

Andrzej Richling

ON METHODOLOGY OF ASSESSMENT OF AESTHETIC VALUES OF LANDSCAPE

The work on the scenic analysis and assessment was undertaken in the 1960s when the United States passed some legislative $acts^1$ in which it was stated that forests had to be treated not only as a source of wood but also as the areas of aesthetic values for the society. Research on landscape aesthetics first developed in North America and then in many European countries. It served various practical purposes such as marking the recreational areas, delimiting areas to be protected, designing routes interesting from the point of view of scenery, and assessing the value of real estates. It is well-known that the aesthetics of one's surroundings, including the landscape aesthetics, which is a condition for recreation, exerts influence on man's daily activity. Obviously, there are natural conditions stimulating human activity or — on the contrary — monotonous and discordant landscapes weakening this activity. The situation is similar in the case of manmade landscapes.

In this type of assessment, landscape is treated physiognomically. K. Wojciechowski (1986) writes that landscape is a physiognomy of geographical environment. Thus greater importance is being attached to the view of the arrangement of geocomponents than to investigation of the inner structure of geocomplex, although it is clear that every geocomplex with given internal relations has its specific physiognomy.

An assessment of aesthetic values of landscape is subjective and dependent on the way of perception of landscape values. According to P. Dearden (1981), the perception varies according to the age, sex, education, experience and income. This author also points to frequent divergences of views between the experts (authors of estimates) and public opinion.

Among attempts at research on the perception of landscape objective, a concept of a visible landscape, worked out by J.C. Wieber (1981), gained a considerable popularity. The author has distinguished three sub-systems: a system of really existing landscape, consisting of abiotic, biotic and socio-economic com-

¹ The Multiple Use Sustained Yield Act of 1960; the National Environmental Policy Act of 1962.

ponents and geological, geomorphological, biological, social, economic and other processes occurring in it; a system of visible landscape, in which a sum of components of the existing landscape evokes diverse images (pictures) dependent on many factors; and a system of landscape utilization consisting in the choice of relevant forms of social and economic activities and in steering research in appropriate direction. A filter of perception is an important element of this scheme. It depends on physiological, psychological and cultural features of an observer and determines a significance of this image for his activity. J.C. Wieber and other authors attach a great importance to photographs taken during field work *Recherches sur les paysages le la haute vallee du Doubs*, (1989); T. Brossard (1982); T. Brossard, J.C. Wieber (1984). Photographs are then analyzed from the point of view of structural composition of landscape and with regard to the number of plans seen from the given point. After placing photographs on a topographical map, naps of variability and assessment of landscape are made.

According to many authors, an aesthetic value of landscape is a function of its variability or contrast degree. L. Arthur, T. Daniel, R. Boster (1977) emphasize, however, diversity of meaning of the term 'variability.' It manifests itself in the complexity, variability, uniqueness and number of boundaries. Each of these features should be univocally defined and used by various authors in the same meaning. Otherwise, their works would not be comparable.

According to K. Craik and E. Zube (1975), there are two possibilities of making an assessment of the aesthetic values of landscape. The first one is a general assessment to be broadly used and designed for various recipients; the second one is an assessment for a certain group of users — narrower but more precise. These possibilities coincide in a way with a sub-division of the types of assessment into those carried out by natural scientists, mainly geographers and architects of landscape on the basis of differentiation of natural environment, and those made by sociologists on the basis of investigation of social preferences.

As in all kinds of assessment of natural conditions, the choice of basic fields plays the most important part. It often happens that the assessment of aesthetic values of landscape is referred to areas of mechanically determined square fields. This is, for example, the approach of J. Kocourkova (1974) who makes an assessment in squares of an area of 1 km^2 using the bonitation method. Points were awarded for slopes, forest cover, occurrence of water basins, as well as degree of complexity and visual accessibility of landscape. Separate values were also granted for human activity and its influence on landscape.

The best results have been obtained by relating an assessment to the areas of natural units. P. Miller (1988) writes that the sub-division of the Canadian province of British Columbia into bio-geo-climatic zones provides appropriate framework for distinguishing units of diverse aesthetic values. These units are identified with physico-geographical regions delineated within geographical zones mainly on the basis of relief. Similar procedure is applied by E. Zube (1987) who has distinguished landscape units which are divided into stable and changeable. The former are more natural and they are being assessed according to physiographic criteria; the latter are usually transformed by human activity and evaluated according to the intensity of anthropopressure.

The above-mentioned kinds of assessment have been described by K. Wojciechowski (1986) of the Maria Curie-Skłodowska University of Lublin. In his opinion, an aesthetic assessment of landscape is a function of the observer's characteristics which affect evaluation — I, all circumstances of evaluation (context of evaluation) — C, and visual attractiveness of landscape — A, that is

$$\mathbf{O} = \mathbf{f} (\mathbf{I}, \mathbf{C}, \mathbf{A}).$$

A formalized research treats I and C as constants, and evaluation is dependent only on visual attractiveness of landscape which is determined by the following attributes of landscape: feeling of comfort, harmony, variations, composition and uniqueness.

In Warsaw geographical centres, attempts have been made --- chiefly within the framework of M.A.theses --- to apply various solutions. They have begun with assessment within the limits of geocomplexes by assuming that a definition of the degree of complexity of structures of geocomplexes is tantamount to the assessment of its visual attractiveness. The reference has been made in this respect to the results of research obtained by K.Erings and A.Budriunas (1972) from Lithuania who made an assessment of aesthetic values of landscape within the limits of geocomplexes distinguished in a classical way. Classification of a given unit under a given category has been determined by the analysis of 130 parameters. In the work conducted at Warsaw University (B. Szczykowska 1989, J. Januszewska 1991) special importance has been attached to diversity of relief of an area, land use and anthropogenic transformation of landscape. In this analysis, the vicinity of a given geocomplex has been taken into account, assuming that the location in the vicinity of lakes and rivers, as well as dense forests enhances aesthetic values of landscape. These elements have been valued with the application of the bonitation method. Besides, research has been carried out on attractiveness of a view from the middle of small geocomplexes (B. Szczykowska 1989). This attractiveness has been evaluated in the four basic directions taking into account diversity and coappearance of elements of landscape, transparency of landscape and possibility of their identification as well as number of planes.

J. Januszewska (1991), who has been making an assessment of the "sightseeing cones", distinguished 59 points of a wide view within the area under study. The cones were chosen assuming that the width of view, with an unchanging observer's position, is around 60°. The number of such cones in a given point and their range is limited by obstacles restricting visibility. Over the entire area of 59 points, 183 "sightseeing cones" were marked. The next stage was their evaluation on the basis of the following features: depth of view, number of planes, number of elements making up a landscape, their diversity, harmony of view and natural state of landscape. These elements were evaluated on the bonitation scale and, according to a total number of points awarded, cones were rated under one of the five classes of attractiveness. Obviously, forests were excluded from the evaluation. A fragment of the area thus described is shown in Fig.1.



Fig.1. The assessment of attractiveness of landscape from selected lookouts according to J. Januszewska-Kobus (1991)

Units: 1 - inattractive landscapes; 2 - little attractive landscape; 3 - average landscape; 4 — attractive landscape; 5 - very attractive landscape; 6 - forests; 7 - rivers; 8 - scenery cones; 9 - lookout points; 10 - not assessed landscapes (excluding scenery cones)

A wholly different approach has been applied by Z.Skarżyński (1991). He started by distinguishing the areas regarded as consistent and closed units characterized by similar attractiveness to an observer. All accessible tops served as observation points. The elements of relief, range of forests, rows of trees or buildings and other elements limiting visibility were frontiers of distinguished units. As in the previous case, forests were excluded. While distinguishing and evaluating the units, the vertical structure of the view, as well as all the elements which were a basis for valuation made by J. Januszewska, were taken into account. In this case, too, the assessment was made using the bonitation method. It permitted a division of the units into five categories: from monotonous to very attractive (see Fig.2.).

The methods of assessment of aesthetic values of landscape presented above, should be treated as independent of each other. Their application depends on the purpose and accuracy of assessment as well as a character of the terrain. The most interesting seems to be the last of the methods described. As has already been said, the assessment largely depends on the field of reference. In this case, these fields were subordinated to the type of assessment. They are characterized by a certain regularity in acquiring geocomplexes and in their way of functioning. It may be expected that in the future, after application of this method in various natural situations, the way of distinguishing of the units and their assessment will be more precise and — to a certain extent at least — formalized.



Fig.2. The assessment of atrractiveness of landscape within the limits of visually distinguished units according to Z. Skarżyński (1991)

Units: 1 – inattractive; 2 – little attractive; 3 – medium attractive; 4 – attractive; 5 – very attractive; 6 – forests; 7 – lakes; 8 – anthropogenic areas

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