ECOSEMIOTIC BASIS OF LOCALITY

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The study of relations between culture and nature requires a discussion between different fields of science – no so-called pure discipline can completely embrace such a diverse subject. In Estonia, literary ecology, environmental aesthetics and environmental psychology have so far been more actively engaged in such discussions. These disciplines have, proceeding from the literary criticism and theories of art and psychology, respectively, attempted to interpret the relations between man and nature. Since these border disciplines all originate from the Anglo-American tradition, and their development coincided with the arrival of the ecological way of thinking in the scientific discourse in the 1960s, they are also burdened by the same tradition.[1]

One component of this relationship under observation – culture – invokes a question: how adequate at all are the methods originating from the Anglo-American scientific tradition for the analysis of the local Estonian material? Our cultural environment is, obviously, rather different when compared with the American one. Maybe the greatest difference between the so-called small and large cultures, and between the paradigms stemming from these cultures, is aiming at different degrees of generalisation. While a large culture, and a large scientific tradition deriving from such a culture can quite naturally claim to represent universal experience and knowledge, the scientific thought of a small nation is haunted by the doubt, whether the achieved knowledge represents only local matters and whether it is universally relevant (such doubt is especially strong in disciplines discussing culture and society). Also, the question of self-identity is much more important for a small culture. Therefore, the scientific

[1] Estonian environmental aesthetics clearly differs from the international tradition of environmental aesthetics, proceeding more from Martin Heidegger's and Maurice Merleau-Ponty's phenomenology.

tradition originating from such a culture should have its advantages in centring upon the differences, contrasted to "large" science, searching for the common.

The lack of methods for describing and evaluating the axis of locality–globality is simply the most obvious stumbling block in the way of bringing together local culture and global science. One way of bridging such a gap could be the creation of comprehensive conceptions on metalevels, which could point out some direction for describing local cultures, at the same time leaving the exact nature of the later descriptions unspecified.

The interest of the discipline striving for metalevels – semiotics – in describing the relations between man and the natural environment, man's position in biological systems[2], and the role of nature in human culture is rather belated. Although ecological semiotics has found much written notice in different variations and contexts since the beginning of the 1990s (see Kull 1998: 347–348), ecosemiotics as a paradigm has only been observable since the publication of Winfred Nöth's article in 1996, where he defined ecosemiotics as a discipline studying semiotic aspects of relations between organisms and their environment (Nöth 1996, cited after Nöth 1998: 333). Two years later Kalevi Kull narrowed ecosemiotics some more, claiming that it enfolds semiosis, which occurs between man and his ecosystem – "ecosemiotics can be defined as the semiotics of the relations between nature and culture" (Kull 1998: 350), thus distinguishing ecosemiotics from biosemiotics. The ecosemiotics seminar held at the Imatra International Summer Institute for Semiotic and Structural Studies and the special issue of *Semiotica*[3] also bear testimony of the birth of a new paradigm.

Next, we could inquire about what knowledge the ecosemiotic approach can add to the discourse that studies relations between man and nature, and to the discussion where cultural anthropology, ethnology, environmental aesthetics, ecology, environmental psychology, literary ecology and other disciplines meet. The aim of the present article is to propose one unpretentious possibility – *locality* as a characteristic, which unavoidably accompanies the relations between the

[2] According to the so-called biosemiotic view, semiotic (communicative) processes occur in the whole of animate nature, extending outside the human culture. The best-known representative of such a view, Thomas A. Sebeok, equates the living processes with semiosis, defining life as a phenomenon based on semiotic activity (Sebeok 1991: 97–99).

[3] *Semiotica* 2001. Special issue. Jakob von Uexküll: A paradigm for Biology and Semiotics, Vol. 134 (1/4).

subject and its environment, and to give the definition of the notion based on semiotics. *Locality* I construe here as the characteristic of semiotic structures by which they merge into their surroundings in such a way that they cannot be separated from their environment without significantly altering their structure or information contained in this structure.

As shown below, the mutual conditionality of the subject and its surrounding environment characterises both living organisms and sign systems of human origin, and is discussed by both theoretical biology and theoretical semiotics – i.e. by both disciplines which ecosemiotics mostly draws from. Therefore, the approach proposed here is quite naturally characteristic to ecosemiotics, and could find application in the study of relations between culture and nature in their wider sense. The importance of locality as the placement in a certain natural environment in the shaping of cultural identity will be discussed in the final part of the article.

Locality as the common characteristic of living organisms

The notion that each living being is to a greater or lesser extent adapted to its environment, which is one of the main postulates of Darwinist evolutionary biology, belongs to the core stock of ecology. The studies of such adaptations and their mechanisms fill much space in modern publications on biology (see Puura 2000). But still, the relation between an organism and its environment remains greatly an abstraction in modern evolutionary biology. It is mainly defined on the basis of certain indirect and abstract indicators, such as fitness or adaptive value.[4] Reasons for such a remote approach should be found in modern biology's striving to be classified as an exact science and the resulting quantitativeness and centring on statistics. Environment as a medium of certain characteristics surrounding a real organism can become a considerable object of study only in case, when biology studies a concrete individual together with all its peculiarities, not only organisms as the statistical average of populations.

The relation between a living organism and its environment becomes special and unique as soon as we examine the living organism as a subject, allowing it a

[4] Fitness – …a relative number of surviving offspring; a relative reproductive success of individuals of some certain genotype compared to other genotypes of the population (Kull 2000: 72).

certain freedom of interpretation and choice. Jakob von Uexküll, one of the main shapers of the biosemiotic view, writes:

"The body of an animal can be compared to and studied like a house: the anatomists have so far studied in great detail how it is built; and the physiologists have studied the mechanical appliances in the house. The ecologists have also plotted out and studied the garden in which the house stands.

However, the garden has been depicted as it presents itself to the human eye, resulting in the neglect of the picture it presents to the house's occupant. … Each house has a number of windows that look out over the garden: a light-, a tone-, a scent- and a taste-window, and a large number of touch-windows.

The garden, as viewed from the house, changes according to the windows' structure and design: in no way is it a part of a bigger world; it is the only world that belongs to the house – its Umwelt."[5] (Uexküll 1982: 73.)

If we proceed from the semiotic paradigm when examining the relations between a living organism and its environment, the placement of the living organism in a certain environment becomes essential – the characteristics of such an environment become the sources of the subject's interpretative activity, i.e semiosis, and they also have an effect on this process. Environment prescribes the living subject some characteristic features, according to which the organism as a subject can assign reflexive meanings to the elements of the environment. In case of different environmental elements the whole system of meanings would be different (they would interrelate with different sign-vehicles). The relation between the subject and its environment also defines all secondary phenomena originating from semiosis: experience (accumulating from past semioses), memories (which allow previous experiences to be recognised), and cumulating on the level of species, also the characteristics partially developing in the course of evolution. Each feedback-based communication model between the subject and its environment can be examined as a mechanism allowing the development of correspondence between the subject and its environment, or adaptation. The best-known and most cited among them is probably the Uexküll model of a functional circle, where the subject relates to the object via sensing and acting (see Fig. 1).

[5] For reasons specific to theory, one of Uexküll's basic terms – *Umwelt* – has been translated into Estonian as 'omailm' – somebody's "own world." In the given context it seems necessary to stress the everyday meaning of the word *Umwelt* in German, which is usually "environment."

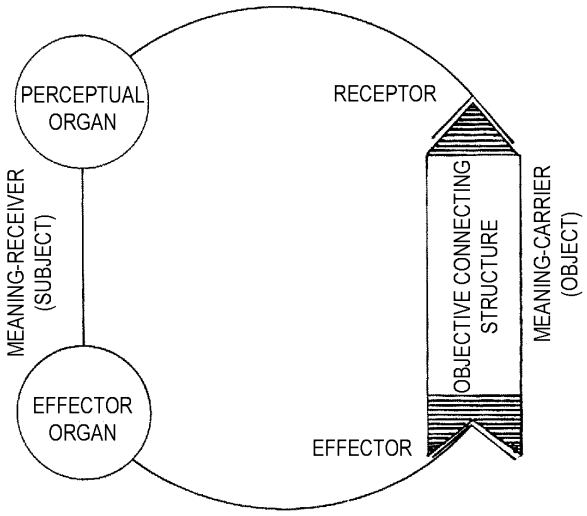

Figure 1. In Jakob von Uexküll's model of a functional cycle the subject and the object interrelate via the perceptual world (*merkwelt* O → S) and operational world (*wirkwelt* S → O) (after Uexküll 1982: 32).

The uniqueness of the relation between the living organism and its environment and the semiotic determinateness of its resolution has been conceived by other authorities in the field of biosemiotics. Jesper Hoffmeyer writes:

"…if evolution is concerned, what matters is not genetic fitness but *semiotic fitness*. After all, fitness depends on a relation: something can be fit only in the given context. [---] But if genotypes and envirotypes reciprocally constitute the context on which fitness should be measured, it seems we should rather talk about the fit in its relational entirety, that is a semiotic capacity." (Hoffmeyer 1998: 290–291.)

Based on Hoffmayer's specification, the semiotic fitness in its broader sense can be defined as the success of the subject in adapting to its environment, its skill in bringing together reflexive information and information originating from the environment with the help of semiotic processes.[6] Now it is necessary to stress the difference between the notions of *semiotic fitness* and *adaptability*. Different

[6] The term *subject* is not observed here as an abstract philosophical category, but rather as a being, characterised by a certain ability of interpretation and self-regulation, similar to all living organisms (including humans), but also similar to secondary structures (such as a local culture or an animal population). Motivation for the observing of culture as a subject, see Yuri Lotman's essay "Culture as a Subject and the Object of Itself" (Lotman 1999).

from adaptability, which is the characteristic of the subject, demonstrating its potential to adapt to different environments, semiotic fitness is the indicator characterising the relation between the subject and its environment. Having been bound to a certain environment, the semiotic fitness of the relation between the subject and its environment increases, but the further adaptability of the subject decreases (Fig. 2).

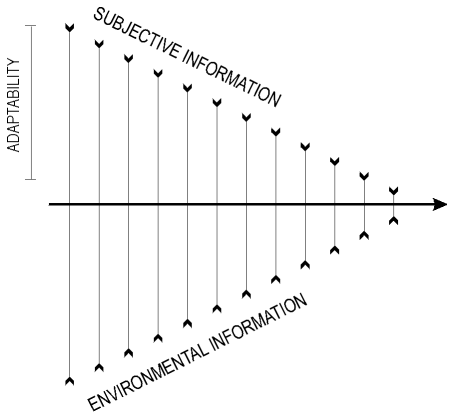

Figure 2. The semiotic adaptability is a process, in the course of which the subject correlates self-related and environment-related information, thereby localising itself in the environment. Semiotic adaptation is, foremost, a time-process.

While adapting to the environment the subject localises itself in the environment; thus, semiotic fitness indicates the intensity of localisation. On the one hand, semiotic fitness indicates how successfully the subject has correlated self-related and environment-related information; on the other hand, it quite inevitably shows how much the structure of the subject changes when it has been separated from its environment.

Context and localisation therein

However, locality as a characteristic of a semiotic structure is essentially vital in more general semiotic discussions as well, and the notions of *context* and *contextuality* become relevant here. Several semiotic approaches have taken the meaning as conditioned by context. Winfred Nöth lists British contextual schools and distributive linguistics as more important among them (Nöth 1990: 100). For example, Eugene Nida states in his article of 1952 that "meaning is definable by

the environment" (Nida 1952: 126, cited after Nöth 1990). Ivor Armstrong Richards adds the spatial axis, orientated to the past, to the meaning–environment relationship:

"A word, like any other sign, gets whatever meaning it has through belonging to a recurrent group of events, which may be called its context. Thus a word's context, *in this sense*, is a certain recurrent pattern of *past* groups of events, and to say its meaning depends upon its context would be to point to the process by which it has acquired its meaning." (Richards 1972: 34.)

But the notion of context has as important role in the works of the members of the Prague Semiotic School (Nöth 1990: 187–188). In this way, Roman Jakobson, developing further Karl Bühler's organon model of language, relates context to the referential function of language in his model of verbal communication (See also Cureton 2000).

Context as a structure surrounding the text or the sign influences both the formal aspects of sign as well as the possible meanings the subject might attribute to the sign. Context remains outside the sign, at the same time specifying the limits and characteristics of the sign through semiotic relations, as well as through the lack of them (exclusive specification). Thus the morphological form and meaning of a neologism depends on the notions already existing in a language, but also on the presence of meaningful and formal gaps in the language. There are common examples where context has its effect upon possible interpretations. A word may have a different meaning in different contexts; a behavioural act may be appropriate or inappropriate depending on its context. Also, a work of art or a literary work, as well as criticism of such works, acquires a part of its meaning through the wider cultural context.

The conception of restraints, borrowed from cybernetics and introduced into the semiotic paradigm, has an essential part in describing the determining influence of context. According to this idea, context brings along redundancy restraints concerning the sign it has embodied. Proceeding from the redundancy, it is possible to specify possible meanings of the sign, but the sign itself can also carry information about the context of its usage.[7] To illustrate such a mutually binding influence, it is relevant to cite Gregory Bateson:

[7] The predictability of the elements of written language on the basis of context has more thoroughly been examined, e.g. by Terence Deacon (Deacon 1997, chapter 3).

"If I say to you 'It is raining' this message introduces redundancy into the universe, message-plus-raindrops, so that from the message alone you could have guessed – with better than random success – something of what you would see if you looked out of the window." (Bateson 1973: 383–384.)

Any already effective semiotic process also partially determines the further developmental possibilities of the same process – the effect of the context expanding itself along the temporal axis. While reading a novel or watching a film we can notice that things we have already experienced determine the further course of actions. Similarly, each scientific paper or a work of art partially determines the further developmental possibilities of the discourse under observation. Such a rule seems to characterise sign processes rather generally; Niklas Luhmann has said:

"If signs are to be combined with signs for the purpose of communication and thought, for instance, then expectations have to be directed and the possibilities of further connections limited. The subsequent sign must not be predetermined, nor should it be too surprising. Each sign must, therefore, not only function as an entity by itself, but also provide redundant information." (Luhmann 1999: 27.)

Following the theory of semiotics that examines context as a certain type of general abstraction, there might arise a doubt whether it is relevant at all to talk, in relation to context, about some kind of fitness as a preference of certain contexts to others, since in the wider sense, context always surrounds all semiotic structures. Even a lack of descriptive context (as related semiotic structures) is in some theoretical sense a context.

But such a doubt will be refuted when we recall the ability of semiotic structures to organise themselves. The subject that through its semiotic activities establishes redundancy restraints regarding the surrounding context, thus makes the surrounding context valuable for itself. Semiotic fitness and the valuability of context or environment cannot be the objective parameters, characterising the environment – they rather stem from the existence of the subject in a concrete environment and its semiotic activities in it. Time spent in an environment is a value standard for this environment.

Locality and identity – man in natural environment

English anthropologist Tim Ingold has described a dual process in his works, in the course of which humans and animals adapt to the environment they live in, at the same time individualising this environment (Ingold 1993, 1995). When the relations between the subject and its environment have been fully established, they form the basis for the subject's identity and individuality.

In case of local indigenous cultures' environment, including the natural environment, the local identity is supported. The mechanism of creating such identity works on all levels – native place and its elements support the self-definition of an individual, and language becomes the means of denoting environmental objects and phenomena; the memories and experiences that the individual associates with his identity are also specific to the place. If we return to the cybernetics-centred approach, we can claim that the amount of the so-called redundant information that connects the subject to its environment increases in an indigenous culture over the course of time. When information accumulates, an individual is capable of predicting environmental processes and is, thus, able to trust his environment. The longer the culture or the individual has stayed in the same environment, the greater is the role of the environment in his self-definitions and the more is he adapted to relate with the local environment.

Abrupt changes in the environment due to extra-cultural factors or moving into another environment also bring along inevitable changes in identity. Since the individual and culture as semiotic structures unavoidably require some kind of *context* to preserve themselves, the creation of new structural semiotic relations with the new environment will begin when the previous environment disappears. Such processes can be followed if a human being, when replacing the natural environment with an artificial environment, constructs around himself new media in which to store his identity and this way attempts to compensate for the loss of memory tradition.

But if a semiotic subject strives to preserve his identity, or feels the weakening of his identity due to the invasion of an alien culture, he should just turn to the same surrounding environment to which he is related due to his natural development. Connections with the surrounding environment are often the only advantage that the local culture has in comparison to the global culture. The global culture is self-abundant and acquires its identity through abstract, out-

ward-projected ideas and values, such as human values, symbols and ideals. The attention of the local culture is, however, more directed towards its surrounding environment; its characteristic features mostly derive from its connections with its environment. Such opposition of the two approaches to the world have been described by Joseph W. Meeker, who attributes self-abundancy to the Western philosophical tradition, to tragic genres and to pioneering species in biological communities, and centredness to environment and to local cultures, to comic genres and to native species (Meeker 1996).

The notion that local cultures are characterised by being intertwined with the local environment has been remarkably discussed by the representatives of the Norwegian ecophilosophical tradition (see, e.g., Sven Arntzen's paper in the present collection). The way of thinking that prescribes that in order to preserve the natural environment we should also preserve its non-material component – cultural tradition, which supports and adds value to this environment – differs from American dualistic nature preservation based on the conception of *wilderness*.[8]

The above-mentioned idea is sharply opposed by a dualism that emphasises the difference between culture and nature. The statement that conceptually nature is the product of culture, and that it is impossible to learn anything about the nature that is positioned outside culture can even be considered dangerous to local culture (see, e.g. Randviir 2000).[9] Such a statement renders unimportant the natural environment surrounding the culture and the relations of the culture with the specific local environment. But admitting that natural environment is essentially unique and indivisible, no matter if it has been described by culture or not, we can understand how culture adapts to and studies the concrete local natural environment. For instance, Simon Schama outlines in his book *Land-*

[8] A very relevant term, *bioregionalism,* has been used in describing the local-cultural worldview, stressing the connection between local culture and the local natural environment. (For the origin of the term, see Oelschlaeger 1991: 440.)

[9] Such an awareness of danger applies to all kinds of "modernist" worldviews, which state that humans are able to learn something only about the world that has already been affected by consciousness. In such a form the so-called cultural relativism offers no criterion for the qualitative appraisal of knowledge and culture and therefore, it is not important which cultural context surrounds the subject. Representative pragmatist criticism about cultural relativism and "modernism" has been offered by John Deely (see Maran, Kotov 2000).

scape and Memory relations between different cultures and natural environments, focusing only on this side of local nature, which has been included into cultural memory, that has been adopted by culture and that is reflected by culture either in literature, art or myths (Schama 1995). The part of nature that has been included in cultural memory unavoidably belongs to the natural environment as a local entity – by describing nature, culture ties itself to it. As much as culture embraces nature, makes nature a part of itself and gives it meaning, this culture itself starts to resemble nature and specific locations in it. As much as culture has given meaning to nature, it has become like its natural environment.

Conclusion

The modern world is foremost characterised by the unification of cultural contexts. Since natural environments unavoidably differ from place to place, this process brings along the reduction of man's semiotic fitness in relating to local nature. The correspondence of subject-related and environment-related information is hindered, or in plain words – people do not know any more how to *be* in nature. At the same time the mass-media has been aiming at the weakening of relations between local cultures and local natural environments, since the emergence of cultural homogeneity, which is the prerequisite of globalisation, is possible only in this case.

Studying such processes would require suitable theoretical concepts which could be developed on the basis of (eco)semiotics. The relations between a sign and its context have been much discussed in semiotics, and theoretical biology has thoroughly studied the relations between living organisms and their environment. Ecosemiotics that has its roots in both of these disciplines could be actively involved in the studies of the relations between culture and the local natural environment. The semiotic concept of locality proposed here and Hoffmeyer's notion of semiotic fitness could be possible and appropriate starting points.

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