

# Origins of Semiosis

## Sign Evolution in Nature and Culture

*Edited by*

Winfried Nöth

Mouton de Gruyter  
Berlin · New York 1994

### The culture of nature: The semiotic dimensions of microcosm, mesocosm, and macrocosm<sup>1</sup>

*Peter Grzybek*

#### 1. The anthropocentric perspective

From the earliest times of epistemogenesis, humans have tried to understand how they are related to their environment, and in their efforts to understand this relationship, they have tried to understand themselves as well. There are two basic possibilities of interpreting this relationship: either one considers oneself as being an integral part of the world by integrating the self into the totality of all natural beings, or one dissociates oneself from the rest of this totality by emphasizing one's uniqueness and by drawing some borderline between one's own self and the environment. As will be shown below, further possibilities may arise with the development of additional or more complex perspectives. The process of self-definition usually also implies an evolutionary perspective in which the difference between the individual and the world is interpreted by means of anthropogenetic or cosmogenetic assumptions.

In attempting to understand the process of self-definition from an evolutionary perspective, i.e., in metagenesis, human thinking seems to be guided by a principle which Walter A. Koch (1986: 26) has called the "metagenetic search for analogy". According to this principle, early attempts at describing and explaining phenomena of our world were derived from a strictly anthropocentric point of view.<sup>2</sup> This anthropocentric bias provides a key to the understanding of many etiological myths of creation, which interpret the origin and evolution of the world as a whole as the creative act of some anthropomorphic primordial being. Let us investigate these mythological concepts in detail. This will lead us to the question of the interaction between humans and nature on the one hand and to the relation between culture and nature, on the other hand.

## 2. Microcosm and macrocosm in Indo-European mythology

Some of the most intriguing semiotic interpretations of Indo-European mythology have been proposed by Vjačeslav Vs. Ivanov and Vladimir N. Toporov. In a number of studies, Ivanov and Toporov (1970a, b, 1974) have reconstructed an abstract schema of the so-called Indo-European "basic myth". At the center of this myth is the God of Thunder who fights with his opponent, usually a serpent. The scenario comprises the following elements:

- (1) The God of Thunder is located on top, e.g., on top of a mountain, in heaven (jointly with sun and moon), on a rock, or on top of the tripartite World Tree;
- (2) The opponent is located below, e.g., under a mountain, at the roots of the World Tree, or close to the water;
- (3) The serpent then steals the cattle, which represents the most precious good and which serves as a symbol of the other world;
- (4) The God of Thunder persecutes the serpent, which changes into the shape of various species (a human being, a horse, a cow, etc.); he shatters the rock under which the cattle is hidden and sets it free; the God of Thunder kills his opponent, tears him to pieces and throws these in all directions;
- (5) After the God's victory, it starts raining.

The motif of the appearance of water (5) lets the God of Thunder appear to be a typical culture hero. The motif of dismembering the body of a primeval human being (4), which occurs in many Indo-European myths, is an attempt to explain the origin of the cosmos out of chaos. The various parts of the primeval being's body correspond to the elements of the cosmos. Examples of such primordial beings are Ymir from Scandinavian mythology (*Edda*) and Puruša from Ancient Indian mythology (*Rig-veda*). Equivalent figures may also be found in non-Indo-European cultures such as the figure of Pan-ku in Chinese mythology.

The "basic myth" under consideration is associated with ideas which originated much later in ancient Greek philosophy and developed into the well-known concept of microcosm/macrocosm.<sup>3</sup> Philosophers generally agree that this concept is "one of the great ideas by which humans attempt to understand themselves and their relation to the totality of existence" (Allers 1944: 406). Widengren (1954: 20) calls it "one of the most powerful ideas in the history of religion". As Allers (1944: 332), in his thorough analysis of the "microcosm/macrocosm concept", phrases it: "Microcosmism is one of the primary - or, perhaps, even primitive -

forms in which the human mind conceived the nature and position of humans in reality. It satisfies the deeply rooted desire for an all-comprehending conception in which everything finds its proper place within the order of being."

Very roughly speaking, according to this concept, a human being is conceived of as a "small world", just as the world is understood as a "great man". In his ruminations on the history of Iranian religion, Widengren (1954: 48) concludes:

Cosmos is the body either of some deity or of some cosmic primeval being . . . The elements of the universe are the various parts of his body . . . Man as a microcosm corresponds to this macrocosm; the elements, by which man is composed, are exactly the same as those of which the macrocosm consists. With man's death, his elements return to the universe.

In an attempt to further specify the mythological relationship between macrocosm and the microcosmic parts of the human body, Toporov (1981) has analyzed further relevant, though not always directly related, texts, such as "Wafthrudnir's Speech" from the *Elder Edda*, "Puruša's Hymn" from the *Rig-veda* (X, 90), or passages from the *Bundahišn*. The results of this investigation show that the motifs recurring in these texts are not simple or freely variable equivalences. Instead, they constitute a relatively constant schema. In a more recent interpretation of the set of intercultural correspondences discovered by Toporov, Lincoln (1986: 20) states:

By identifying specific items in the cosmos as alloforms to corresponding parts of the human body, they form a major component of the creation mythology of virtually all peoples of antiquity who spoke Indo-European languages . . . The picture that emerges is one of a fairly consistent homologic system, in which there still existed some room for variation and innovation.

The general schema which emerges involves the following equations:

|              |   |           |
|--------------|---|-----------|
| Flesh        | ↔ | Earth     |
| Blood        | ↔ | Water     |
| Sweat        | ↔ | Dew       |
| Skin, Hair   | ↔ | Plants    |
| Bones        | ↔ | Stones    |
| Eyes         | ↔ | Sun, Fire |
| Breath       | ↔ | Wind      |
| Thought      | ↔ | Clouds    |
| Head (Skull) | ↔ | Sky       |

These mythopoetical equivalences are not to be understood as metaphorical comparisons, which they seem to be from a contemporary point of view.<sup>4</sup> Instead, both body and cosmic elements are derived from a common material, and they represent allomorphic forms of this material. In this respect, too, Lincoln (1986: 5) has confirmed Toporov's earlier assumptions, maintaining that

these texts do not just call attention, in the manner of poetic imagery, to some perceived similarity between two disparate entities. They state not that 'X is like Y', but rather that 'X was made from Y'. Between the two items linked in such a homology, there is thus posited a fundamental consubstantiality, whereby the one entity may be created out of the material of the other. The two are understood as *alloforms*, alternative shapes, of one another.

However, the relationship between microcosm and macrocosm is not fixed. It can easily change,<sup>5</sup> depending on whether one takes a cosmogenetic or an anthropogenetic perspective (cf. Lincoln 1986: 33):

For cosmogeny and anthropogeny are seen to be equally creative, each one being but a phase in an oscillating progress whereby whenever the cosmos is created, the body is destroyed, and - conversely - whenever the body is created, the cosmos is destroyed. The material substances common to both microcosm and macrocosm thus pass from one set of alloforms to the other *and back again* as cosmogeny and anthropogeny endlessly alternate.

The mythological prerequisites of the microcosm/macrocosm idea are far from being specifically European or Indo-European: in fact they are nearly universal. Though the motif seems trivial at first sight, it has been extremely powerful and efficient in the process of epistemogenesis. It is not surprising then, that this concept has been taken up and further developed in various philosophies, which have modified it in many respects. Thus, the concrete interpretations of the relationship between microcosm and macrocosm may vary significantly, irrespective of the overall invariable schema. Therefore, as Allers (1944) points out, it would be an inadmissible simplification to speak of "microcosmism" as if it were always of the same kind.

### 3. Views of the relationship between microcosm and macrocosm

In his survey of various interpretations of the concept of microcosm, Allers (1944) sets up a list of possible relationships between microcosm and macrocosm. The order of this list does not reflect evolutionary chronology, but rather represents an increasing degree of complexity from an analytic point of view. The simplest relationship, which is termed "elementaristic microcosmism", is expressed in the idea that humans contain within their beings all the elements of which the world consists, since they are composed of the same elements which exist elsewhere in the universe. It turns out that it is exactly this kind of microcosmism which characterizes the above-mentioned "basic" mythological concept: whereas this concept is based on the notion of isomorphy (homomorphy), all other microcosm/macrocosm relationships are based on the notion of isology (homology). "Elementaristic microcosmism" furthermore assumes that the components of the human body are arranged in the same manner as the elements of macrocosm. Therefore, this idea can be elaborated into what might be called "structural microcosmism". This version may take two forms, an anthropocentric or a cosmocentric one. In anthropocentric microcosmism, the universe is compared to a human being. In cosmocentric microcosmism, a human being is compared to the universe, and the discovery of the world within the individual becomes possible.

A third relationship between micro- and macrocosm may be termed "holistic microcosmism". This concept, which takes for granted that humans tend to create order around themselves, is based on the idea that the "cosmos", or the order of any ("organized") totality, is always and everywhere essentially of the same kind. In this interpretation, any "organized whole" may be considered as a reproduction of the universal macrocosm. A fourth type of relationship may be termed "symbolistic microcosmism". In this case, microcosm is conceived of as "corresponding to" or "symbolic of" the universe. A fifth type is the so-called "psychological microcosmism". This relationship is based on the idea that humans can internalize the entire universe by knowing it, and by knowing the universe, the human mind in a sense "becomes" the universe. Finally, in "metaphorical microcosmism", the sixth relational type, "cosmos" becomes a general name for every being which represents itself as intrinsically ordered.

As can be seen from these remarks, the more "modern" interpretations of the microcosm/macrocosm concept turn out to be extremely flexible. The more abstract this relationship is conceptualized, the fuzzier the

borderlines of microcosm become. The notion of microcosm is no longer restricted to the human body or mind. Instead, the definition may be extended to include various spheres of the human environment. Thus, in a social sense, a family, house, garden, or city can be defined as a microcosm. Theoretically, the borderlines of microcosm turn out to be arbitrary, and it is impossible to define where microcosm ends and macrocosm begins. This definitional vagueness has long been acknowledged by the theoreticians of the microcosm/macrocosm concept: not only the human being but any object considered as a "small world" have been called a "microcosm". Human artifacts, such as buildings, temples, or ritual objects, have been seen as microcosms or have been interpreted as such in symbolic rites (cf. Korvin-Krasinski 1960: 87). As a result, one can conclude that the epistemological efficiency of the microcosm/macrocosm concept can be attributed to this very definitional flexibility, which allows a human being to consider both his or her own integration into the environmental totality and the dissimilarity or separation between the self and the world. This interpretative flexibility results from the fact that both microcosm and macrocosm come into play in these conceptual relationships. Finally, in addition to its epistemogenetic relevance, the microcosm/macrocosm dichotomy turns out to be an instance of what Koch (1974: 200; 1986: 31) has defined as a "metagenetic fallacy", i.e., an explanation of early evolutionary stages in terms of structures which have emerged later in evolution.

#### 4. The biperspective view of nature and culture

In addition to the micro- and macrocosmic dimensions, human epistemology, at least from a particular period of cognitive evolution, has always involved a third, intermediate dimension. This is the sphere of the mesocosm. Scholars have often neglected this intermediate dimension, which is an important sphere in its own right,<sup>6</sup> focusing only on the microcosmic or the macrocosmic spheres and integrating elements of the mesocosm into one of them. Yet, the mesocosm represents a separate sphere, albeit one without any sharply defined borderlines, and it is in this sphere that we see nature as the anticipation of culture or culture as the continuation of nature.

The above chiasmic formulation is more than a simple word play. It reflects what Koch (1986: 22-24) has defined as "biperspectivism" in evolutionary cultural semiotics. In explaining nature and/or culture, an individual may adopt either the position of a participant or the position

of an observer ( $P_x$  vs.  $P_{an}$  in Koch's terms). When one analyzes the world from the participant's culturally and individually determined point of view, the perspective is autoanalytic, proceeding by way of introspection or by egocentric and anthropomorphic analogy. The observer, however, adopts a different perspective striving for a point of view from the outside, beyond the domain of description. This heteroanalytic perspective places the analyst in the position of some god-like "ideal observer". As Koch (1986: 145) correctly emphasizes, the heteroanalytic perspective may be subject to significant changes. Every culture and epoch develops its specific ideal about such presumably reliable external perspectives. Thus, in the course of epistemogenesis, two competing options for the description of one and the same phenomenon have emerged. The spheres of nature and culture are hence part of an overlapping biperspectival realm of investigation (cf. Figure 1).

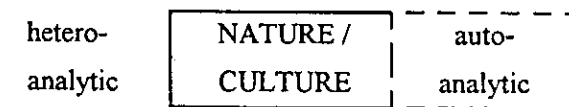


Figure 1. Two perspectives of nature and culture: the distanced heteroanalytic perspective of the external observer and the autoanalytic point of view of the participant.

The apparent symmetry of the two competing perspectives is deceptive, however, because the depicted biperspectivism evinces two important asymmetries. First, the heteroanalytic perspective can easily be unmasked as an autoanalytic projection which remains limited in its approach by the restrictions of the autoanalytic bias. Secondly, as already indicated above, the anthropocentric and thus autoanalytic point of view has always been primary in epistemogenesis. Koch (1986: 58f.) takes this asymmetry into account when he characterizes the first steps of metagenesis, the evolution of human consciousness, as follows:

- [1] Man's experience of self;
- [2] Projection of [1] onto the environment;
- [3] Environment interpreted as "anti-egoistic" and projected back onto [1].

The relationship of these three stages of metagenesis to the hetero- and autogenetic perspectives is shown in Figure 2 (cf. Koch 1986: 58-59):

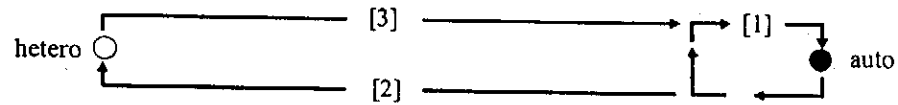


Figure 2. The first three stages of metagenesis from the heteroanalytic and autoanalytic perspectives.

According to Koch (1986: 58-59) two further steps in the evolution of human consciousness are then the exploration of macrocosm [4] and microcosm [5]. Figure 3 shows these stages of metagenesis as a continuation of the stages shown in Figure 2.

As can be seen from Figure 3, autoanalysis and heteroanalysis overlap in an intermediate zone which is accessible from both perspectives. Consequently, the mesocosmic sphere is subject to "biperspectivism". Thus, depending on the perspective taken, Nature explains itself in terms of Culture, or Culture explains itself in terms of Nature (cf. Koch 1986: 4-5).<sup>7</sup> Furthermore, Nature and Culture meet in a "mesocosmic center" (Koch 1986: 54-58), which is located between microanalysis and macroanalysis.

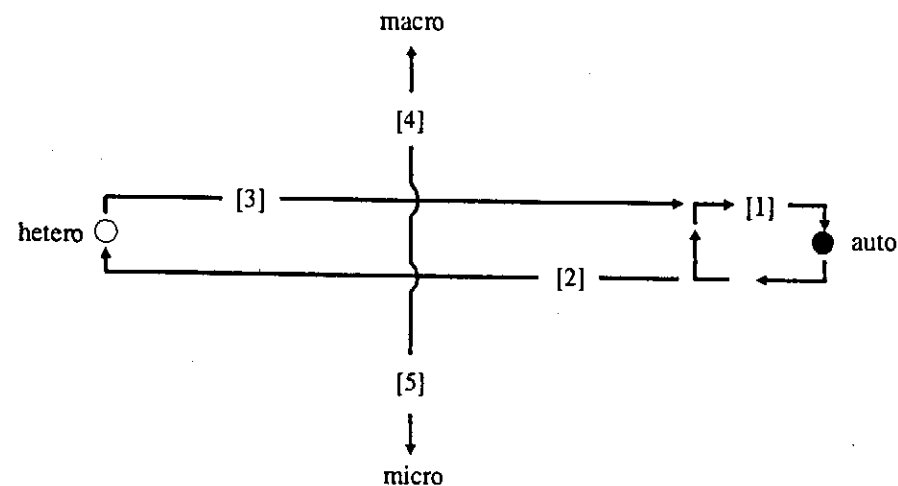


Figure 3. The further evolution of metagenesis by way of microcosmic and macrocosmic exploration.

Thus, the exploration of microcosm and macrocosm leads to such discoveries as nerve cells and genes on the one hand and galaxies on the other. In both directions, discoveries presuppose metagenetic steps [1] through [3] and, consequently, the existence of mesocosmic prototypes. In fact, Koch (1986: 57) concludes that both micro- and macroanalyses are based on mesocosmic prototypes.

What remains unsolved, then, is the question of the metagenetic emergence of mesocosm. An answer to this question is contained in the mythological concepts discussed above. In these concepts, the autoanalytic focus corresponds to the microcosmic perspective, and the heteroanalytic focus corresponds to the macrocosmic perspective. Under these premises, the "elementaristic" microcosm/macrocosm dichotomy actually emerges from the body-oriented inner experience of the individual [1]. After the human body was conceptualized as a microcosm, this concept was transferred to the environment [2], which was then interpreted as a macrocosm and vice versa.<sup>8</sup> Thus, if the assumption of an anthropocentric bias in metagenesis is correct, our mythopoetical views of anthropogenesis and cosmogenesis reflect the following order of cognitive evolution: (1) Human self-consciousness begins with the experience of one's own body. (2) The resulting conceptualization is projected onto the environment. (3) The emergence of a heteroanalytic perspective then turns out to be a self-projection as well, serving as an alternative perspective for the interpretation of the emerging concept of the environment.

This order seems highly probable, although the theoretical possibility of a different or even reverse order cannot be denied. However that may be, in contrast to Koch's assumptions, micro- and macroanalyses should be projected not only onto the vertical, but also onto the horizontal axis of Figure 3, the axis of auto- and heteroanalysis. This reinterpretation results in Figure 4, which turns out to be a modification of Koch's (1986: 54, 1987: 81) model of the interaction between Nature and Culture. This model illustrates the identity of the micro-analytic and auto-analytic perspectives on the one hand and of the macro-analytic and hetero-analytic perspectives on the other. The hatched field symbolizes the intersection of both perspectives in the intermediate mesocosmic sphere as a biperspective area.

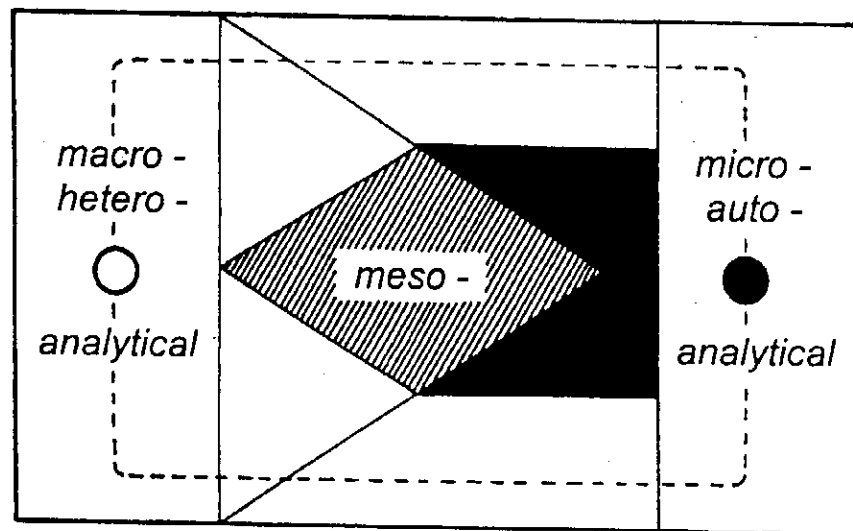


Figure 4. A reinterpretation of the mesocosm in the context of auto-analysis and heteroanalysis

## 5. The mesocosm and anthropogenesis

It may seem that the additional consideration of a separate mesocosmic sphere is an arbitrary theoretical construct. Yet, there are two convincing reasons which justify the mesocosm as a domain of its own. One is the evidence given by the evolutionary theory of cognition, the other, the relevance of the mesocosm as shown in folkloristic text analysis (see below). The evolutionary theory of cognition is based on the assumption that all structures of the world are closely interrelated, that they all interact in one way or another, and that these interactive relations manifest themselves in evolution (Wuketits 1983: 21f.). Since human beings are not located outside of the world, but are part of it, all our perceptions, cognitions and thoughts are part of the dynamics of this world. In this sense, the real world is not a product of our imagination. Instead, our way of imagining corresponds to the order of nature. Thus, isomorphic principles can be expected to underlie both the real structures outside the human self and the structures of cognition (Vollmer 1983: 22). A further assumption is that the human brain and its cognitive apparatus have been selected in the course of evolution to process only those structures which represent the mesocosmic realm,

i.e., the realm of that which has been important for survival (cf. Vollmer 1983: 22). In the context of the evolutionary theory of cognition, Vollmer (1983: 50) defined the human mesocosm as our "cognitive niche". According to this view, the mesocosm is "that part of the real world which we master by way of sensation and action, perceptually and motorically . . . The mesocosm is, roughly speaking, a world of medium dimensions" (Wuketits 1983: 51). In this sense, the concept of mesocosm is anthropocentric by definition since it explicitly refers to the human beings and the spheres of their senses. The mesocosm is subject to concrete experience. Although the mesocosm is anthropometric, its borderlines are vague and not sharply defined. They can be characterized by reference to various concepts, such as

- time, involving the lower and upper limits of seconds (heart beats) and decades (life),
- distances, involving limits from millimeters (dust, hair) to kilometers (horizon, a day's march), or
- temperatures, involving limits from -10 centigrades (below freezing point) up to 100 centigrades (boiling point).

In addition to the assumptions about the mesocosm specified in the evolutionary theory of cognition, we should point out that, from a semiotic perspective, the mesocosmic sphere is not experienced only perceptually or structured only cognitively. It is also a sphere which may be formed semiotically, by practical human influence. Thus, the mesocosmic sphere is characterized by an increasing degree of semioticity. In this respect, Eliade (1957: 42) correctly points out that to the mythical mind, any construct or manufactured object has cosmogeny as its model, because the creation of the world serves as an archetype for any human artifact. Thus, by "inventing" the mesocosm, humans provide themselves with an opportunity to organize their environment. This organization can occur in accordance with a given or assumed sacred principle, when all elements and relations of the mesocosm are considered to be structured with regard to this principle. It can also occur in accordance with an assumption that all entities subject to human influence are intentionally and deliberately organized and semioticized according to anthropocentric principles.

The crucial point is thus the question of the integration or separation of humans into, or from, the natural and/or cultural totality. The separate treatment of a mesocosmic sphere requires a relatively fixed borderline for both microcosm and macrocosm from which the mesocosm is distinct. In this respect, mesocosm turns out to be an intermediate

sphere, providing a realm in which biperspective metagenetic analysis becomes possible. In this sphere, nature and culture constantly interfere: it is here, that both "the culture of nature" and "the nature of culture" can be found.

## 6. The cosmic spheres in folkloristic riddles

Let us conclude our ruminations with a short glance at folklore texts, which display the importance of a separate analysis of mesocosmic structures.

As pointed out elsewhere (cf. Grzybek 1991, 1992, in press), the riddle is a folklore genre of utmost importance in the study of the three cosmic spheres. Based on earlier studies by Frejdenberg (1936), Huizinga (1939), and Kuiper (1960), Toporov (1981) has given convincing evidence that the riddle as a genre goes back to certain archaic rituals which usually took place towards the end of the year. At this time, according to the mythical mind, the universe was in danger of falling apart and dissolving into chaos. Therefore, the world had to be integrated anew by way of a ritual recapitulation of the original act of creation. To achieve this goal, the mythical "Ur-Text" was transformed into dialogical texts on topics focusing on cosmogenesis. The dialogues were then exchanged between the participants of the ritual (priests). According to Toporov, these ritual dialogues became desacralized at a later period and developed into precursors of traditional folk riddles, which can thus be considered the profane remnants of the formerly sacred ritual texts. Toporov has also provided evidence that these early ritual dialogues constitute the root of Indo-European poetry and poetic devices.

To return to the topic of the mesocosmic sphere and its representation in folk riddles, let us now investigate examples from various Slavic traditions. As has been argued elsewhere (cf. Grzybek, in press), the emergence of the mesocosm as a separate sphere is an important step in the secularization of initially sacred, ritual texts, and consequently, in the development of poetry in general. In addition to illustrating this secularizing movement, the following riddles exemplify the system of isologies (homologies) which relate the three spheres of microcosm, mesocosm, and macrocosm. Theoretically, isologies are possible between all three spheres and in all directions. One sphere is the expected topic of the riddle question, whereas another sphere appears in the riddle answer. When only interspheric isologies are taken into consideration, six pos-

sibilities arise. As can be seen below, almost all of them can be found to occur in traditional folk riddles:

### Macrocosm → Microcosm

- (1) *Meždu dvukh svetil - posredine odin. - Nos.* (Russian)  
'Between two stars I am in the middle. - Nose.'
- (2) *Dve zvezdočki malen'kikh vse pole mne svetyat. - Glaza.* (Russian)  
'Two little stars illuminate for me the whole field. - Eyes.'

### Microcosm → Macrocosm

- (3) *Bez ruk, bez nog - čerez tyn polzet. - Mesyats.* (Russian)  
'Without hands, without feet, it crawls through the palisade. - Moon.'
- (4) *Dva stoyat, dva khodyat i dva minuyutsya. - Nebo i zemlya, solntse i mesyats, den' i noč'.* (Russian)  
'Two are standing, two are walking, and two are passing by. - Sky and earth, sun and moon, day and night.'

### Microcosm → Mesocosm

- (5) *Ja sam oko, neimam vedja ni trevavica, zatvoreno sam pa ipak vidim, a po meni i drugi vide. - Prozor.* (Croatian)  
'I am an eye, I have neither eyelids nor brows, I am closed, but still I can see, and others can see through me. - Window.'
- (6) *Što bez očej plače? - Vikno.* (Ukrainian)  
'What weeps without eyes? - The window.'

### Mesocosm → Microcosm

- (7) *Polon khlevets belykh ovets. - Zuby.* (Russian)  
'A stable full of white sheep. - Teeth.'
- (8) *Stoit khata krugom mokhnata, odno okno, da i to mokro. - Rot v borode.* (Russian)  
'A hut is standing, mossy all around. It has only one window, and that's wet. - Mouth within a beard.'

### Mesocosm → Macrocosm

- (9) *Polna povetka vorobyšek, a odin petušok. - Nebo, zvezdy, mesyats.* (Russian)  
'The barn is full of sparrows, but there is only one cock. - Sky, stars, and moon.'
- (10) *Polno koryto, ogurtsov namyto. - Nebo i zvezdy.* (Russian)  
'A full trough, filled with cucumbers floating in it. - Sky and stars.'

Only one theoretically possible relationship is significantly underrepresented: there are hardly any riddles in which a "macrocosmic question" is followed by a "mesocosmic solution". This preliminary finding should certainly not be taken as given: the topic requires a more thorough investigation. However, if a quantitative study of extant traditional folk riddles should reinforce the finding that there exist only a few projections from the macrocosmic to the mesocosmic sphere, we might gather useful information about the evolution of conceptual isologies (homologies) between the microcosmic, mesocosmic, and macrocosmic spheres. More elaborate studies of the semiotic dimension of the mesocosm promise to reveal intriguing results.

### Notes

1. A preliminary version of this article was presented at the 3rd conference of the International Society for the Study of European Ideas (Ålborg, 24-29 August 1992), as a part of the workshop "The Construction of Nature: A Discursive Strategy in Modern European Thought". I am happy to express my gratitude for Rachael P. Wilson's and Winfried Nöth's competent editing of this text.
2. This assumption coincides with Barkan's (1975: 8) view of anthropomorphism as the epistemic starting point: "In the life of primitive man, the self, and hence the body, is the only wholeness which can be grasped. Anthropomorphism is, *faute de mieux*, this man's only cosmology."
3. The explicit rise of this concept may be located in the sixth century B.C. Usually, either Anaximenes or Anaximander are credited for having developed it (cf. Allers 1944; Conger 1922).
4. Cf. Barkan (1975: 9): "The primitive belief in a literally anthropomorphic cosmos is partly recapitulated in the literary image of the human body as microcosm, but between these two imaginative conceptions lies a great deal of logic and scientific thought."
5. Cf., among others, Bonfante (1959), Frank-Kamenickij (1938), Hoàng-sy-Quý (1969), Schayer (1935), Wayman (1982), Widengren (1980).
6. At least, this is true as far as an explicit theoretical concept is concerned. Of course, important studies have been done on the comparison of the human being with houses, cities, or social organizations; cf., among others, Douglas (1970), Jager (1985), Lincoln (1986), Civ'jan (1987). Still, elements of this intermediate sphere have usually been attached to the extended sphere of either microcosm or macrocosm, respectively.
7. This concept seems more promising than the assumption of culture as a "second nature" (cf. Glacken 1967: 116ff.).

8. It is not by chance that Koch (1986: 60), referring to Anaximander among others, locates phase [3] around 500 B.C., i.e., the time when the microcosm/macrocosm concept was successively developed into an isological model (see above).
9. There are also riddles in which we find a "microcosmic" riddle question and both a microcosmic and macrocosmic riddle answer, such as: Vidyatsya, a ne skhodyatsya. - Glaza. (Russian) [They see each other, but they don't reach each other. - Eyes.] Khot' i vidyatsya, a ne sojdutsya. - Solntse i mesyats. (Russian) [Although they see each other, they don't come together. - Sun and moon.]

### References

- Allers, Rudolf  
1944 "Microcosmos from Anaximandros to Paracelsus", *Traditio* 2: 319-407.
- Barkan, Leonard  
1975 *Nature's work of art*. New Haven: Yale University Press.
- Bonfante, G.  
1959 "Microcosmo e macrocosmo nel mito indoeuropeo", *Die Sprache* 5: 1-8.
- Burkhart, Dagmar (ed.)  
1991 *Körper, Essen und Trinken im Kulturverständnis der Balkanvölker*. Wiesbaden: Harrassowitz.
- Civ'jan, Tat'jana V.  
1987 "Das 'Haus' im Weltmodell der Folklore (am Beispiel des Rätsels)", in: Wolfgang Eismann - Peter Grzybek (eds.), 119-134.
- Conger, George Perrigo  
1922 *Theories of macrocosms and microcosms in the history of philosophy*. New York: Columbia University Press.
- Douglas, Mary  
1970 *Natural symbols*. New York: Pantheon.
- Eismann, Wolfgang - Peter Grzybek (eds.)  
1987 *Semiotische Studien zum Rätsel*. Bochum: Brockmeyer.
- Eliade, Mircea  
1957/ [1990] *Das Heilige und das Profane*. Frankfurt/M.: Suhrkamp.
- Evans, J.M.  
1966 "Microcosmic Adam", *Medium Aevum* 35: 38-42.



- Frank-Kamenickij, I.  
1938 "Adam i Puruša: Makrokosm i mikrokosm v iudejskoj i indijskoj kosmogonii" [Adam and Puruša: Macrocosm and microcosm in Judaic and Indian cosmogenesis], In: *Pamjati akademika N.Ja. Marra (1864-1934)*. Moskva - Leningrad: Izd. AN SSSR, 458-476.
- Frejdenberg, Olga M.  
1936 *Poëtika sjužeta i žanra* [The poetics of plot and genre]. Leningrad.
- Glacken, Clarence J.  
1967/ [1976] *Traces on the Rhodian shore*. Berkeley: University of California Press.
- Grzybek, Peter  
1991 "Der Körper im Rätsel", in: Dagmar Burkhart (ed.), 195-216.  
1992 "Mikrokosmos, mezokosmos, makrokosmos: Model na sveta i poetika vāv folklorā (Po primeri ot bālgarskite gatanki)" [Microcosm, mesocosm, macrocosm: World model and poetics in folklore (with regard to Bulgerian folk riddles)], *Bālgarski folklor* 18: 5-21.  
in press "Poetik und Weltmodell: Mikro-, Meso-, Makrokosmos und V.N. Toporovs Anagrammtheorie der indoeuropäischen Poetik".
- Hoàng-sy-Quý, Hoành-son  
1969 "Le mythe indien de l'homme cosmique dans son contexte culturel et dans l'évolution", *Revue de l'histoire des religions* 175: 133-154.
- Huizinga, Johan  
1939 *Homo ludens*. Amsterdam.
- Ivanov, Vjačeslav Vs. – Vladimir N. Toporov  
1970a "Le mythe indoeuropéen du dieu de l'orage poursuivant le serpent", in: Jean Poullion – Pierre Maranda (eds.), 1180-1206.  
1970b "K semiotičeskomu analizu mifa i rituala (na beloruskom materiale)" [On the semiotic analysis of myth and ritual (on the basis of Belorussian material)], in: *Sign - language - culture*. The Hague: Mouton, 321-389.  
1974 *Issledovanija v oblasti slavjanskikh drevnostej* [Studies in the field of Slavic antiquities]. Moskva: Nauka.
- Jager, Bernd  
1985 "Body, house, city or the intertwinings of embodiment, inhabitation and civilization", in: D. Kruger (ed.), 51-58.
- Koch, Walter A.  
1974 "Tendenzen der Linguistik", in: W.A. Koch (ed.), 190-311.
- 1986 *Evolutionary cultural semiotics*. Bochum: Brockmeyer.  
1987 *Hodos and kosmos: Ways towards a holistic concept of nature and culture*. Bochum: Brockmeyer.
- Koch, Walter A. (ed.)  
1974 *Perspektiven der Linguistik*, 2 vols. Stuttgart: Kröner.
- Korvin-Krasinski, Cyrill v.  
1960 *Mikrokosmos und Makrokosmos in religionsgeschichtlicher Sicht*. Düsseldorf: Patmos.
- Kruger, Dreyer (ed.)  
1985 *The changing reality of modern man: Essays in honour of Jan Hendrik van den Berg*. Pittsburgh: Duquesne University Press.
- Kuiper, F.B.J.  
1960 "The ancient Aryan verbal contest", *Indo-Iranian Journal* 4: 217-281.
- Lincoln, Bruce  
1986 *Myth, cosmos, and society: Indo-European themes of creation and destruction*. Cambridge, Mass.: Harvard University Press.
- Lorenz, Konrad – Franz M. Wuketits (eds.)  
1983 *Die Evolution des Denkens*. München: Piper.
- Poullion, Jean – Pierre Maranda (eds.)  
1970 *Échanges et communications: Mélanges offerts à Claude Lévi-Strauss à l'occasion de son 60ème anniversaire*. Paris: Mouton.
- Schayer, St.  
1935 "A note on the Old Russian variant of the Purushasūkta", *Archiv Orientalni* 7: 319-323.
- Toporov, Vladimir N.  
1971 "K strukture nekotorykh arkhaičeskikh tekstov, sootnosimykh s kontseptsiej 'mirovogo dereva'" [On the structure of some archaic texts related to the concept of the 'world tree'], *Trudy po znakovym sistemam* 5: 9-62.  
1981 "Die Anfänge der indoeuropäischen Poetik", *Poetica* 13: 189-251.
- Vollmer, Gerhard  
1983 "Mesokosmos und objektive Erkenntnis", in: Konrad Lorenz – Franz M. Wuketits (eds.), 29-91.
- Wayman, Alex  
1982 "The human body as microcosm in India, Greek mythology, and sixteenth-century Europe", *History of Religions* 22: 172-190.

Widengren, Geo

1954- "Stand und Aufgaben der iranischen Religionsgeschichte",

1955 *Numen* 1: 16-83 and 2: 47-134.

1980 "Macrocosmos-microcosmos speculation in the Rasa'il Ikhwan al-Safga and some Hurufi texts", *Archivio di filosofia* 50: 297-312.

Wuketits, Franz M.

1983 "Evolutionäre Erkenntnistheorie - Die neue Herausforderung", in: Konrad Lorenz - Franz M. Wuketits (eds.), 11-28.