

Semiotic study of landscapes: An overview from semiology to ecosemiotics

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Abstract. The article provides an overview of different approaches to the semiotic study of landscapes both in the field of semiotics proper and in landscape studies in general. The article describes different approaches to the semiotic processes in landscapes from the semiological tradition where landscape has been seen as analogous to a text with its language, to more naturalized and phenomenological approaches, as well as ecosemiotic view of landscapes that goes beyond anthropocentric definitions. Special attention is paid to the potential of cultural semiotics of Tartu–Moscow school for the analysis of landscapes and the possibilities held by a dynamic, dialogic and holistic landscape definition for the development of ecosemiotics.

Denis Cosgrove (2003) has stated that there are two distinct discourses in landscape studies, ecological and semiotic. “A semiotic approach to landscape is sceptical of scientific claims to represent mimetically real processes shaping the world around us. It lays scholarly emphasis more on the context and processes through which cultural meanings are invested into and shape a world whose ‘nature’ is known only through human cognition and representation, and is thus always symbolically mediated” (Cosgrove 2003: 15). He explicitly calls for cooperation and

mutual respect and understanding between these two discourses, maintaining that no ecologic interpretation or policy can ignore the effect of cultural meaning-making processes, whereas it must be recognized too “that meaning is always rooted in the material processes of life” (Cosgrove 2003: 15).

The beginning of “landscape semiotics” as such is very difficult to pinpoint, since there has been little explicit usage of semiotic terminology in landscape studies, although a wealth of inherently, albeit implicitly, semiotic scholarship has been produced on topics such as landscape representations and preferences, the manifestations of power relations and the embodiment of social structures and memory in landscapes. There are many works that could potentially belong to landscape semiotics but which do not identify themselves as such. Mostly it is not yet a subject that enjoys an independent status in university curricula, apart from the *Landscape Semiotics* course taught in the University of Tartu since 2005. Most landscape scholars understand “semiotics” much more narrowly than semiotics as a discipline sees itself, equalling it mostly to linguistics and Saussurean influenced semiology. Scholars of semiotics, on the other hand, tend to prefer the “social space” as their concept of choice, with a special emphasis on urban semiotics (like Lagopoulos, Boklund-Lagopoulou 1992; Gottdiener 1995; Randviir 2008). In many cases, the terms “space”, “place” and “landscape” are used interchangeably, without much terminological rigour or distinction (that is not rare in human geography either). Often the borders with neighbouring disciplines such as the semiotics of tourism or architecture are difficult to draw. Departing from natural sciences, Almo Farina (2010) has actively worked on the semiotic understanding of landscape ecology, but a more comprehensive synthesis between the ecological and cultural semiotic branches in landscape research, which Cosgrove called for, is yet to be developed. Between the semiological/ structuralist and ecological currents we can see a growing body of work that seeks to embody and materialize the semiotic study of landscapes with the help of phenomenology, Peircean semiotics or the semiotics of culture, and that in future years could contribute to the new emerging synthesis.

In this article, after shortly defining the concept of landscape, we will give a review of existing work in the semiotics of landscape, according to different theoretical schools within semiotics, such as (but not limited to) Saussurean, Peircean and Tartu–Moscow school of cultural semiotics. At that we concentrate mostly on the works that explicitly have chosen “landscape” as their working concept (rather than close concepts of “space”, “place” or “environment”). In the final section we will shortly envision the potential of landscape concept for a semiotic analysis.

1. Terminological background: The concept of landscape

“Landscape” is a fuzzy term with diverse usage both in common everyday language and in academia, with its multifarious definitions in different disciplines and different stages of its development ranging from a term referring to an areal category or human traces in the environment to a purely mental image of one’s environment. The popularization of the concept across academic fields and within geography itself, and its entrance to the discourse of environmental protection policies has not reduced the ambiguity of the notion, but surprisingly enough, this has not impaired the concept’s functionality too much.

In the popular usage the word “landscape” in main Germanic and Romanic languages has underwent a change from the meaning “inhabitant of a restricted area” or “land as a particular area of political unity” to the meaning of “picture of a given area” or an “aesthetically pleasing land within one’s field of vision”. The latter, presently most widespread usage of the word “landscape” in these languages is directly related to Flemish landscape painting.

The use of the term “landscape” as a specialised academic research concept is not very straightforward either, ranging from a purely physical phenomenon to a visual or cultural image. This is partly inevitable as it is a term used in various disciplines from landscape ecology and geography to anthropology and art history. While art history sees

landscape as a definite genre depicting vistas of natural surroundings from certain distance, or more generally, as mediated land that “has been aesthetically processed” or “has been arranged by the artistic vision” (Andrews 1999) landscape ecology in its standard version sees landscape as an “area what is spatially heterogeneous in at least one factor of interest”, a spatial mosaic, where the ecosystemic relations unfold, and the aim of the landscape ecology is to uncover the relationships between spatial patterns and ecological processes (Turner *et al.* 2001: 2–5).

The definition that holds most political currency at the moment and represents the widest possible consensus in European landscape research is probably the one featured in European Landscape Convention (ELC)¹. Adopted by Council of Europe in Florence in year 2000 and presently ratified by 32 and signed without ratification by 6 countries, the convention defines landscape as follows: “[...] area as perceived by people, whose character is the result of action and interaction of natural and/or human factors” (ELC, Article 1) and “[...] an essential component of people’s surroundings, an expression of the diversity of their shared cultural and natural heritage, and a foundation of their identity” (ELC, Article 5a).

This definition includes several assumptions that are today more or less recognised by the majority of European landscape researchers:

- (1) Landscape is not limited to physical landforms, neither to a cultural image nor a way of seeing: it is a holistic notion that links both the physical expanse and the cultural ideas that a perceiving subject or a society has about it. It is a humane phenomenon.
- (2) Diverse cultures (including subcultures and power groups) have diverse landscapes.
- (3) Landscape is shaped in time and is necessarily a historical phenomenon. It preserves traces of what has been or is important (natural and cultural heritage). These traces can be interpreted and are used for identity building.

¹ The official text is available at http://www.coe.int/t/dg4/cultureheritage/heritage/landscape/default_en.asp.

- (4) Landscape is a collective phenomenon, but at the same time individual perception is extremely important in defining the qualities of a landscape. Collectivism and the importance of individual perception are not contradictory elements in the definition.
- (5) Landscape has an areal aspect.

Not all approaches to landscape that are described in the present article depart from these assumptions, normally emphasising one aspect in this definition over the others. Nevertheless, they are roughly the basis for our understanding and proposals for future semiotic analysis of landscapes.

2. Semiological approaches to landscape semiotics

For many scholars from a background other than semiotics, “semiotics” is loosely equated with the analysis of meaning and signification in linguistics. “Semiotics”, “semiology” and “linguistics” often appear as near synonyms, whereas in several handbooks of geography a distinction is made, for example, between the iconography and semiotics of landscapes (Crang 1998), that are both seen as integral parts of semiotics by the semioticians. Landscape semiotics grounded on the semiological and/or structuralist approaches and post-structuralist antithesis is by far the most common among the explicit attempts to develop landscape semiotics. Structuralism in all its different developments from Saussure and Barthes to Greimas, is also the most preferred approach in applied landscape semiotics (Monnai 1991, 2005; Son *et al.* 2006; Monnai *et al.* 1981–1990; Haiyama 1985; Lukken, Searle 1993) and is most popular among those scholars whose main field of research is outside semiotics, including geographers, architects and others (Imazato 2007; Knox, Marston 2001; Czepczyński 2008; Claval 2004, 2005; Møhl 1997; Lindsey *et al.* 1988; Nash 1997).

The methodology of semiological analyses consists mostly of applying different linguistic concepts to the study of landscape elements.

Landscapes are seen as sign *systems*, that is, diverse landscape phenomena are thought to form a coherent systemic whole where each of the elements is related to each other and where individual signs can be combined into sequences according to certain codes. The semiological approaches find their inspiration in the works of Saussure, Eco, Barthes and Greimas and tend to base their discussion on the following assumptions:

- (1) Landscapes are to a certain extent analogous to languages.
- (2) Landscapes, like languages, consist of signs, that is, independent identifiable meaningful units.
- (3) Landscape signs like language signs can be described by the Saussurean sign model that consists of the *signifier* and *signified*, the relation between which is *arbitrary* and unmotivated by any observed features (the relation between a horse-riding statue and the concept of power, for example, or a big porch and wealth, is equally arbitrary as the connection between the word “horse” and a big animal we refer to by this word).
- (4) The meanings of the arbitrary signs are understood through their *similarity* and *difference* to other signs in the sign systems.
- (5) Each single real-life landscape element (sign) is *parole*, that is, a local manifestation of some deeper language, the *langue*, or a deep structure (a notion borrowed from the generative grammar).
- (6) Landscape elements/signs are combined into “utterances” according to some (social) codes. These utterances are normally analysed from the point of view of the receiver’s social codes.
- (7) Landscapes can be analysed with the same methodological devices as language, discourse or text.

2.1. Landscape as text

The work of a landscape analyst in “reading” the landscape is therefore to identify signs and meanings in a landscape environment and deduce codes according to which these meanings have been grouped.

Such an approach is shared by many geographers who do not explicitly align themselves with semiotics, but nevertheless speak of landscapes as “texts” that need to be “read” and that act as communicative systems. Duncan (1990: 20ff), for example, indicates a whole set of textual devices, such as tropes (synecdoche, metonymy and others) that allow landscapes to convey their messages and reproduce social order. This approach frequently emphasises the fact that these landscape signs are not as innocent as they look, being wittingly or unwittingly involved in the discourses of power, race, gender and nationalism (Duncan, Duncan 1998, 2004, 2009). Lagopoulos and Boklund-Lagopoulou (1992: 209–217), for example, depart from Greimas and distinguish 32 different social codes according to which our conception of regional space can be structured, divided into subsets of economic, social, functional, ecological, topographical, personal codes and codes of built environment and history.

The notion of text itself has undergone several changes in the scientific history of the second half of the twentieth century, allowing for a larger plurality of voices in the text and giving more power to the interpreter and less power to the producer of the text. Nevertheless, the methodological approach remains similar: to identify individual signs, codes and messages among apparently neutral physical forms. In that, the emphasis is almost always on the side of the interpreter rather than the sender. Despite the developments, the text-metaphor remains relatively rigid and hierarchic. It is characterised by very little fluidity, leaving very little space for creativity and spontaneous irregular processes, unlike the notion of “text” that is used in the cultural semiotics of Tartu–Moscow school where the text is considerably more dynamic, including both creativity (that is, non-regulated future possibilities and unpredictable processes) and memory (that is, individualized past) as opposed to crystallized universal codes.

2.2. Representational approach

From the 1970s, a new interest in the more subjective human landscape experience gained momentum with the works of phenomenologists such as Yi-Fu Tuan (1974; 2005[1977]) and Edward Relph (1976), and the so-called “cultural turn” in geography brought a “heightened reflexivity toward the role of language, meaning, and representations in the constitution of ‘reality’ and knowledge of reality”, attention to economic and political aspects, identity and consumption, as well as to the impact of cultural constructions of race, gender and class on landscapes (Barnett 1998: 380). The peak of the confrontation with the quantitative physical landscape concept was probably reached in the completely ideational definitions, such as Daniels and Cosgrove’s famous observation that “landscape is a cultural image, a pictorial way of representing, structuring or symbolising surroundings” (Daniels, Cosgrove 2007[1988]: 1) that leaves the landscape idea with almost no physical reference to the external world. While this extreme definition was later modified by Daniels and Cosgrove themselves, the present mainstream definition of landscape is still very conscious of culture and its role in shaping the environment, including in its definition physical land forms, as well as its cultural image and representation and the influence of the foregoing on physical landscape processes. Developed through several hallmark publications such as Cosgrove 1984, Cosgrove and Daniels 1988, Barnes and Duncan 1992, Duncan and Ley 1993, representation of landscape, its political and practical implications has become one of the most pervasive topics in humanistic landscape research. The criticism of the representational approach is directed against the naïve conception that a representation can be entirely mimetic and landscape paintings in particular have been an on-going source of examples about the discrepancy between the semiotic and physical reality. The semiotic constructedness of photographs, literary texts, maps and other geographical methodologies has also been brought to attention. This current is no doubt one of the most influential ones in late 20th century landscape studies and enjoys continuing popularity; therefore it is no wonder that Cosgrove’s

understanding of “semiotic discourse” is in fact roughly equal to representation studies and their later developments.

2.3. Other semiological approaches

Semiotics in its narrowest sense of decoding written linguistic signs is prevalent in linguistically oriented notions of geosemiotics and linguascape. Scollon and Wong Scollon (2003) used the term “geosemiotics” to describe “the study of the social meaning of the material placement of signs and discourses and of our action in the material world” (Scollon, Wong Scollon 2003: 2) and argued that there are three main systems in geosemiotics: the interaction order, visual semiotics, and “place” semiotics. Geosemiotics, in their approach, is largely dedicated to the study of road signs, product logos etc. in their relation to the spatial. Baker (1999), in a paper titled *Geosemiosis*, called geologists to benefit “from a branch of philosophy called semiotics”. In his argument, “signs are not mere objects of thought or language, but rather are vital entities comprising a web of signification that is continuous from outcrops to reasoning about outcrops” (Baker 1999: 633). For Baker, geosemiotics is a study of signs as a part of a system of thought that is continuous with aspects of Earth’s so-called “material world”². This is parallel to the sociolinguist’s concept of “linguascape” or “the linguistic landscape” (especially the works of Adam Jaworski) which deals with the most narrow and material sense of the word “sign” in the framework of a classical Marxist economical understanding of landscape as the locus of power struggles and consumption. For example, a recent book in sociolinguistics edited by Jaworski and Thurlow (2010) with a promising title *Semiotic Landscapes* is a study very well informed on landscape studies in art and geography, but the “semiotic landscape” here refers solely to

² Baker, Victor 2009. *Geosemiosis: Scientific conversation with the Earth*. Presentation at the 3rd Nordic Geographers’ Meeting in Turku (<http://congress.utu.fi/ngm09/Baker.pdf>).

linguistic landscapes and the role of texts (in a narrower sense of written linguistic representations) in landscapes and their creation.

From the side of semiotics, a call for developing the field of landscape semiotics can be found in the book *Existential Semiotics*, by Eero Tarasti, who envisions landscape semiotics as a “study [of] the landscape as a kind of sign language” (Tarasti 2000: 154). The departure point of Tarasti is landscape aesthetics, on the basis of which he then strives to develop a vision of Greimasian landscape semiotics. His book chapter is by no means a systematic development of landscape semiotics, but rather a conceptual paper envisioning possible approaches and his definition of landscape remains anthropocentric and culture-centred, heavily oriented towards the study of representations.

Massimo Leone (2009) is another semiotician who has made an explicit mention of semiotic landscapes, in proposing the notion of “semio-geography”, which is a neologism for “a sub-discipline that studies patterns and processes that shape human interaction with various environments, within the theoretical framework of semiotics” (Leone 2009: 217). In the course of his analysis, he adopts the term “semiotic landscapes” to mean “a pattern of perceptible elements that individuals come across in public space” (*ibid.*), aligning himself very clearly with the semiological tradition that seeks to identify individual units of meaning in landscapes.

Monnai Teruyuki and his colleagues (Monnai 1991, 2005; Monnai *et al.* 1981–1990; Moriyama, Monnai 2010; Moriyama, Monnai *et al.* 2006–2010 among others) have developed a complex landscape semiotics for practical analysis and planning purposes in architecture. Unlike the textual research paradigm that is implicitly or explicitly semiological, the foundations of Monnai’s approach are Peircean. He uses a variety of Peircean notions, notably semiosis and Peirce’s triadic sign concept, but then combines it with several other rather binary notions like frames, and carries out a formalised analysis of buildings and the built environment which (probably due to the nature of building structures as a subject matter and the analysing software) is more reminiscent of structural linguistics and generative grammar. For example, in the first

of his article series on Japanese traditional townscapes, he differentiates between the syntactic, semantic and pragmatic dimensions of semiosis, but then goes on to analyse only the first two in a constituent analysis that resembles Saussurean approaches (Monnai *et al.* 1981–1990: 1). They also use extensively Saussurean ideas of similarity and difference between the signs as the clue to their meaning. Despite the methodological mixture, Monnai and his colleagues have unarguably managed to create a functional framework for a semiotic analysis of the built environment that serves not only for intellectual purposes but also for real-life planning. However, this landscape semiotics includes landscape only in its narrowest sense, that is, landscape as a built environment. There are other semiotic applications on architecture in Japan that are classical structuralist and analyse landscape structures according to binary features, mostly because it is the easiest way to quantify the analysis (see, for example, Haiyama 1985).

3. Semiotic approaches: Toward materialisation and processualisation

3.1. Phenomenological landscapes

Phenomenological approaches to landscape deal with a very fundamental aspect of semiotics, that is, how the meanings are generated in the phenomenal world and in respect to the corporeality of the person who dwells in a landscape. This is in stark contrast with the “arbitrary sign” understanding of the semiological interpretations, where landscape meanings were necessarily inscribed on them from outside and had no experiential motivation to them other than dictated by external social codes (especially power structures). Ingold (2000: 153) has stated that “the world continually comes into being around the inhabitant, and its manifold constituents take on significance through their incorporation into regular pattern of life activity”.

This stance has been expressed in the works of phenomenological authors such as Relph (1976), Tuan (1974, 2005[1977]), Tilley (1994), Ingold (2000) and Abram (1996), to mention some outstanding works. Inspired by Merleau-Ponty, Heidegger and Husserl, landscape is seen more as a holistic phenomenon perceived with all senses and the whole body (hearing, smells etc). Perceptive processes and intellectual mechanisms (that is mind and body) are not separated; we are our body who lives the landscape, taking in its cues and being in inter-action with all its semiotic processes. Meaningful units in landscapes are created through interaction with other entities (both organic and inorganic) in the landscape and through one's everyday bodily action, through routines and practices (for example, 'taskscape' — see Ingold 2000: 189–208).

A collection of articles *Symbolic Landscapes* edited by Backhaus and Murungi (2009) seeks to overcome the Saussurean (structuralist) understanding of symbol as something purely ideational and replenish the theory of symbolic landscapes with Merleau-Ponty's philosophy, seeing symbol as something that "arises between the lived-body and its milieu in gesture that freely enters virtual space" (Backhaus, Murungi 2009: 26) and rejecting the division line between perception and conception.

On the other hand, a radical step into understanding the participation of the corporeality in the meaning generation and design of landscapes is represented by the British non-representational and mobility studies (for example, Thrift 2008; Merriman *et al.* 2008; Cresswell 2006; Urry 2007). Animal geography with its emphasis on other living beings and their meaningful landscapes is a transfer zone between classical landscape studies, phenomenological approach and ecosemiotic understanding of landscapes as developed by Almo Farina and his colleagues (for example, Philo, Wilbert 2000; Whatmore 1999; Wolch, Emel 1998).

3.2. Peircean approaches

Recent years have seen the influence of Peircean semiotics growing internationally and quite expectedly this semiotic paradigm has also started to appear in landscape semiotics. According to Metro-Roland, Peirce's understanding of sign processes (that is, semiosis) offers a good theoretical model about how mind and world, or thoughts and objects relate to each other (Metro-Roland 2009, 2011), since Peircean sign relation consists not only of arbitrarily combined signifier and signified, but includes a relation to non-semiotic (and semiotic) reality.

Another attempt to write Peircean landscape semiotics has been published by Tor Arnesen (1998, 2011). He concludes that landscape as a whole is a sign that stands in triadic relations with the object (physical land) and the interpretant (the community). Arnesen makes an attempt to apply a Peircean sign concept that is a triadic relation between (1) *representamen* or a *sign vehicle*, that is, "the concrete subject that represents" (CP 1.540); (2) *the object* or "the thing for which it stands" (CP 1.564); and (3) *the interpretant* or "the idea to which it [the sign vehicle] gives rise" (CP 1.339). However, Arnesen's application is based on a very principal deviation from the Peircean and post-Peircean definition of these terms. First, while Peirce notes that "the interpretant cannot be a *definite* individual object" (CP 1.542, emphasis original) and sees it as "[t]he mental effect, or thought" (CP 1.564), Arnesen defines interpretant as the person who interprets. Second, despite emphasising that sign relation cannot be reduced to any of the three components, he still does not make a distinction between the sign as a result of the sign relation and the *representamen* or sign vehicle. Also, his "object" is necessarily the physical terrain, whereas Peirce himself understands objects much more widely, including also non-physical phenomena and facts. In fact, instead of the Peircean sign relation where sign = the correlation of the sign vehicle, the object and the idea that the sign produces, Arnesen depicts a very different triangle that includes (1) physical lands as the object of reference, (2) the people as the interpreters and (3) the sign or "the interpretations of an area by a sign user" (Arnesen 2011: 365).

In classical Peircean terms, Arnesen's landscape would rather be an interpretant, with an important difference that for Peirce interpretant can also be pre-conscious and consist of some quality, while Arnesen sees it as mediated by language use (Arnesen 2011: 366). Thus, his ideas also remain on the border of Peircean and Saussurean paradigms.

However, Arnesen's idiosyncratic interpretation of the main Peircean concepts does not curb the validity of his main argument that surges from the Peircean definition of sign: "a sign is something, *A*, which denotes some fact or object, *B*, to some interpretant thought, *C*" (CP 1.346). In terms of landscapes this means that landscape as a whole is a landscape for someone with some specific meaning — with an evident, but important consequence that for the same physical area there can be any related number of interpretative communities and consequently landscapes. However, differently from the text- or discourse-based approaches to landscapes as a semiotic reality, the physical area is always included in Arnesen's landscapes as one of the consistent factors. In short, the Peircean approach allows for an analysis of the interrelations between the consistent physical and mental elements in respect to the sign user and contextual information.

The Peircean sign model allows for a separation of mental (or symbolic) landscapes and material ones and permits one to follow separately the dynamic changes of a landscape as a symbolic resource and as a material resource. Both of these dimensions can change together, but they can also change separately and changes in material landscapes do not necessarily imply changes in the perceived landscapes that have been "processed" through the symbolic thinking. Depending on the community's perceptions of these changes ("conceivable practical effect" — Arnesen 2011: 366; 1998: 42) we can speak of landscapes that are lost in battle (material change is the result of a dispute), faded out (material change remains unnoticed in the dominant symbolic discourse), but also gained (Abrahamsson 1999), since a new material landscape opens up new symbolic possibilities and will sooner or later be "appropriated".

Similar concerns are reflected in the works of what has been called “material semiotics” (Latour, Haraway — see Hinchliffe 2002: 217ff), which has taken to restore materiality to the meaning, emphasising that

landscapes are socio-material processes that, due to the action of both people and nature, continuously undergo morphological change (in the most material sense) and revision (in the sense that landscapes are viewed by people). Landscapes are the contested networks of material-semiotic relationships, provisional alliances between people and things, and contested representations viewed from a necessarily situated perspective. (Mercer 2002: 42)

Although several authors in this tradition resort to Greimasian rather than Peircean models, the important theoretical implication of the re-materialization of the semiotic landscapes is the understanding that there are always several contesting semiotic realities concerning one physical area and that planning and management has to necessarily accommodate several different and often conflicting semiotic realities and visions of future and past.

3.3. Tartu–Moscow semiotics of culture

The Tartu–Moscow school of semiotics and especially the works of Juri Lotman have provided a set of concepts that have a high potential for integrative landscape studies, ranging from the analysis of representation, to a novel understanding of communication (especially autocommunication), text, semiotic space and models of change. Only some of these seminal ideas have been fully developed in respect to landscape studies (for example, St. Petersburg’s “text” or autocommunication — see Lotman 1990) in their original context, while some have been developed later by younger colleagues in Tartu (Lindström 2010, 2011, 2012), and some still wait for their potential to be fully realised.

A model that might help in studying landscape change has been proposed by Lotman (2009) in his book *Culture and Explosion*. While most other semioticians focus on studying translation between (usually two) separate sign systems, Lotman pays attention to borders within

one system, and the translation possibilities that the border creates, that is, the continuity or persistence and the change of the system. One of the central aspects of landscape, from the semiotic point of view, is the existence of boundaries, communicative borders, within the landscape, which can be seen as the main factor and mechanism of the internal diversity of landscape and the main mechanism in generating new landscapes. Changes in any system are not always gradual and monotonous: Lotman distinguishes between gradual and explosive changes. During the former, the transition from periphery to centre and *vice versa* takes place in a gradual way and existing hegemonic structures are replaced in a slow transition. During epochs of explosive changes, all the existing semiotic structures get shattered and there follows an explosive growth of semiotic processes. Many competing new scenarios of development emerge at this point of disruption, only one of which finally consolidates and achieves the central position. In the same way, we can distinguish periods of gradual and explosive changes in landscapes, where in the epochs of explosive change a disruption with previous landscapes is produced. In such a way, the semiotic model of change allows for a description of dynamic non-equilibrium change processes, the outcome of which is not always dependent on ecological necessity or practical needs, but can be a result of religious, irrational or aesthetic semiotic values that hard science models cannot normally take into account (see also Palang *et al.* 2011). Difference between gradual and explosive change can also be very useful in describing processes of cultural memory and identity.

4. Ecosemiotic approach

Ecosemiotic approach is an academic approach that explicitly describes and analyses the role of sign processes in the modification of environment, of environmental design by organisms; it focuses on the semiotic mechanisms of relations in ecosystems. Since most relations established

and kept by life are either themselves semiotic or are products of semiosis, the semiotic approach in their study is relevant.

Semiotic approach in ecology means a description or study that pays attention to:

- (1) *distinctions* the organisms themselves make, the ways organisms themselves see the world, that is, the study of *umwelt* or organic categorization;
- (2) *intentionality* of organisms' behaviour, the role and types of organic needs and the changes resulting from organisms' search, individual learning, adaptation, *habituation*;
- (3) *communication* and its role in all levels of living systems; the formation of organic forms as communicative structures;
- (4) production of ecosystem as the result of multiple *organic design* by the organisms living in the ecosystem;
- (5) *types of sign processes* as they differ and vary in the processes of production and reduction of *diversity* (Kull 2008).

An author who has contributed most significantly to a systematic study of landscape processes from an ecosemiotic perspective, is Almo Farina (2006, 2010; Farina, Napoletano 2010). Taking a broader definition of ecosemiotics and broader definition of landscape that goes beyond the anthropocentric approach of human geography, and exceeds the narrow landscape ecological definition of landscape as a mosaic or organised space, he aspires to create a new framework that would take into account the multiplicity of agencies in a living environment and would reduce the gap between human values and ecological processes. Relating landscape to the notion of *umwelt* by Jakob von Uexküll, he emphasises the fact that landscapes are individually perceived and later puts forth the notion of a "private landscape" (Farina, Napoletano 2010; "eco-field" in Farina 2006): "the configuration of objects around an organism that are perceived in the context of space, time, and history (including memory, experience, culture, etc.)" (Farina, Napoletano 2010: 181). Thus, his semiotics of landscape is subject-centred, taking into account the species-specific lifeworld and the cognitive capacities of the

species, but also the experiential context (memory, and also history — if the species has a long-term memory) and even aesthetics. It also allows for the inclusion of immaterial resources, but only in case they are represented in some material artefacts. Although Farina's theoretical framework can also hypothetically accommodate analysis of humans, his own applications pertain mainly to the fields of landscape ecology and biosemiotics, and concrete ways to include human cultural systems into eco-field theory are not as thoroughly developed as the methodology for analysing the landscapes of other species.

Farina's "private landscape" is essentially a concept that belongs to the field of ecosemiotics, as defined by Winfried Nöth (1998: 333): "[...] ecosemiotics is the study of the semiotic interrelations between organisms and their environment". According to this definition, any living organism (humans, animals, but also plants and so on) is the centre of a landscape and the semiotic processes unfolding in that landscape. From this follows that landscape should be one of the central themes of ecosemiotics independently of whether we opt for a biological ecosemiotic definition or cultural ecosemiotic definition (*sensu* Nöth 2001; Nöth, Kull 2001), human-centred or simply organism-centred landscape definition. Farina's landscape semiotics and Nöth's "biological" definition of ecosemiotics undoubtedly compensate for excessive anthropocentrism in the semiotic studies of landscapes, but still fall rather on the side of what Cosgrove called "ecological discourse" in landscape studies. Integrative landscape semiotics should rather be born from the synthesis of "biological" ecosemiotics with what has been called "cultural ecosemiotics" that defines itself as "the semiotics of relationships between nature and culture. This includes research on the semiotic aspects of the place and the role of nature for humans, that is, what is and what has been the meaning of nature for us, humans, how and in what extent we communicate with nature" (Kull 1998: 350).³

³ On some additional aspects of ecosemiotic approach to landscape, see for instance Maran (2004), Siewers (2009; 2011).

5. Future perspectives

No doubt the studies of representation of and through landscapes and the issues of discourse and power connected to representations will be a source of continuous inspiration for landscape scholars for many years to come. Nevertheless, in the light of general tendencies of “re-materialization” and “corporealization” of human geography and semiotics, it is unlikely that these studies would remain confined to a Saussurean paradigm of arbitrary sign relations and ideational worlds of discourse. Instead, we will probably see more and more attempts to tackle the intricate mutuality of material and mental processes, both in signification, communication and interpretative bodily action, as well as their consequences for the material and life processes of other living organisms. As Metro-Roland (2009: 271) points out, the Peircean model is “more fruitful for the interpretation of signs outside of texts and language”, since his semiotics “treats explicitly the relation between the world and our understanding of it” by way of including in his sign relation the object, our understanding of it and the physical sign vehicle, and offering a thorough typology of their mutual interrelations, of which the Saussurean model covers only one, the symbolic sign use.

The main advantages of the term ‘landscape’ for the semiotic study of landscapes are the following:

- (1) Landscape is a holistic phenomenon that does not make unnecessary divisions into culture/nature, human/non-human, individual/collective, perceived/physical and so on beforehand. Such divisions can be used as analytical tools in each particular case at hand but are not projected onto the ontological state of the material through terminological preconceptions. Therefore “landscape” is a suitable term for overcoming rigid dualities predominant in modernist academic discourse.
- (2) Landscape is an inherently dialogical phenomenon and communication lies at the core of semiotic processes in landscapes. Thus, semiotics can provide adequate tools for analysing processes of landscape formation, because they are always a result of multi-party

- communication and depend on the sign categorization of the participants. The potential for the semiotic ideas of Mihhail Bahtin (such as dialogism and heteroglossia) and Juri Lotman (cultural translation, communication and autocommunication, models of change in a semiosphere made up of several semiotic subjects, among other seminal ideas) cannot be underestimated in this respect.
- (3) Semiotic studies of landscape can be very useful for practical planning and management policies, as they help to understand the dialogicity and generation of meaning in everyday landscapes, and comprehend how value is created in non-material terms. Peircean sign models also give a good methodological basis for discussing the different relations that the symbolic and material aspects of landscapes may have for different communities. It also provides a solid descriptive framework for understanding how different communities (and organisms of different *umwelten*) may live in different landscapes on the same physical grounds. Semiotics of culture, and especially the notions of “explosion” and “future histories” could prove very useful in mapping the dynamics of landscape change, understanding the becoming of past landscapes as a realization of one of the many possible futures, and consequently in improving planning and management capacities.⁴

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Семиотическое изучение ландшафтов: от семиологии к экосемиотике

В данной статье дается краткий обзор разных подходов к семиотическому исследованию ландшафтов как в самой семиотике, так и в ландшафтных исследованиях вообще. Описываются разные подходы к семиотическим процессам в ландшафтах, начиная с семиологической традиции, где ландшафт рассматривается как аналог языка или текста, до более «материальных» и феноменологических подходов, а так же экосемиотических представлений, которые отдаляются от антропо-семиотических определений ландшафта. Особое внимание обращено на потенциал Тартуско-московской школы семиотики культуры для анализа ландшафтов и для возможностей развития экосемиотики, содержащихся в динамическом, диалогическом и целостном определении ландшафта.

Maastike semiootiline uurimine: ülevaade semioloogias ökosemiootikani

Käesolev artikkel on ülevaade erinevatest lähenemistest maastike semiootilisele uurimisele nii semiootikas endas kui maastiku-uurimuses laiemalt. Artikkel kirjeldab erinevaid lähenemisi semiootilistele protsessidele maastikus alates semioloogilisest traditsioonist, mis näeb maastikku kui keele või teksti analoogi, materiaalsete, fenomenoloogiliste teooriate ning ökosemiootiliste käsitlusteni välja, kus eemaldutakse juba klassikalisest inimesekesksest maastiku definitsioonist. Erilist tähelepanu pööratakse Tartu–Moskva koolkonna kultuurisemiootika potentsiaalile semiootilise maastiku-uurimuse jaoks ning võimalustele, mida kätkeb endas dünaamiline, dialoogiline ja holistiline (st vastandustest hoiduv) maastiku definitsioon ökosemiootika arengu jaoks.