

Semiosphere, “Thinking Worlds” and Scientific knowledge (About an idea of Jurij Lotman)

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Abstract

The paper aims to analyze Jurij Lotman’s notion of *semiosphere*, focusing on its interdisciplinary background, the logic of its constitution and the inner tensions resulting from that logic. Two ideas of semiosphere coexist in Lotman’s texts: infinite and finite, global and limited. For explaining this ambiguity, several interpretations may be put forward, corresponding to different disciplines (semiotics, biology and philosophy) and engaging different types of dynamics or negativity (systemic, organic and reflective). The last, philosophic explanation leads to the problem of subjectivity: Lotman seems to avoid it (as a scholar committed to the empirical, and not speculative mode of thinking), but it reappears in the epistemology of his research, upon which the notion of semiosphere is grounded.

Keywords: Jurij Lotman, semiosphere, semiotics, biology, philosophy.

Jurij Lotman’s idea of semiosphere is largely commented today, mostly as an operational notion, in order to check its applicability in different domains of cultural studies¹. In what follows, I shall try to analyze the same idea by means of intellectual history, seeking to find out its interdisciplinary background, the logic of its constitution and the inner tensions resulting from that logic².

Lotman’s intellectual evolution led him from microsemiotics to macrosemiotics, that is from the theory of isolated texts to the theory of

1 See the bibliography in a recent article: Torop 2022.

2 A first version of this article was presented in the video-seminar “Popper and Lotman: objective knowledge, World Tree, semiotics of culture and theory of the semiosphere” (Tallinn – Moscow – Los Angeles, December 1, 2020). The final text, substantially revised for the publication, has been presented in the international symposium for Slavic studies “Multi-voice dialog and intercultural constructing” (Harbin, China) in July 2023.

global cultural entities. Following a usual way of disciplinary expansion, his semiotics successively appropriated new domains of reality, widening its scope from particular textual structures to meta-structures ruling the “universe of the mind”. On this way, he had to face the problem of totality, critically tough for the structural researches. Patrick Sériot has demonstrated how the early structuralism of Jakobson and Trubeckoj tended to substitute to the notion of *structure* a quite different idea of *organic totality* (Sériot 1999). Survivals of the 19th century organicism were present in Lotman’s thought as well, so in his works on poetics he used to employ the term of “organic unity”: that unity of a text was supposed to dialectically sublimate the differences between its parts³.

In the 1980s, Lotman completed the totalization by introducing the notion of semiosphere, a totality of somewhat ambiguous nature. Indeed, the meaning of this notion in the innovative article “On the semiosphere”⁴ is strangely oscillating. According to its first definition, it covers the entire space of semiosis, containing all existing and possible texts and languages:

The semiotic universe may be regarded as the totality of individual texts and isolated languages as they relate to each other. In this case, all structures will look as if they are constructed out of individual bricks. However, it is more useful to establish a contrasting view: all semiotic space may be regarded as a unified mechanism (if not organism). In this case, primacy does not lie in one or another sign, but in the “greater system”, namely the semiosphere. The semiosphere is that same semiotic space, outside of which semiosis itself cannot exist (Lotman 2005: 208).

But almost immediately after this definition Lotman names “semiosphere” something else – no longer a universal space but an *individual* system characterized by its *borders* and separated from other semiotic systems with which it interacts:

3 See Zenkin 2023 (A paper presented in 2022 in Tartu at the international congress “Jurij Lotman’s Semiosphere”). The idea of “organic unity” did not fit to the strict structuralist theory, and in his *Lectures on Structural Poetics* (1964) and in *The Structure of the Artistic Text* (1970) Lotman amended it by including into the unity of text “extra-textual artistic structures” and “minus-devices”, i.e. signifying absences functioning within textual structures and irreducible to organic parts of a whole.

4 First published in Russian in 1984, in *Sign Systems Studies* 17.

From the aforesaid, it is clear that the notion of boundary correlates to the concept of semiotic individuality. In this respect, we may say that the semiosphere has a “semiotic personality” and combines within this property of personality both the empirically indisputable and intuitive manifestation of the concept and the difficulty of its formal definition (Lotman 2005: 209).

A few years later, expounding the same theory in his book translated into English as *Universe of the Mind* (1990)⁵, Lotman repeated his double definition. On the one hand, semiosphere is extended onto “the whole semiotic space of the culture”:

The unit of semiosis, the smallest functioning mechanism, is not the separate language but the whole semiotic space of the culture in question (Lotman 1990: 125).

But on the other hand, semiosphere is once again defined by its borders beyond which there are other “contiguous semiospheres” and “foreign texts” (although in the article of 1984, as we have seen, Lotman claimed that outside of the semiosphere “semiosis itself [could not] exist”):

But the hottest spots for semioticizing processes are the boundaries of the semiosphere. The notion of boundary is an ambivalent one: it both separates and unites. It is always the boundary of something and so belongs to both frontier cultures, to both contiguous semiospheres. The boundary is bilingual and polylingual. The boundary is a mechanism for translating texts of an alien semiotics into ‘our’ language, it is the place where what is ‘external’ is transformed into what is ‘internal’, it is a filtering membrane which so transforms foreign texts that they become part of the semiosphere’s internal semiotics while still retaining their own characteristics (Lotman 1990: 136-137).

There is more than one example of such double understanding of semiosphere in Lotman’s works. Let me only mention a curious case where

5 There were some differences in two statements; so, in 1984 Lotman spoke of the “semiotic homogeneity” of the semiosphere (Lotman 2005: 208), whereas in 1990 he claimed the contrary: “The semiosphere is marked by its heterogeneity” (Lotman 1990: 125). Lotman also marked more explicitly the conceptual link between “semiosphere” and “culture”: “the whole semiotic space of the culture in question”.

the idea of semiosphere is undoubtedly present in the absence of the word. Lotman's book *Universe of the Mind*, first printed in English translation in 1990, was republished in 1999 (after Lotman's death) in the original, by the Russian publishing house Jazyki russkoj kultury, under the title *Vnutri mysliaščich mirov*, that is "Inside thinking worlds". Both *universe* and *world* are free equivalents of the term *semiosphere*, and the difference of titles is obvious: the English one (possibly proposed by the translator or the editor and approved by the author) implies the existence of a single "universe" whereas the Russian one – reproducing the initial author's⁶ – refers to multiple "worlds", to various and individualized wholes.

So, there seems to exist, according to Lotman, two kinds of semiotic totalities (semiospheres): infinite and finite, global and limited. This dualism reflects, on a more special terminological level, the double use of the word *culture*, denoting one of the main Lotman's objects of study in the 70s and 80s. Sometimes it has the meaning inherited from the 19th-century philosophical anthropology, that is *the Culture* (occasionally with majuscule in Lotman), a unique and all-embracing totality of human facts as opposed to *nature*; and sometimes it refers to plural and various *cultures*, as they were defined in the 20th-century empirical and comparative anthropology⁷.

To explain the ambiguity of the concept of semiosphere, several interpretations may be proposed, which vary by the type of dynamics and negativity they engage.

The first interpretation belongs to the pure semiotics: it conceives of these two sorts of totalities as of *hierarchical* ones, so that more particular "semiotic personalities" are subordinated to and imbricated into a "greater system" of "semiotic space" which logically precedes them. Such is Mihhail Lotman's explanation:

From the viewpoint of semiosis, semiosphere as a whole is the initial unit which is divided into simple subordinate systems (Lotman 2002: 37).

And Peeter Torop develops the same conception:

6 I am grateful for this information to Dr. Tat'jana Kuzovkina, a former student of Lotman and the editor of the Russian version of his book (1999).

7 A lot of examples can be found in the article "The phenomenon of culture" (1978) and other texts; see Lotman 2019: 33-48 and *passim*.

Whereas the biosphere is a planetary phenomenon and thus a finite structural part of the planet, the semiosphere is an indefinite whole denoting human culture at the global level, which creates within itself cultural and thus structural diversity. The semiosphere includes territorial, social, cultural and individual identities, which in turn are represented by semiospheres of different levels (Torop 2022: 297).

This interpretation seems to be dominating in the contemporary criticism. So, during the First International Meeting for the Study of the Semiosphere (São Paulo, August 22–27, 2005) Kalevi Kull empirically collected from his colleagues as many as 17 working definitions of this notion, for example: “Semiosphere is the set of all interconnected umwelten. Any two umwelten, when communicating, are a part of the same semiosphere”; “semiosphere is the world of multiple truths, of multiple worlds”; “semiosphere is thus the totality of interconnected signs, a sphere that covers the Earth”⁸ (Kull 2005: 179-180).

In this interpretation, negativity comes from outside the semiosphere, introduced by the analyst who discerns and subordinates one to another the totalities of various levels. However, a point remains unclear: normally the global and the particular systems should be of the same nature, but in fact (according to Juri Lotman) the latter differs from the former by its dynamic character. Not only a singular semiosphere is unlike another – every object is so – but it actively dissociates itself from others. Its difference in relation to other semiospheres is neither a fact of classification and logical distinction, nor even of mechanical articulation, but rather of organic self-isolation.

Therefore, the second interpretation is based on biology. Lotman often referred to that science, treating artistic texts as living organisms and structuring culture on the model of functional asymmetry of the human brain⁹. We have noticed his recurrent use of the term of “organic unity”, and we have seen that he made allusion to *organism* in his first definition of semiosphere, although with a cautious reservation: “all semiotic space may be regarded as a unified mechanism (if not organism)”. A few pages below he reintroduced the same metaphor, this time without any reserve:

8 The first of these definitions, using the biosemiotic notion of Umwelt, is Kull’s own.

9 On Lotman’s constant interest for biology, see Kull 1999.

The internal diversity of the semiosphere implies its integrity. Parts enter the whole not as mechanistic details, but as organs in organisms. The essential feature of the structural formation of the core mechanisms of the semiosphere is the fact that each of its parts creates its own whole, isolated in its structural independence (Lotman 2005: 215).

Lotman derived his concept of semiosphere from Vladimir Vernadckij's notions of *biosphere* and *noosphere* (he quoted Vernadckij in both statements of his theory, the article of 1984 and the book of 1990)¹⁰. While the biosphere and even the noosphere constitute a "material space", the space of semiotic exchange is "abstract"¹¹. But its abstractness does not hinder it in behaving like a living organism. Indeed, it opposes its environment, and its "filtering membrane" sorts and absorbs only "digestible" elements, transforming/translating them in order to assimilate; its negativity is that of a biological individual dynamically detached from its milieu. Logically, this process can affect only the finite, subordinated "organic unities", comparable to individual beings situated in an external environment whose substances they "filter". On the contrary the "greater", infinite semiosphere as a "cosmic mechanism" coextensive to the universe¹² has nothing outside itself; therefore, Lotman's idea of external border cannot be applied to it. It might be described less as discrete organism¹³ than as a continuous and omnipresent "living matter", "a film on the surface of the planet" (Lotman 2005: 207)¹⁴. In this sense, two kinds of semiotic

10 In a letter to Boris Uspenskij (1982) Lotman for the first time extrapolated Vernadsky's theory of noosphere onto the "semiotic sphere", supposed to precede any particular semiotic manifestation: "Only the antecedence of *semiotic sphere* makes a message a message. Only the existence of mind explains the existence of mind" (quoted in Kull 2005: 178).

11 "Vernadsky's biosphere is a cosmic mechanism, which occupies a specific structural place in planetary unity [...]. If the noosphere represents the three-dimensional material space that covers a part of our planet, then the space of the semiosphere carries an abstract character" (Lotman 2005: 207).

12 Cf. one of the definitions listed by Kalevi Kull: "semiosphere is [...] a sphere that covers the Earth".

13 On the discreteness as fundamental feature of Lotman's semiosphere, see Alexandrov 1999.

14 The first formula is a quotation from Vernadckij, and the second - Lotman's paraphrase of the same author; cf. an exact quotation: "The connection between different living films and clusters, and their invariability, is an age-old feature of the mechanism of the earth's crust..." (Lotman 1990: 125).

totalities seem to correspond to the double aspect of any object, i.e. to the matter (infinite semiosphere) and the form (finite semiosphere).

In living organisms, negativity serves either the self-protection of individuals (blocking unfavorable external factors, evacuating the waste and so maintaining the organism’s homeostasis) or the evolution of species (replacing generations, eliminating old species by and for new ones). Apparently, Lotman in his theory of semiosphere thought of homeostasis as well¹⁵: semiosphere rejects all that is alien and indigestible and accumulates useful information to increase its own internal diversity¹⁶.

However, his article “On the semiosphere” suggests also another idea or intuition. Indeed, the external border functions in both directions. On the one hand, it *protects* the homeostasis of the finite semiosphere, separating its inner space from the outer one:

The function of any border or film – from the membrane of a living cell to the biosphere as a film (according to Vernadsky) covering our planet, to the delimitation of the semiosphere – comes down to a limitation of penetration, filtering and the transformative processing of the external to the internal (Lotman 2005: 210).

But on the other hand, the same border serves to *project* the inner space onto the outer one and to produce an image of that outer space within the finite semiosphere:

Insofar as the border is a necessary part of the semiosphere, the semiosphere also requires a “chaotic” external sphere and constructs this itself in cases where this does not exist. Culture not only creates its internal organisation, but also its own type of

15 One cannot find in his works the idea of non-accumulative and non-dialectical negativity, largely discussed in 20th-century Western philosophy. Skeptical towards psychoanalysis, he could not take over Freud’s notion of “instinct of death” and he probably ignored Georges Bataille’s theory of “unproductive expenditure”, a useless squandering of resources in physical (the irradiation of the Sun), biological (production of huge amounts of dying cells) and social life (festivals, wars and so on). Jean Baudrillard, in his book *Symbolic Exchange and Death* (1976) claimed that poetry was also an “extermination” of signs and words: a phenomenon hardly compatible with structural poetics and the theory of homeostatic semiosphere.

16 Lotman unfolded this logic of accumulation for the first time in the 60s, attempting to explain the aesthetic value of a text (a finite, subordinated semiosphere): “Beauty is information” (Lotman 1977: 144).

external disorganisation. Antiquity constructs its “barbarians”, and “consciousness” – “subconsciousness” (Lotman 2005: 212).

“Creating” a presumably “chaotic” outer sphere with its “type of external disorganization” is *imagining* something unknown and maybe even objectively inexistent. In this act of inventing, the semiosphere becomes a *subject*. Lotman symptomatically illustrated that fact with his two examples, putting together objects of macrosemiotics (the culture with its corresponding “barbarians”) and of microsemiotics (the human mind dividing itself in “consciousness” and “subconsciousness”).

So, the third interpretation of his theory is a philosophic one, linking together the problems of negativity and subjectivity. The latter notion was rather neglected by Lotman, as belonging to the speculative philosophy that he did not like¹⁷, however he made allusion to it when speaking of “semiotic personality” of the semiosphere. More generally, he used to consider culture as a collective intellect¹⁸, and intellect (consciousness) is a necessary, if not sufficient, condition of subjectivity¹⁹.

In this perspective, “infinite” and “finite” semiospheres are opposed as object and subject, as fantasmatic self-representation and real being of the “thinking world”. The former is global and has nothing outside it that might constitute its semiotic object; we can but analytically grasp it as a general object of *our* study. On the contrary, the latter has a kind of consciousness which allows it to imagine its own “other”. The dynamic negativity takes here the form of self-projection and at the same time self-limitation: *that is not me*. Every living organism possesses a physical envelop (skin, carapace etc.) separating it from its environment, but only thinking subjects can reflectively realize their difference from that environment and make hypothesis about its structure. They are able of acquiring a knowledge thereof which is not always exact (it may be quite fallacious),

17 One of the reasons of his distrust was the Soviet ideological system that censored almost all the conceptions of contemporary philosophy and replaced them with a dogmatical Marxism.

18 For example, in “The phenomenon of culture” (1978): “a supra-individual intellect, or Culture” (Lotman 2019: 47).

19 Their logical relationship gets more controversial in the case of artificial intellect, on which Lotman attempted to reflect when it was still in project.

but which is distant, resulting from a remote position of the subject vis-à-vis the object of knowledge²⁰.

Three interpretations of the semiosphere, distinguished here, may be presented in a table.

<i>Discipline</i>	<i>Articulated terms</i>	<i>Type of negativity</i>
Semiotics	Imbricated systems	Systemic (analytical distinction)
Biology	Matter and form	Organic (homeostatic self-protection)
Philosophy	Object and subject	Reflective (consciousness)

At this point, Lotman’s theory came across the epistemology of scientific knowledge. His notion of semiosphere was conceived in the framework of empirical sciences, devoted to the cognition of objects, not of subjects of reflection; Lotman, a scholar firmly committed to the scientific mode of thinking, could not afford a speculative approach of philosophy. This is why his idea of semiosphere as “thinking world” reveals to be so problematic, if not contradictory. Indeed, taken literally as the entire universe, a world cannot “think”, or at least it cannot be a conscious subject, because it lacks any external object of thought; and it’s only in a metaphorical sense that the name *world* has a plural. The conflict of two approaches put Lotman in a sort of double bind. On the one hand, he criticized the positivist reductionism in which “the complex object is [...] reduced to the sum of the simple” and all structures “look as if they are constructed out of individual bricks”²¹ (Lotman 2005: 206, 208). Taking as an ally the natural scientist Vernadsky, he substituted to that atomistic vision a holistic one, recognizing the primacy of the whole over its parts.

20 Surely, biological organisms can also possess a knowledge but it’s an immanent and non-subjective knowledge, without opposition between the knowing subject and the known object. Three forms of negativity listed here (semiotic, biologic and philosophic) loosely correspond to three relations to the *world*, distinguished by Heidegger in his *Fundamental Concepts of Metaphysics* (published in 1983): a thing remains “without world”, an animal is “poor of world” and only a human, self-conscious being, can effectively “found the world”.

21 I amend the first translation, replacing “the totality of the simple” by “the sum [*summa*] of the simple”.

But on the other hand, he could not ignore that thinking subjects (perhaps except God) are never ubiquitous and identical to the whole world but always have a particular location in this world, circumscribed by a border. The first insight produced the speculative definition of semiosphere as infinite “semiotic space” preceding all the particular facts which take place within it and excluding any outer room; from the second insight resulted the idea of finite semiosphere as empirical “semiotic personality”, very complex and diverse in its interior and cut off from its surroundings.

Science is itself a semiosphere having its own forms of cognitive negativity. It is all-embracing in relation to its objects, it extends its field of interest onto the universe; but at the same time, it subjectively distinguishes itself from all the non-scientific forms of knowledge (sometimes taking them as objects of critical inquiry, especially in human sciences). Filtering of incoming information, critical dialog with outsiders – that’s how should function a scientific discourse or a scientific institution, as well as the accumulation of knowledge is an ideal expression of scientific intellectual activity.

However, since science is not coextensive to the totality of culture, the twofold model of semiosphere could but partly account for the articulation of culture. This is why, carrying on his theoretical study, Lotman had to turn, a few years later, to another model for explaining its dynamics. That new model was grounded on temporal rather than on spatial notions and opposed no more an internal and an external area but two historical stages alternating in time – the homeostatic “culture” and the revolutionary “explosion” (Lotman 2009).

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