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. 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 Vjačešlav 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 Purusa 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. Philosophers generally agree that this concept is “one of the great myths by which human beings 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 “Wafthrudni’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 equivalents. 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:

<table>
<thead>
<tr>
<th>Flesh</th>
<th>Earth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blood</td>
<td>Water</td>
</tr>
<tr>
<td>Sweat</td>
<td>Dew</td>
</tr>
<tr>
<td>Skin, Hair</td>
<td>Plants</td>
</tr>
<tr>
<td>Bones</td>
<td>Stones</td>
</tr>
<tr>
<td>Eyes</td>
<td>Sun, Fire</td>
</tr>
<tr>
<td>Breath</td>
<td>Wind</td>
</tr>
<tr>
<td>Thought</td>
<td>Clouds</td>
</tr>
<tr>
<td>Head (Skull)</td>
<td>Sky</td>
</tr>
</tbody>
</table>
These mythopoetical equivalences are not to be understood as metaphorical comparisons, which they seem to be from a contemporary point of view. 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 \textit{alleforms}, alternative shapes, of one another.

However, the relationship between microcosm and macrocosm is not fixed. It can easily change, 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 process 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 alleforms to the other \textit{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
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 godlike "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](image)

**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 metogenesis, 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 metogenesis to the hetero- and autogenetic perspectives is shown in Figure 2 (cf. Koch 1986: 58-59);
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. 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.
The culture of nature

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

Macrocosem → Microcosm
(1) Meždu dvouk svetil - posredine odin. - Nos. - Russian
  'Between two stars I am in the middle. - Nose.'
(2) Dve zvezdočki malen'kikh vse pole mne svetiat. - 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 trevavicu, 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 placi? - Vinko. - Ukrainian
  'What weeps without eyes? - The window.'

Mesocosm → Microcosm
(7) Polon khlebets belykh ovets. - Zuby. - Russian
  'A stable full of white sheep. - Teeth.'
(8) Stoit khata krugom mohhnata, 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 poveika 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, ogurtskov namyto. - Nebo i zvey. - 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 isogies (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.”


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 isogical 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 skhodysatsya. - Glaza. (Russian) [They see each other, but they don’t reach each other. - Eyes.] Khot’ i vidyatsya, a ne sojdutsya. - Solntse i mesatsya. (Russian) [Although they see each other, they don’t come together. - Sun and moon.]

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