variable to be considered in decisions on land use.

Shafer and Brush (1977) claim that aesthetic qualities and beauty of the landscape are subjective categories and each person has their own opinion about them, but because people have a common evolutionary history and under the hypothesis of *biofilia*, feeling for nature is one of their innate instincts and genetically they are prone to exhibit preference for certain visual qualities of landscapes. Stoycheva and Tzolova (2001) and many other authors have tried to identify the specific preferences of the people and their criteria for picturesqueness and attractiveness of the landscape. It can be said that in our country there is a theoretical vacuum, but current research and practical developments are not particularly successful.

This study seeks to determine what exactly generates the attractiveness and the attractiveness of the landscape in forests and meadows and to assess the visual impact that specific forest landscapes have on the people.

According to Helliwell (1984) assessment of the landscape is individual and depends on personal taste and ex-

perience of the observer, but there are some basic rules for unity in the composition that have survived from ancient Greece. He believes that the lack of unity in the face of deteriorating quality of its landscape, because scattered and unrelated elements bring confusion in visual perception. Disparate elements also create confusing diversity and viewed within seconds while they create an unpleasant visual impression. The design according the author has three stages: creation of a balanced landscape with simple forms, combining elements and arrangement of plants in accordance with the environment without occasional contrasts of colors, shapes and habit.

Seung-Bin (1984) develops a scientific approach to the use of visual preferences of people in urban design. In the method applied by him called „assessment the beauty of the view“ core elements that form people's preferences are the slope of the terrain, the vertical impact of building volume and degree of plant coverage.

According to the majority of authors most impact on human perceptions have shaped and sized forming plants that form forest landscapes. They create a general impression, but mainly in the detail are essential contours, colors, scents and even sounds that are characteristic of forest vegetation. There have also been made numerous surveys. Ulrich (1986) explores such psychological reactions in human comprehension of vegetation in the landscape and found that trees with thick stems and crowns are perceived positively by the observer, while those with thin stems and crowns developed only create bad feelings. Same opinion supports

Brivot (1982), regarding „... mighty old trees, their crowns are spread of tens of meters and attracts their shade in summer, while the effect of the game of light and shadow in their crown is an outstanding ...“. There have been shown particularly spectacular specimens of various types, including forms of weeping beech. General rule the author is that the viewer should be given the opportunity to fully enjoy the magnificence of old trees, so they advised to leave in small groups where they can be the dominant element, and before them in all cases have a large open area. Veer (1986) considered „valuable vision“ that all wood specimens are distinguished from others by highlighting the qualities decorated (mostly habit and beautiful crown) and the mapping out of 210,000 trees. Lewis (1973) and Sorensen (1982) highlight the decorative features of the bark of trees. Barely noticeable in other seasons, larval bark of trees is a major decorative element after defoliation in winter and especially in the morning and in the evening if sunbeams fall below lower angle and directly illuminate the tree trunks. The number of species whose bark is quite impressive is significant. Especially rich in this respect is a kind of *Betula*. Its representatives are suitable for almost all soils and climatic regions, making them versatile element in the landscape. White Pine is also mentioned as a species with spectacular bark. Stoycheva and Kabatliyska (2002) attempted to identify the total number of colors in the landscape that are seen by most visitors. Kouneva et al. (2009) have focused in their research mainly on the yellow hues of the vegetation in the landscape, describing

a number of plants and their blooms during the period of performance, especially when planted in lit places. In the study of Breton (1981) has been investigated in more detail the issue of the nuance of the autumn wood-bush vegetation. They considered that a number of deciduous species in autumn become with extremely beautiful color of their leaves. These include beech and aspen, which are indigenous species in mountain regions and this gives reason to consider enhancing their participation in the outskirts of pure conifer plantations. Another possibility to diversify the periphery of the array is the planting of flowering tree species. Rangelov (2007) estimated high beauty and diversity resulting from the spring flowering trees and shrubs in the forest landscape. The same notes Kabatliyska (2007) determining that people are not impressed by some of the colors that make up the natural background in parks or in the landscape, namely blue, green and brown. Emotional impact of the white color of flowering trees and shrubs depends on surrounding objects. This impact is positive when it is white in combination with pale colors, but with bright and dark colors, it manifests itself in strong and striking contrasts that can cause fatigue. White colors on cloudy days make the landscapes more bright and pleasant. Another source of vivid effects in the forest landscape have the fruit colors of ornamental trees and shrubs. This aspect was studied by Vandeveld-Dassonville (1982). She described many species, some of which are frost-resistant and could be used in the mountain areas. Among these series of publications dealing with differenti-

ated sensory feelings of people for the landscape should be mentioned and that of Quellet (1982). It indicates a favorable impact on human health and spirits, which have aromas emanating from certain trees, shrubs, grasses and flowers. There exist conditions for the development of so-called „aroma“ as part of the phytotherapy.

Significant theoretical contribution to the development of the issue of visual assessment of the landscape is the study of Kurbatov (1988). He structured a set of visual characteristics and created a system of six indicators for evaluation including: size and size scale; canopy; configuration, visual barriers, visual magic tricks. Visual perception of the landscape by the author is a function of the plastic structure of the terrain and vegetation.

The Directives in respect of forest landscape design developed by the Forestry Commission (1994) recommended the design process to start with an assessment of the landscape as the main criterion to be visible, and those sectors which can be seen from most locations receive the highest score.

In the method of Shafer et al. (1969) for determining psychophysical preferences of people towards landscape key indicators are perimeter and area of distribution of its features, and more precisely – the correlations between these variables. A similar approach applied Petrov and Velchev (1980) in the definition of „factor of landscape diversity“, only that they use the perimeters and areas of individual units.

Buhyoff (1986) developed statistical models for predicting the beauty of sight to the trees and within them. The same issue is addressed by Colvin (1973). He

introduces an indicator called „sculpture of the green forms“ which examines the spatial structure of tree-distances, but uses only visual criteria.

Brown and Daniel (1986) determine the aesthetic value of tree-distances using data from forest taxation. In their method landscape value is increased by the presence of highest trees, the existence of a group structure, the absence of fallen and rotting trees, and the existence of „living“ soil cover.

To determine the aesthetic value of forest landscapes is developed the method of Daniel and Vining (1983), where subject to an assessment is the vegetation visual diversity.

Scales of aesthetic landscape assessments have been developed by Briggs and France (1980), which are based on: location and forms of relief, a combination of volumes and plant groups. Eringis and Budryunas (1975) use the following indicators: total gravity landscape; expression of relief, spatial diversity of vegetation, diversity and relevance of anthropogenic sites.

Bulev (1977) carried out an assessment of the aesthetic environment at regional level and local level. Indicators used include: relief conditions; mosaic pattern of vegetation, visual spatial relationships, architectural landmarks, protected natural areas and others.

Orland (1994) and a number of other authors used computer simulations of landscapes for their aesthetic evaluation.

In conclusion we can say that the attempts made to establish the psychological effects of different categories of visitors to the compositional elements and environmental conditions for relaxation (volume plant, flowers, water

areas, architectural park elements, open spaces, panoramic views, etc.) have not made generally valid findings, it is impossible to formulate what all people can subjectively like in one place. However it seems pretty clear, how the landscape image remains in their minds, namely through visual memories for expression of relief, herbal and other natural and anthropogenic components of landscapes.

Conclusions

In conclusion we can say that the attempts made to establish the psychological effects of different categories of visitors to the compositional elements and environmental conditions for relaxation (for instance: plant capacities, flowers, water areas, architectural garden elements, open spaces, panoramic views, etc.) have not been made generally valid findings till now, because it is impossible to formulate what all people can subjectively like in a place. Seems pretty clear, however, how the image of the landscape remains in their minds, namely through visual memories for expression of relief, herbal and other natural and anthropogenic components of landscapes.

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