

THE PERCEPTION OF THE URBANIZED AREAS IN CASE STUDY OF THE TOWN ROSICE

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Abstract

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This article deals with how the residents of the town Rosice perceive the surrounding landscape in aesthetic terms, how it affects them and which of the landscape components they find the most valuable and necessary to preserve for the next generations. This article briefly describes the essential characteristics as well as the landscape composition of the area in question. It summarizes the results of a sociological survey which was carried out in April 2015. The majority of respondents considered the town of Rosice to be a good place to live and agreed that what they liked most were visual percepts of the area and the sites where panoramic views could be enjoyed. Those components which the residents of Rosice wished to preserve in the town of Rosice for the next generations is Chateau Rosice, Nejsvětější Trojice (the Holy Trinity) chapel, the Stone bridge, St. Martin's church, and the way of the Cross leading to the Holy Trinity chapel. The natural components that the respondents frequently mentioned included Rosická Obora (deer-park) wooded land, the park and garden adjacent to the Chateau, the way of the Cross lined with linden trees leading to the Holy Trinity chapel, and the river Bobrava. One of the most significant problems and threats to the countryside is, according to many respondents, the usurpation of land in the form of residential and commercial development.

Keywords: landscape, landscape elements, landscape perception

INTRODUCTION

Landscape, as a term, has been subject to a wide range of disciplines, such as art, history, geography, ecology, politics, planning and design. Although it has been associated with mainly physical features of an environment, today the term landscape refers to much more than just scenery. Landscape is a complex phenomenon which evolves continuously through time and space. It is a reflection of both natural processes and cultural changes throughout time. Landscapes can be a product of either only natural processes (natural landscapes) or human intervention on natural ecosystems (cultural landscapes). Nowadays, it is almost impossible to encounter with a natural landscape in our daily lives. Most of the natural landscapes have been modified by human activities (Kaymaz, 2012).

Interests of people, their priorities as well as aesthetic preferences and moral beliefs can play

a major role in forming a landscape. For a number of us nature and countryside have great aesthetic value. In fact, it was this aesthetic value that motivated the first attempts at nature preservation and nowadays this value is referred to in laws as one of the reasons for the preservation of the countryside, protected areas and natural monuments. While this value may seem rather intangible it does substantially help to shape the way we perceive places. Therefore, a resident of a place tends to perceive the components of the countryside much more intensively than a mere visitor (Pásková, Zelenka, 2008).

The aim of the questionnaire survey was to obtain data, which would represent respondents' preferences. Questions (listed below) are trying to find out not only the population's preferences of Landscape components suited to preserve for the next generations, but also the greatest

threats, they consider to be detrimental to their surroundings.

As stated by Forman, Godron (1993), the suburban landscape is characterized by a high proportion of the line corridors, the landscape matrix is minimal. Rosice is an important settlement center in the southwestern part of the Brno countryside. In addition to the functions of industrial production centers and settlement centers, Rosice provides higher civic amenities for the population of the falling communities. Rosice is the central zone of the city, which is located in the historical center of the town and consists of the main square and the chateau complex, with adjacent building blocks. There is a higher civic amenity. The city of Rosice belongs to the metropolitan area of Brno, where locals go to work and schools. Overall, both the city and the locals are affected by the proximity of the city. That is why we were interested in the opinion of local citizens, not visitors. However, some respondents mentioned the "Landscape components suited to the preserved for the next generation" as well as places located in Brno or its surroundings.

The relation between urban and rural becomes extremely complex and receives a growing attention in spatial and environmental planning (SPESP, 2000; Antrop, 2004). Typical is the transition between an urban center or agglomeration and the countryside becoming unclear and diffuse. The urban fringe or suburban landscapes are characterized by a wide variety of land uses, which is expressed in a complex, diverse and highly fragmented morphology. Suburbs and urbanized rural landscapes consist of a mosaic of varied land cover, constructions and transportation infrastructures. The delimitation between urban and rural becomes a difficult task involving a lot of uncertainty and it is very unlikely that land zoning borders remain a stable delineation. Nowadays, urbanization is no longer typical for the growth of cities or towns only but it influences the processes in the rural countryside as well (Antrop, 2004).

Remote rural areas with poor accessibility become abandoned and in many cases forests expand. The countryside that is affected by urbanization becomes a complex intensively and multifunctional used space within a larger urban network frame. Traditional landscapes with their ecological and cultural values become highly fragmented and gradually lose their identity.

The residents of urban areas are currently being flooded with a vast number of visual, acoustic and other percepts. In psychological terms, they are permanently under the influence of, or affected by, dense traffic, advertising, signs, warnings, and threats, some of which are in the acoustic form. The consequence of such a lifestyle, which has become standard for a large proportion of people living in developed countries, is mental fatigue which results in many people feeling overworked, irritated, unable to concentrate, and less efficient

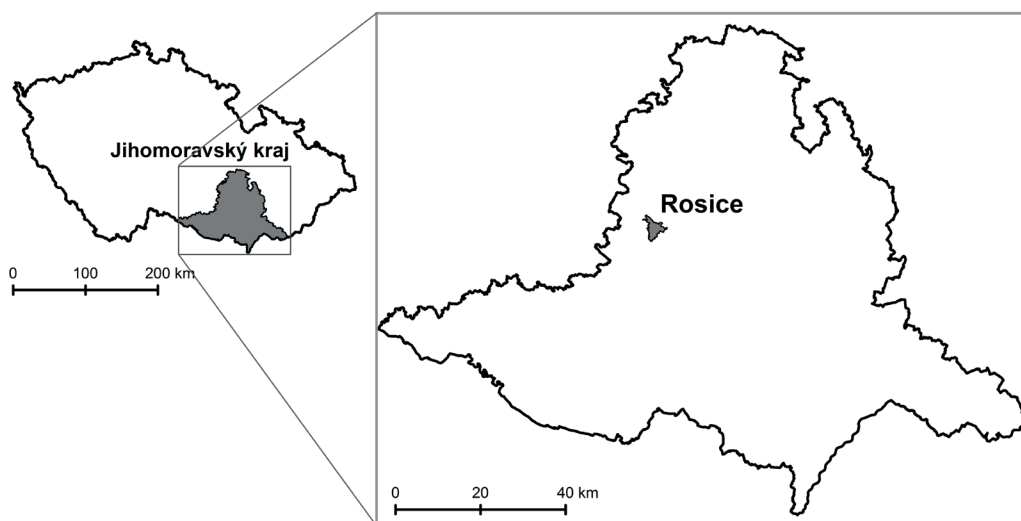
in emotional as well as physical terms. Nature, however, is able to eliminate all these, which is a reason why it should be preserved. Every landscape is different and therefore perceived differently by the respondents (Ingold, 2002).

Assessment of landscape preferences is widely studied in environmental perception research, environmental psychology or environmental planning (Appleton, 1975; Kaplan *et al.*, 1978; Arriaza *et al.*, 2004; Antrop, 2004; Arnberger, Eder, 2012; Van Heijgen, 2013; Van Eetvelde, Antrop, 2009; Van den Berg, Van Winsum-Westra, 2010; Strumse, 1996). Landscape preference studies aim to investigate how and why people prefer some environments to others. People judge and interpret their environments and they respond to environments in terms of affective responses (Kaplan, Kaplan, 1989). Basically, there are two approaches in visual landscape assessment; objective and subjective. Objective approach to visual landscape assessment assumes that visual quality of the landscape is an inherent characteristic and physical attributes of the environment determine its aesthetic value. On the contrary, subjective approach assumes that visual quality is in the eye of beholder and aesthetic value of an environment can be determined through subjective evaluation (Kaymaz, 2012). The aesthetic value of the landscape is an expression of natural and cultural values, harmonic scale and relationships in the landscape. The subjective characteristics of the observer, the objective circumstances of observation and the objective landscape features such as composition and form of space, element configuration, and structure of components are a prerequisite for creating aesthetic value (Vorel *et al.*, 2006). A person who has lived his entire life in a certain landscape will inevitably look at the landscape differently from a person who has only studied the area. Both have a different sort of knowledge: the inhabitant has the experience with the landscape, while the scholar has the facts about the landscape. The knowledge that an individual or group possesses about their own environment can be called local knowledge. Professionals have a more universal scientific knowledge which can be called expert knowledge. Local knowledge relates most of the time closely to the personal life history of the individual, and has therefore a strong emotional connection. Experts look at the landscape in a more analytic way (Buyhoff *et al.*, 1978 in Van Heijgen, 2013). Landscape is composed of not only of what lies before our eyes but what lies within our heads (Meinig, 1979).

MATERIALS AND METHODS

Study area

The survey was conducted in Czech Republic, in town Rosice (Fig. 1) that is located in Jihomoravský Region, a south-eastern part of the Czech Republic,



1: Picture 1: Study area.

about 20 kilometres west of Brno (Fig. 1). Rosice is a very pleasant place to live as well as enjoy a short-term vacation. Families with small children are moving to Rosice because of its convenient location and quality infrastructure. Currently, some 6000 people live here and residential development continues; unfortunately, this is not without prejudice to the fertile lands where construction works are being carried out.

There are many accommodations as well as dining options in the town and the surroundings areas. The area around Rosice offers a number of opportunities to spend time in the country; the free time activities the visitors and locals can do here include hiking, trekking, and cycling. The easy accessibility of the town, which is due to existing local, regional and national infrastructure, is a priority. According to Culek (1996) the town is found in the "Hercynská podprovincie" in the Brno bioregion. The landscape here is mostly made up of lowlands and rather flat uplands with wide valleys with open ends.

The town is located in the centre of Boskovičká Brázda (furrow) basin close to the confluence of the rivers Bobrava and Říčanský potok (stream). The altitude ranges from 297 to 338 metres above the sea. The town center is situated on an altitude of 326 m above sea level. The town of Rosice is found in the warmest part of the area. The wooded areas are mostly made up of non-native spruce (55%) and pine (20%) while the rest is comprised of leafy trees. The south-western part of the built-up area borders on a wooded land called Obora. There are 11 local ecological stability systems in the town of Rosice as well as 6 partially operating biocentres. In addition, one can also find 12 listed landscape elements here. In cultural and historical terms, Chateau Rosice, the surrounding 16th century park and garden, the parish and the deacon's church of St. Martin, the Holy Trinity chapel and the Stone bridge are of notable importance.

The methodology and procedure

The European Landscape Convention (2000) definition of landscape as 'an area perceived by people' does not mention which people perceive the area. It does presume that all people are valid contributors to the meanings which will define the quality of the landscape. We are interested in how the inhabitants of Rosice perceive the landscape. That's why we put together a questionnaire to answer us. The most important questions and answers are provided in this article.

Barčáková (2001) states that due to the development of human society and the associated deterioration of the state of the landscape, the research of landscape perception can be divided into two groups. The first group focuses on the issue of city image, perception and planning of urban space (eg Saarinen 1976, Radváni 1988), and the second group emphasizes the study of natural scenery, the measurement of visual features, changes in cultural landscape (Keisteri, 1990 in Barčáková, 2001) and its management (eg, Snacken and Antrop 1983, Dearden 1988, Keisteri 1990, Large 1990) Environmental aesthetics were researched by authors such as Snacken and Antrop 1983, Antrop 2000, 2004, Porteous 1982, Otahel 1994, Drdoš 1995, Van Eetvelde and Antrop 2009). We have a subjective approach that focuses on assessing the quality (urban environment) by an observer – a person who is in direct contact with the surrounding environment, permanently living in the area studied. The basic method of assessing effects on observers is determined by preferential measurements. To observe the observer's reactions to a particular situation, a semantic differential is used.

The sociological survey which was carried out on the internet was accessible on the website Survio.cz. The survey was distributed and filled in by the respondents by means of a generated link and the respondents were asked to walk

	1	2	3	4	5	6	7
ugly	0	0	17	25	110	28	6
disturbed	13	29	97	11	28	5	3
artificial	9	32	90	24	23	7	1
urban	13	60	74	14	20	4	1
ordinary	31	34	67	22	30	2	0
modern	1	1	14	21	122	26	1
noisy	1	7	86	13	66	10	3
empty	0	1	10	17	46	66	46
underdeveloped	1	0	4	12	76	87	6
rather unsafe	0	2	2	9	63	104	6
unfamiliar	0	0	3	14	70	82	17

2: The ways the countryside can affect people

around in the countryside in question. The survey, whose major aim was to discover how people perceive the countryside they live in, was carried out in April 2015 and consisted of four parts. 186 people participated in the sociological survey. The survey included questions related to the basic sociodemographic background of the respondents (sex, age, education, type of work). What was of the highest importance in the survey was to determine the fixed whereabouts of the respondents, i.e. whether they (actually) live in Rosice or not. The other question in the survey acquainted the respondents with the term perception and sought to discover whether they had come across with this term before. What followed were questions related to how the countryside affected the respondents and how they perceived individual landscape components on a scale of 1 to 7. There were two open-ended questions which asked the respondents to name the components they wished to preserve for the generations to come and, conversely, what they considered to be the greatest threat to nature and the countryside.

List of main questions:

1. Questions seeking to determine the sociodemographic background of the respondents (whereabouts, sex, age, education, type of work)
2. Have you ever come across the term *landscape perception*?
3. How does the countryside you live in affect you?
4. How do you perceive the following landscape components? Evaluate them, using a scale of 1 to 7 (1 – very negative, 7 – very positive). Mark the number which best represents your impressions.
5. Which of the landscape components close to the place where you live you think should be preserved for the next generations? (f.e. ridges between fields, groups of trees and bushes, solitary trees and bushes, cycling trails, and small-scale sacral constructions. All component is showed in Fig. 3)
6. What do you consider to be the greatest threat/problem for the landscape close to the place where you live?

RESULTS

Sociodemographic background of respondents

As we mentioned above, 186 people participated in the sociological survey related to the perception of the landscape in the Rosice area. 124 of these were men (66.7%) while 62 were women (33.3%). Therefore, men demonstrated more willingness to answer the questions in the survey which is contrary to what most other surveys suggest, i.e. that men are in fact generally more reluctant to take part in surveys. In the survey in question, the number of men who participated is double the number of women who participated. In addition, there were little differences in age distribution. The largest number of respondents were aged 31–40 (25.8%) followed by respondents aged 51–60 (20.4%) and over 61 years (19.9%). 17.2% of the respondents were 41 to 50 years old while only 16.7% of those who filled in the survey were between 18 and 30 years of age. Majority of those who participated were high school graduates (54.8%), 23.7% of the participants were university graduates and 21.5% had post-secondary/vocational education. 38.2% of the respondents were employed, 29% were pensioners. 10.7% of the respondents were on a maternity leave at the time the survey was carried out and only 4.3% were students.

Knowledge of the term “landscape perception”

Based on how the participants answered the questions related to landscape perception, it was concluded that 42% of the respondents had come across the term before, 74% of these were men). Most of them had come across the term in their professional lives, the other sources included internet, television documents, and news. Some respondents stated that they had encountered it in their studies or in scientific/academic journals, books or daily newspapers.

How countryside affects people?

Fig. 2 shows the most frequent answers to the question related to how countryside affects people. It can be concluded from the answers

	1	2	3	4	5
fields, farmland	12	24	58	36	41
meadows, perennial grasslands, pasturelands	2	0	5	8	36
wooded lands	1	0	2	7	12
roads and tracks lined with trees	2	3	6	3	42
ridges between fields, groups of trees and bushes	0	2	21	26	74
solitary trees and bushes	0	4	25	47	64
streams and bodies of water	1	11	4	2	13
knolls and hills	2	3	8	8	85
rock formations	4	7	10	6	68
small-scale sacral constructions (crosses, small-scale places of worship)	21	26	36	9	43
castles and ruins	5	2	4	7	39
chateaux and churches	2	4	4	10	45
densely developed areas	124	37	10	6	4
dirt roads	28	27	70	38	11
cycling trails	3	6	8	10	92
railway tracks	50	60	50	14	6
roads	9	47	103	19	8
dominant features in the landscape (depending on location)	0	4	6	7	26
visual percepts of the area and the sites offering panoramic views	0	4	4	5	3

3: Perception of landscape components

that 78% of respondents considered the town of Rosice to be a good place to live. Some 74.7% of the participants stated that they found the countryside rather disturbed, 70% found it artificial, 71% said it was ordinary, and 79% said that this was a kind of countryside which already classified as urban.

Despite the fact that most respondents perceive Rosice as an urban area, 80% of them state that they find the countryside traditional. Other labels which they assign the town are crowded, developed, safe, and belonging to us. It could thus be argued that some kind of affinity exists between the town and the residents. Some residents – particularly older men – find the town noisy, an opinion that 50.5% of residents share. Women are generally more positive towards nature as well as the visual quality of the countryside than men.

Perceiving of the landscape components

Majority of the residents of Rosice (65%) agreed that what they liked most were visual percepts of the area and the sites where panoramic views could be enjoyed, giving this countryside component the highest number of points. The others were also rather positive in this regard; however, the number of points they gave was lower. The residents consider the following components to be of aesthetic importance: wooded lands, chateaux and churches, roads and tracks lined with trees, streams and bodies of water, castles, ruins, and other dominant features. The residents considered the following to be beautiful: ridges between fields, groups of trees and

bushes, solitary trees and bushes, knolls and hills, cycling trails, rock formations, and small-scale sacral constructions (cf. Fig. 3). The survey confirmed the assumption that old people tend to be more affected by their religious inclinations and, as a result, tend to be more in favour of these landscape components. Nearly 92% of the residents of Rosice consider the densely developed areas to be negative and the respondents do not have positive opinions about a number of other components, namely railway tracks, roads, dirt roads, and even fields and farmland.

Landscape components suited to preserved for the next generation

Those components which the residents of Rosice wished to preserve in the town of Rosice for the next generations because of their value can be divided into two groups – cultural/historical components and natural components. The former was often represented by Chateau Rosice, Nejsvětější Trojice (the Holy Trinity) chapel, the Stone bridge, St. Martin's church, and the way of the Cross leading to the Holy Trinity chapel (Fig. 4). For a number of respondents the preservation of local traditions was also very important. As far as the surroundings areas are concerned, the following natural components were referred to as important to preserve: the Bučín hill, Chroustovské Údolí (valley), natural preserve Bobrava, CHKO Moravský kras (Protected area Moravian Karst), Špilberk castle, and Brno reservoir. General answers implied that respondents are desirous of preserving wooded lands, meadows,



4: Landscape components suited to preserved for the next generation
Source: own work by geoportal.gov.cz

grasslands, streams, and trees that line roads as well as castles and chateaux, churches and small-scale sacral constructions.

The greatest threat/problem for the landscape

One of the most significant problems and threats to the countryside is, according to a number of respondents, the usurpation of land in the form of residential and commercial development. It is therefore no surprise that a vast majority of respondents consider densely built-up area to be negative. Another concern that the respondents voiced was the development of infrastructure which they feared would not be without prejudice to air quality and decent noise levels (this has to do with both road and railway transport). Other problems were, for example, infrastructure quality and illegal dump sites (an illegal dump site was found in the middle of a wooded area close to Rosice while the woods were being cut). A number of non-functional appliances, old clothes, rusted tools, food wrappings, plastic bottles, glass, boxes, and oil barrels were found here. Since then, construction waste, biodegradable waste, excess fruit, and used

tires have been found here. A large portion of the respondents stated that they were dissatisfied in aesthetic terms with ramshackle objects and old buildings. These include the old newsstand, the butcher's shop, and the former grocery store. Some of the more general threats the respondents mentioned were vandalism, deforestation, natural disasters, weather/climate changes, drought, and the construction of photovoltaic power plants, the last problem having to do with decisions made by the town Rosice. More specifically, the town authorities decided to use undeveloped land for the production of electricity by building a photovoltaic power plant there. Although the place was selected as the best due to favourable climatic circumstances, terrain and accessibility – in addition, the plot of land in question could be connected to the existing electricity grid – the mayor of Rosice recently argued that it would be much more reasonable to build the power plant in the old glassworks which have been out of operation for many years. The usurpation of land, such as took place, was therefore unnecessary since this land could have been used. The question of how

agricultural land is used is indeed a topical one as it seems to require little effort and cost to reclassify a piece of agricultural land and subsequently use it for development.

DISCUSSION

The outcome of this survey seems in many respects similar to comparable surveys carried out earlier. In aesthetic terms the respondents prefer streams and bodies of water. As Bulut and Yilmaz (2009) noticed, water in the countryside goes hand in hand with positive perception. In their study, they sought to determine which of the landscape components made up of water was the most frequently preferred by the general public. They came to the conclusion that a small-scale natural lake was the most attractive for people. The participants in our survey voiced their wishes to preserve the Brno reservoir; in more general terms they advocated the preservation of rivers, brooks, and ponds. Wooded lands are irreplaceable landscape and natural components. This is where a number of people rest and regain energy which, apparently, is why the respondents hold it in high regard and consider it to be very beautiful.

Education plays an important part in how people perceive the countryside in aesthetic terms. The more educated respondents used more elaborate expressions while evaluating the countryside and were generally more aware of the problems which the countryside in the surroundings areas was suffering from. In addition, they were able to evaluate the ecological benefits for the countryside, a fact which confirmed what was argued by Van den Berg and Van Winsum-Westra (2010) in their study. They Van den Berg and Van Winsum-Westra (2010) demonstrate that university graduates tend to prefer wild countryside while those individuals who do not have university degrees tend to prefer farmed land, the reason for this being the supposition that more educated people are generally more aware of ecological benefits the former has. One's profession or specialization also seems to be of notable importance in the way one perceives landscape. A farmer, a forester, an economist, an architect – each of these apparently perceives the countryside in a different way. Another factor which seems to shape the way one perceives landscape is the place of one's residence. For example, Soini *et al.* (2012) investigate in their essay the relationships people have with

rural and urban areas. In Nurmijärvi, a village not far from Helsinki metropolitan area in southern Finland, a quantitative analysis was carried out whose aim was to determine how people perceive the landscape around their hometown. The results were that individuals whose lives involve, directly or indirectly, farming tend to be proponents of greater manipulation with the countryside. In addition, these people seemed less to appreciate wild natural countryside. On the contrary, those who were far less familiar with the countryside proved to be proponents of as little human intervention in the countryside as possible as they perceived it as an entity. Lyons (1983) and Strumse (1996) demonstrate that the way one perceives the environs changes in the course of one's life. Each individual is affected by their sex, age and education. According to Lyons (1983) the greatest differences can be found in two age groups, children who are about 12 years old and the elderly, the latter being generally regarded as being more critical in their visual evaluation of the countryside than the former. As far as sex is concerned, Lyons (1983) comes to the conclusion that women tend to be more positive about nature than men, the latter being generally more critical while evaluating the visual aspects of landscape. The reason for this, claims Lyons, is that women are better adapted for perception and it is easier for them to remember the visual aspects of landscape. Silverman and Eals (1992) accept this assumption, adding that men are generally better adapted for decision-making based on logic and orientation in the countryside. Majority of the respondents stated that it was the natural components that they considered beautiful and that they felt rather safe in such a countryside. More than 50% of those who participated in the survey stated that they liked panoramic sites very much. Ariazza *et al.* (2004) claim in their study that visual perception of the countryside is influenced by man-made landscape components. The authors came to the conclusion that harmonious historical/traditional as well as natural components are perceived positively. On the contrary, the public generally tend to perceive urban areas, roads, railway tracks, and commercial premises negatively. This survey arrives at similar conclusions. The same objects and components were perceived in very much the same way. Apparently, people are still able to appreciate beautiful countryside and the value that nature has.

CONCLUSION

Landscape often must be distinctive, impressive, irreplaceable and unique to be perceived positively. These values depend on the configuration of landscape components, the intensity of the observer's emotional experience, the associations that the landscape being perceived evokes, and the subjective evaluations that happen in the observer's mind (Míchal, 1997; Löw, Míchal, 2003). Of notable importance is also the effect of a dominant feature or symbol (sufficiently unique and attractive per se), a feature whose presence contributes to the uniqueness of the landscape in question. One can say that a visual percept, natural or man-made, that can draw the attention of an observer due to its distinct structure or unique appearance, fragrance, smell, or sound (a group of trees, bushes, a waterfall, a rock

formation, a chapel, a church) is usually of aesthetic value. Many people consider wooded lands, meadows, streams, pilgrimage places, chateaux, and castles to be integral parts of towns and villages. What can also be regarded as quite optimistic is the fact that majority of the positively perceived components that the respondents considered valuable in the survey, are already protected by statute and their long-term preservation has been provided for. On the contrary, artificial components (railway tracks, roads, densely built-up areas) are perceived negatively despite the fact that they are prerequisites for further development of a given town or village. In addition, young people seem to be more used to the current landscape composition, perceiving these negative features more positively than older people. Landscape continuously changes and it cannot be ruled out that what people today generally consider to be negative will be considered to be positive in the future. Therefore, the conclusions made by this survey may differ in a substantial way from the conclusions a different survey will come to in the future; however, the conclusions presented herein may serve as useful data for a diachronic comparative analysis of landscape perception and society in general.

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