

LANDSCAPE MULTIDISCIPLINARITY

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Abstract. In the natural evolution of life, a multitude of human settlements and, at the same time, as many types of attitudes towards nature have emerged and developed over the centuries. The way and pace at which man intervenes in the natural environment reveals a kind of involution in the understanding of nature generated by a lack of respect for it. In the early days, man lived in complete harmony with nature, the pragmatism of everyday life gradually leading to his estrangement from the essence of nature. The process of urbanisation can bring about major changes that lead to the loss of identity in some landscapes. But change can also be creative, not just destructive. It can create new values, new resources, new dimensions, new experiences, new relationships with familiar and unfamiliar elements, an understanding of the world and our place in it. And this is where creative people from different fields come in, doing all these things using their knowledge, making observations, analyses, documenting, planning and finally designing. This is why it is important to perceive the landscape as a necessary action in the work of landscaping it or creating new ones.

Keywords: landscape, anthropic, nature, multidisciplinary, green system

INTRODUCTION

By 2050, the Earth's population is expected to grow to 9 billion, 75% of whom will live in urban areas. The expansion of built-up areas will lead to a significant loss of natural environments in cities, and thus to a weakening of people's connection with nature. The world as we see it is a rather vague concept, as everyone perceives the environment differently, each with their own value system. Unfortunately, man is not content with being an observer, but rather modifies his environment. It is an action that cannot be prevented because man, by his very nature, evolves by automatically modifying his surroundings. Due to the exponential increase in human pressure on nature in general, this is becoming an increasing 'stress' factor on the geographical support. Eugene F. Stoermer (1937-2012), professor of biology at the University of Michigan's School of Natural Resources and Environment, used the term *anthropogenic* in the early 1980s, referring to the impact and evidence of the effects of human activities on the planet. Excessive anthropogenization of land can also have a drastic influence on the fauna, flora and natural landscape, because "the soil erosion process represents today one of the most aggressive and disastrous phenomena in almost all the temperate and warm areas of the world and it came to a stadium when we cannot wait any longer, because every year amplifies and increases the consequences of erosion and the fight against this calamity became harder and more expensive" (Dirja et al, 2002).

MATERIAL AND METHODS

Several definitions of landscape have been developed scientifically and academically, each of them referring directly to space, biotic and abiotic factors as well

as to anthropogenic factors. Drăguț (2000) said about landscape that it is "a spatial structure expressed by its own physiognomy, individualized as a result of the interaction of abiotic, biotic and anthropic factors, which is valued in a differentiated way depending on the way it is perceived". Alexander von Humboldt, considered the father of geography and biogeography, was one of the first naturalists to bring landscape to scientific attention, taking it out of the exclusive realm of garden art and painting. According to the European Landscape Convention, it: "designates a part of the territory perceived as such by the population, the character of which is the result of the action and interaction of natural and/or human factors" (L451/2002).

The classical structure of a geographical landscape (Bertrand, 1968; Tudoran, 1983) is made up of three categories of elements: the *ecological potential*, as a result of the combination of geomorphological processes, climate and hydrography, which supports biological and anthropic exploitation, the *biological exploitation*, made up of biogeographical associations and their associated soils and the *anthropic activity*, which modifies the landscape most aggressively. The relationship between the components of a landscape will create a landscape dynamic, which can be subtle or, on the contrary, highly perceptible, diurnal (influencing the physiological processes of vegetation and animal and human biorhythms), seasonal (affecting the characteristics of the geographical space through seasonal changes or even activating pedological or geomorphological processes), secular and millennial, under the action of anthropogenic activities and climate.

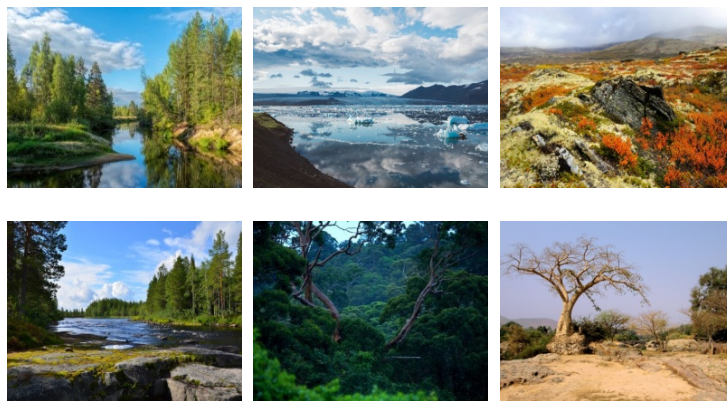


Figure 1. Types of landscapes, depending on the climate

<https://pixabay.com/ro/photos/islanda-ghe%c5%a3ar-peisaj-natura-677694/>

<https://ro.eferrit.com/tundra-biome/>

<https://www.fototapet3d.ro/produs/fototapet/fototapet-personalizat/fototapet-peisaj-montan-fox-01-0163/>

<https://www.conserve-energy-future.com/taiga-biome.php>

<https://forestgeo.si.edu/ecological-zone/subtropical-humid-forest>

<https://www.jardineriaon.com/ro/arbori-de-savan%C4%83.html>

Climate plays a defining role in the existence of the planet's multitude of landscapes. These include the polar glacial landscape (Arctic and Antarctic), the tundra landscape with low lying areas covered with tundra vegetation, the taiga-type coniferous forest landscape characterised by the evergreen appearance of the forest vegetation, and the temperate-oceanic landscape, maintained by moderate temperatures and abundant rainfall, the deciduous forest landscape, with an appearance influenced by the succession of the seasons, the temperate steppe and semi-desert landscape, where vegetation gradually changes from steppe to semi-desert and even desert. Then

there is the Mediterranean-type landscape with xerophytic forests and shrubs, the subtropical oceanic landscape where rich rainfall from the ocean has favoured the development of tree vegetation, the monsoon landscape, the savannah landscape, the tropical arid desert landscape and, last but not least, the equatorial forest landscape.

Recognition of the intrinsic value of landscape, which is practically a non-consumable value and which certainly contributes to maintaining ecological balance and nature as the basis of life, is essential. In addition to the *ecological*, *cultural* or *economic* value of the landscape, it also has a *social value*, often neglected, which refers to a number of attributes that make the landscape able to generate some benefits for society, but which cannot always be financially quantified, or not in full, but which are of major importance for the community. "Besides the natural elements of landscapes, residents are also interested in the cultural aspects. In new suburban areas, new residents have the opportunity to take part in outdoor activities, and thus may come to know and enjoy landscapes that are "natural" (Dincă, Teodorescu 2015). The *educational value*, as we are talking here about protected areas, spiritual value, given that the landscape can generate different moods, emotions, feelings and *economic value*, translated by the market value of medicinal plants, berries, used for the own consumption of local people. The landscape therefore reflects, at a structural and functional level, the interactions between natural and man-made systems and the changes in them.

Human intervention in the natural landscape has become chronic, sometimes with minor, insignificant influences on the landscape, sometimes with aggressive intervention leading to long-term imbalances, e.g. forest landscapes that are affected by massive deforestation, urban landscapes that are constantly emerging, or industrial landscapes.



Figure 2. Intact forest landscape and cleared forest landscape

<https://www.banatulazi.ro/peste-100-000-de-semnaturi-pentru-oprirea-defrisarilor-in-romania/>
<https://www.publicdomainpictures.net/en/view-mage.php?image=51682&picture=forest-landscape>

Landscapes can be classified according to criteria considered to be objective. Today, there are two broad categories of landscape, namely *anthropic landscape* and *anthropized landscape*, and there is a clear difference between them. The anthropic landscape is a landscape that has been totally transformed by man and in which man-made elements and structural factors are predominantly identified, such as urban landscape and industrial landscape.

The anthropized landscape is the result of human activity interfering with the natural environment, but it retains some of its original characteristics, with human activities integrating with the environment, i.e. a landscape that has only been partially transformed, with the ratio remaining in favour of the natural environment. Some areas can be considered anthropized, even if at first sight they appear natural, and the degree

of anthropization is sometimes difficult to determine because the state of the landscape prior to human action has to be estimated very accurately.

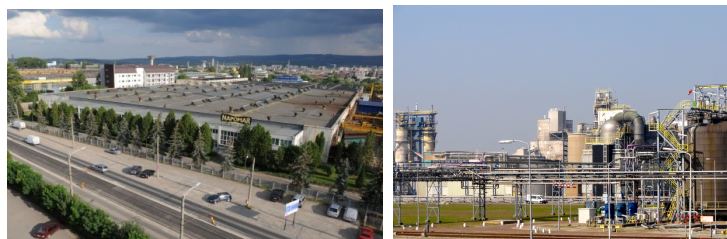


Figure 3. Anthropic landscape

https://www.napomar.ro/?page_id=17

<https://pxhere.com/en/photo/1247356>

The methods, tools and technology used by man to anthropise are very different today as compared to what they were in the past, so the damage to the environment is different. So, the effect of modern anthropisation is greater not only because of the world's growing population.



Figure 4. Anthropized landscape Peisaj antropizat, Apuseni mountains

<http://www.putereagricolahttps://www.youtube.com/watch?v=C1TxW18RhrA.ro/judete/Bistrita-nasaud/>

<https://www.youtube.com/watch?v=C1TxW18RhrA>

Another type of landscape is of economic and, but also, of cultural importance, specific to each geographical region, and is also important in terms of the function it performs in the green system of the area in question, and here we mention the agricultural landscape, which appears in various forms, i.e. the landscape of traditional gardens (this may also include the landscape of greenhouses), the landscape of orchards and vineyards, the landscape of agricultural crops and the landscape specific to livestock farming activities.



Figure 5. Agricultural, orchard and vineyard landscapes

http://www.canal2.md/news/fermierii-moldoveni-care-detin-terenuri-agricole-pe-malul-stang-al-nistrului-isi-vor-recapata-dreptul-de-proprietate_76853.html

<https://www.paradisverde.ro/intretinerea-livezii/cum-protejam-livada-de-bruma>

<https://gradinavesela.ro/cum-sa-cresti-vita-de-vie/>

From a landscaping point of view, the transformations occurring during construction and even afterwards can generate a visual impact, which must be assessed in terms of the distribution of volumes, the presence of vegetation and the choice of the necessary landscape integration interventions. In order to understand the configuration of a landscape or to understand some of the criteria according to which a future landscape can be designed, an analysis of the site in question is necessary. By creating environmental units of high landscape value, even on private properties, a balance can be achieved in new residential areas between built elements and nature.



Figure 6. The specific landscapes of animal husbandry, of greenhouses and traditional garden

<https://www.revista-ferma.ro/articole/dezvoltare-rurala/legea-muntelui-si-traditia-pastoritului-montan>

<https://www.sereimd.ro/sere-modulare.php>

<https://www.wildventure.ro/locatii-eco-turism-transilvania/>



Figure 7. Construction site landscape

<https://stirileprotv.ro/stiri/timis/cum-arata-santierul-michelangelo-la-trei-luni-dupa-inceperea-lucrarilor-galerie-foto.html>

<https://www.g4media.ro/video-cum-se-lucreaza-pe-autostrada-transilvania-la-tronsonul-de-30-de-km-de-la-nadaselu-la-zimbor.html>

<https://www.aov-architecture.ro/santiere>

RESULTS AND DISCUSSIONS

So, landscape could be said to be an interdependence between space and time, between nature, society and the individual, a close relationship between man and the world around him. It can exist naturally or be created for a variety of purposes (economic, social, cultural, functional and aesthetic). Because of its multidisciplinary nature, landscape cannot be reduced to a single universally valid and sufficient definition. The field of landscape and at the same time urban planning has attracted other fields and subfields, thus succeeding in reconfiguring landscape. There are two views on the value of a landscape, namely that the aesthetic value of a landscape is a quality in itself, and another view that this aesthetic value arises in the eye of the beholder.

The European Landscape Convention briefly defines landscape as "a part of the territory perceived as such by the population", but it is obvious that the perception of landscape is very different from one individual to another depending on their

individual character, level of education, cultural patterns or field of activity, and there are different perspectives, from the natural sciences, i.e. landscape science, agronomy, forestry, geography, ecology, geology, biology, tourism, to other sciences such as: Fine arts, architecture, urbanism, history, anthropology, ethnography, ethnology, or sociology. In addition, the criteria for evaluating the image elements of a landscape, which by association form its visual structure, are light, visibility, angle of incidence, distance from the observer, angle of depression, angle of elevation, depth (Drăguț, 2000).

CONCLUSIONS

In order to maintain a balance between the natural environment, its resources and humans, strategic planning of development is necessary so that there is a stable relationship between the natural habitat and the human population at all times. Landscape and its study bring together a range of scientific rationales such as geology, ecology, geography and technical rationales such as agriculture, horticulture, architecture and urban planning.

We should not forget that history has brought us admirable landscapes, and the representation and understanding of landscape has been a subject of great interest since the Renaissance (Zube et al, 1982), a period which brought with it the revival of ideas specific to the world of ancient Greece and Rome on beauty characterised by: proportion, symmetry, balance, perspective representations of landscapes belonging to balanced and meticulous compositions. Landscape is a natural heritage, but also a cultural, aesthetic and social asset, which today, even if theoretically of concern to us, is being destroyed on a large scale. The multidisciplinary of landscape is a positive aspect in understanding its meanings (Dincă, 2005), and this characteristic should be increasingly exploited.

REFERENCES

1. Dincă I., Camelia Teodorescu, 2015, The romanian rural space and its landscapes: attraction and motivation for relocating townspeople, *Geographia Napocensis Anul IX, Nr. 1*, p.21-36
2. Dirja M., V.Budiu, I. Păcurar, N. Pop, D.Tripon, M. Jurian, 2002, Researches regarding fighting against erosion on new founded cultivated grass lands in the north west of România, *Journal Central European Agriculture*, volume 3 (2002) No. 3, p.240-246
3. Drăguț L., 2000, *Geografia peisajului*, Editura Presa Universitară Clujeană, Cluj-Napoca, p.119
4. ***Lege nr. 451 *din 8 iulie 2002* pentru ratificarea Convenției europene a peisajului, adoptată la Florența la 20 octombrie 2000 Publicat în Monitorul Oficial, Partea I nr. 536 din 23 iulie 2002