Semiosis is always at the border, which operates it

Ott Puumeister, Erik Kõvamees & Kalevi Kull[1]

Abstract

In this paper, we reflect on the proposal to describe semiotic processes as universally organized by something that could be called the "border" or the "boundary", doing so from three perspectives: Juri Lotman's semiotics of culture, sociopolitical semiotics, and biosemiotics. We particularly focus on the work of De Luca Picione, Marsico, Tateo, and Valsiner.

Keywords: *biosemiotics; semiosphere; semiotics of culture; sociosemiotics.*

---

[1] Department of Semiotics, University of Tartu, Estonia.

Corresponding author: Ott Puumeister, emails: ott.puumeister@ut.ee

Introduction

Borders are general phenomena that appear in all semiotic systems, or in any semiotic space. Understanding the working of borders is fundamental for semiotics, but also timely: The featured theme of the 2019 Annual Conference held by the Semiotic Society of America, for instance, was "The Semiotics of Borders and the Borders of Semiotics" (West, Owens 2020).

The destiny of cultural and biological diversity on Earth will seemingly depend on the understanding of how borders are operating in life, that is, the borders that are created by semiosis. Why is this so? Because violence depends on borders, *that is why*; because the diversity of life is coextensive with semiotic borders, *that is why*.

Moreover, and even more fundamentally, "border" can be the name of something that creates semiosis and operates it. The border is where possibilities emerge, thus the moment of meaning-making. This can be seen as the central and organizing point made by De Luca Picione et al. (2022). It is also a key to Jaan Valsiner's (and his group's) approach to semiotics. The schemes with which Valsiner has illustrated the process and situation of semiosis almost always use a figure of border (De Luca Picione & Valsiner, 2017; Valsiner, 2017; Valsiner, 2021; etc.). This approach makes sense and contributes importantly to the understanding of semiosis in its entirety.

For those who have learned semiotics in Tartu, the importance of the concept of border (or boundary) is native. Here are some aspects frequently mentioned:

(a) According to Juri Lotman, the border is one of the basic features of the semiosphere; the border is also one of the most active sites of meaning-making; the border is the site of and the reason for translation.

(b) The semiotic self presumes a border, thus we find walls, fences, skin, and membranes throughout communicative systems.

(c) The semiotic diversity of forms and species is a product of communication, as communication entails a recognition window; semiotic boundaries that separate forms are fuzzy and continuously negotiated;

(d) Cultural diversity, including the local Estonian one, is understood as being based on the spatial diversity of various borders, old and current: Estonia is a hotspot of borders.

The semiotics of borders is a broad topic, however not one that is often explicitly reviewed. Besides the works referred to below, we would mention, for instance, those of De Luca Picione and Freda (2016), Rajaram and Grundy-Warr (2007), Sohn (2022), Tateo & Marsico (2021), Shields (2006), and Vólkova Américo (2017).

The work by De Luca Picione, Marsico, Tateo, and Valsiner (2022) is remarkably comprehensive among the existing treatises on the semiotics of borders. In our current essay, serving as a commentary to their article, we discuss some aspects of the role and phenomenon of semiotic borders in, say, a culture with the ability to persist, or within a sustainable ecosystem. Some aspects of this topic are reflected in our earlier publications, for instance: Puumeister (2022); Kõvamees (2020); Nugin et al. (2020); Kull (2014, 2016); Kull and Maran (2022); Tamm and Kull (2016); etc.

Some cultural semiotic aspects

In the semiotics of culture, the *border*[1] can and should be considered a central notion. Already in the first two theses of the founding document of the semiotics of culture (Lotman et al., 2013, pp. 53–57)[2], the concept of a border plays a crucial role in constructing a definition of culture. In 1971, two years prior to the appearance of this manifesto, two of its co-authors – Lotman and Boris Uspenskij (1978) – wrote about the "semiotic mechanism of culture," and in their definitions and descriptions of culture, the idea of a border played much more than a subordinate or supportive role.

One does not have to delve into the definitions and detailed discussions of culture presented in these papers in order to understand the importance of the border concept for the semiotics of culture. In fact, the term "border" *does not even have to be used*, let alone given a formal definition, and/or afforded specificatory description. Indeed, not only do the two works mentioned above refuse to *explicitly* formalize and/or discuss the notion of a border, they do not even invoke the term or any of its possible synonyms, at least in the context of defining culture. Instead, the idea of the border remains *implicit* in their descriptive discussions, in essence taking the form of circumlocution, and needing to be read out or interpreted.

Regardless of this state of affairs, the idea of some kind of border persists, its presence extant at least in germ form. Furthermore, it is not like the idea and importance of borders was not already acknowledged or known by the founders of cultural semiotics. As Chernov (1988, pp. 10-15) has described, the interests or the scientific program of the Tartu-Moscow Semiotic School – the pool from which the founders of the semiotics of culture together surfaced – travelled along the following trajectory: (1) a focus on *modelling systems*, i.e., *languages* (in the extended semiotic sense), (2) an emphasis on the *text* (once more understood in a sense extended beyond linguistics), and (3) the bringing-together of these theoretical elaborations – alongside the presentation of new elucidations – in the study of *culture*, i.e., the birth and development of the semiotics of culture.

As an individual – but in the tradition of study that could nonetheless be called cultural semiotics – Lotman thereafter developed the notion of the *semiosphere* (Chernov, 1988, pp. 14-15). And it is in the theory of the semiosphere that the border becomes a centrally-important concept, fleshed out explicitly. As Lotman (2005, p. 210) writes: "The border of semiotic space is the most important structural and functional position". One can also think about the importance of the border in connection with Lotman's later writings on the semiosphere, especially in relation to the concept of the *semiotic monad*, which was explicitly framed as a concept belonging to the semiotics of culture, and for which the notion of the border was also of an explicit and critical importance (Lotman, 1997, 2019).

In a positive sense, the border has a central position also in the definition of the text, and in

---

[1] In order to remain consistent with the work of De Luca Picione et al. (2022), the term "border" will be used instead of "boundary", even though the latter is the chosen term in, for example, Lotman's (2005[1984]) characterization of the semiosphere. The problem of "border" or "boundary" – including the need for technical definitions and specifications – is a metalinguistic and also translational one in need of address in the future.

[2] Entitled "Theses on the semiotic study of cultures (as applied to Slavic texts)", originally published in 1973, co-authored by Lotman and four others, consisting in total of nine theses (including relevant discussions).

a negative sense, holds a place in the definition of language (Lotman, 1977). That is, the possession of a border is one of the defining traits of the text as such, and the absence of bordering is what allows the text to stand in contrast – to a greater or lesser extent, and in certain contexts – to both oral speech, on the one hand, and language as a semiotic system, on the other hand (with one of language's defining traits thus being its lack of bordering) (Lotman, 1977, pp. 50–52).

The notion of borders is thus central to any and all *structural* understandings of the text (see Lotman, 1977), and since contemplations on the nature of the text generally preceded contemplations on the nature of culture and the semiosphere, and furthermore, since the concept of the text is of central importance to the semiotics of culture[3], it is uncontroversial to state that the notion of the border has been implicit in cultural semiotics since the beginning.

Although it necessarily intermingles with structural considerations – and vice versa – the text may also be approached from a *functional* perspective (see Lotman, 1988). In the generative theses of the semiotics of culture, for instance, the text is described in depth as concerns both functional and structural aspects (Lotman et al., 2013). Cultures, monads, and semiospheres may also be considered in the same way (with the same caveat holding that structural and functional dimensions necessarily bleed into one another). In considering the structures and functions of any of these semiotic units, it could be said that the border

plays a most important role in conceptualizing or understanding the natures of any of their respective *organizations* and/or *operations*.

Furthermore, as Lotman (2005, pp. 215–216) writes, not only are all texts isomorphic with one another, there is also "a distinct parallelism between individual consciousness, the text and culture as a whole". Such isomorphism/parallelism can be understood in structural terms, or more specifically, in terms that all of these semiotic units are characterized by the presence of a border. And, functionally speaking, what runs through the works of Lotman that could be considered as belonging to cultural semiotics – whether individually- or co-authored – is that semiotic units such as texts, monads, cultures, and semiospheres are all more or less, or in some way, analogous to individuals (organisms), in the sense that they are possessed of a certain *agency* and *identity*[4], concepts directly linked to that of the border.

The latter understanding – directly connected to the notion of the border – is what allows one to draw object-level parallels between the biological, social, societal, and cultural, for instance, or between human beings, lower- and higher-order organisms (from single cells to all animals), complicated texts (such as works of art), social institutions, individual cultures, and human culture in its entirety, for example. In this way, on the metalevel, it could be said that the notion of borders thus represents a concept that could po-

---

[3] Theses three to eight of the cultural-semiotic manifesto are in essence dedicated to culture-text relations, for example (Lotman et al., 2013, pp. 57–76). Lotman and Uspenskij's (1978) description of the semiotic mechanism of culture, Lotman's (2005) description of the semiosphere, and Lotman's (1997; 2019) description of the semiotic monad, are all also more or less predicated on the idea of the text.

[4] That is, such units, off the top of the authors' heads, *behave*, *think*, *reason*, are *conscious*, make *choices*, have some kind of homogeneous *autonomy* or *personality* or *individuality* or *character*, possess *intelligence* and *memory*, *communicate* or *participate in dialogue*, etc. (the characterizations run a gamut of concepts and paraphrases).

tentially unify certain of the different directions taken in biosemiotics, sociosemiotics, and cultural semiotics, respectively[5].

Some sociosemiotic aspects

Sociopolitically, it is tempting to equate borders with walls. In other words, to identify borders with the operations of blocking, keeping out, prohibition, exclusion. The border appears as a wall when the perspective we assume is that of identity. The question then becomes: How to maintain and protect identity, how can a society remain itself over time? This perspective loses sight of the ontological aspect of the border and relegates it to the margins, that is, the border as originating from the center. But what, therefore, is the ontological aspect of the border? It is to differentiate, to institute alterity. As Michel Agier says, "there is as much difference between a border, both boundary and passage, and a wall, synonymous with reciprocal enclosure, as between alterity and identity" (2016, p. 6). Identity is the result, the end-point of bordering. Alterity is primary.

With this principle in mind, sociosemiotics can pose ontological questions. How is diversity constituted? How are differences articulated? These are questions about so-called *worlding* (see Descola, 2010, 2014) or *umwelten*[6]: How is that which "happens" stabilized into elements and their relations? Structured spatiotemporal events, which constitute a particular world, are heterogeneous in their being; they are diverse. Thus, when we recognize a particular world – or more precisely, a particular process of worlding – as having a certain identity, it nonetheless remains immanently diverse or heterogeneous. Identity-as-homogeneity is an illusion, a simulacrum. We can take this logic further: Even (social, political, cultural, natural) identities are traversed by borders, a situation which constitutes the immanent diversity through which they might appear to be homogeneous. But this – homogeneity – is always already an ideological operation. Whether we are speaking about the "people", "social roles", "subcultures", "relations of power", "institutions", "others", etc., all these social phenomena are diverse. Diversity is that which is given (Deleuze, 1994, p. 222).

Borders generate diversity and maintain alterity. The border is a genetic element of diversity. It is thus necessary to turn the common sense understanding that borders stand between two identities on its head. Rather, two identities result from differentiation. This becomes especially evident when considering Gregory Bateson's concept of *schismogenesis*

---

[5] Indeed, Lotman (2005, p. 210) himself discusses the cellular membrane as a type of border, basically ascribing it the same status as the border of, say, a great civilization or culture area. And Kõvamees (2020), for instance, invoking the ideas of Lotman (2005) and Goffman (1961), has written about the prison as a "total institution semiosphere," emphasizing the importance of the border in the following way: "The semiosis of the semiosphere – its processes of communication, information-creation, or meaning-generation – is partially determined by the functions of its boundary (and the relations they do or do not afford). The functions of the semiosphere's boundary include *delimitation*, *establishing contact*, *translation*, and *filtration*. The function of delimitation involves dividing, while the function of

establishing contact involves uniting. The function of translation includes the textualization of non-texts prior to actual translation, the substantiation of the semiosphere via the internally-directed translation of texts (including non-texts that have been transformed into texts) into its own internal language(s), and the exportation of the semiosphere's own semiotic products via the externally-directed translation of texts into external language(s). Both the functions of translation and filtration are bidirectional, but while they both entail the transformation of texts, only the function of filtration includes also the explicit rejection of texts" (Kõvamees, 2020, p. 308).

[6] On ontology and difference in regard to the umwelt, see Rattasepp (2023).

(1935), which underlines that the diverse nature of social groups stems from their close contact and interaction, their conscious differentiation from each other. Neighboring societies exhibit different morals and social institutions because of their history of differentiating interaction (for an example, see Graeber, Wengrow, 2021, pp. 181–185).

It is thus not entirely correct to say that borders precede individuation, either in the temporal sense. Now, it is true that to define means to delimit, to mark borders (Balibar, 2002, p. 76) – and this is why it is extremely difficult to define borders themselves or as such, as is evident in De Luca Picione et al. (2022). However, the border from a sociosemiotic perspective is not something mystical or indefinite, it is not a vague and dark unknown. If we were to ask, for example, what is the foundation of polarization in a society, we can easily see that it is the result of the two poles constantly reinforcing each other's positions and thus drifting ever further away from each other, and yet, by the same movement, becoming ever more tightly connected. The border divides and unites in the same movement: A constant differentiation-individuation. And the border is nothing other than this process itself, which is why it would be incorrect to say that the border precedes individuation or differences.

In this sense, the concept of border is closest to the concept of *difference*, as the genetic element of the different. We can perceive different phonemes, images, faces, languages, etc., but not that which makes them different. Like the border, difference is of a

paradoxical origin, in that it is multiple, or a non-origin; difference always points to the incompatibility which underlies semiosis itself (Kull, 2015). It is thus a semiotic phenomenon *par excellence*. But it is also virtual, not actual. It cannot be sensed[7], it is what renders sensible the world in all of its diversity. If we define the border in this broad manner through the notion of difference, do we still have any use of the concept?

Indeed, we do. Because, more precisely, we can define the border as the sign(-process) expressing difference. Consequently, the border takes us closest to difference, to that which cannot be sensed, to the virtual paradoxical situation of incompatibility that founds semiosis. Here we can point to Gilles Deleuze's notion of the sign, which is not representative, but expressive. A sign does not *replace* its object in order to represent it: "Signs are not signs of a thing; they are signs of deterritorialization and reterritorialization, they mark a certain threshold crossed in the course of these movements […]" (Deleuze & Guattari, 1987, p. 5). Or, in other words:

> [B]y 'sign' we mean […] what flashes across the intervals when a communication takes place between disparates. The sign is indeed an effect, but an effect with two aspects: in one of these it expresses, *qua* sign, the productive dissymmetry; in the other it tends to cancel it. The sign is not entirely of the order of the symbol; nevertheless, it makes way for it by implying an internal difference […] (Deleuze, 1994, p. 20).

---

[7] Gregory Bateson says that difference "is an abstract matter" (2015, p. 93), but the abstract nature of difference should not be confused with generality. It is entirely possible to be abstract without being general, that is, to be abstract while being specific. A generality applies for all the chosen particulars in the same manner – it classifies them. But an abstract idea is the difference between those which are different, thus it does not classify (see Bateson, 2015, p. 94; Deleuze, 1994, ch. 4), but territorializes, distributes.

The border as a sign(-process) is a manifestation of difference, asymmetry, incompatibility, dyschrony, etc. As such, it marks and defines the non-identical (heterogeneous, diverse) nature of living beings, cultures, societies, institutions.

The border inscribes alterity rather than constituting identity. An excellent example is James C. Scott's (2009) socio-historical study on the non-state peoples of the Southeast Asian mainland massif. Commonly, non-state peoples have been understood as somehow underdeveloped, uncivilized, left behind by the progress of states, etc. Scott's thesis concerning these "barbarians" is that "hill peoples are best understood as runaway, fugitive, maroon communities who have, over the course of two millennia, been fleeing the oppressions of state-making projects in the valleys – slavery, conscription, taxes, corvée labor, epidemics, and warfare" (2009, p. ix). "Barbarians" are thus the products of state projects, peoples who refuse to be governed by states, peoples that are against the state.[8]

Peoples fleeing states and instituting non-state communities have to inscribe the border between themselves and the state within their community itself. The state as a hierarchical structure is present as alterity immanent to the community, a hierarchical structure of command able to exploit their labor. Similarly, the border is inscribed in state projects, which constantly need to ward off the anarchical structure of the "barbarians" or "savages" who inhabit the hills. This structure always threatens with the actions of theft and flight, for example.

The border between states and non-state peoples is immanent to both, and being immanent, inscribes alterity to their innermost core.

This is how the border expresses difference, how it is a sign of difference: It marks a distinction that intimately connects. This paradoxical situation cannot be solved without reducing the border to a wall, which would have as its result "ever more walls in a world without alterity" (Agier, 2016, p. 85). This is our globalized world of today. And this makes it ever more urgent for science to think through borders.

Some biosemiotic aspects

Semiotic borders exist also in non-human meaning-making systems. Yet, to be precise with examples, it is essential to distinguish between semiotic and non-semiotic borders.

For instance, the soap bubble film that separates the inside and the outside of a bubble, or the sea coast that is a boundary between land and water, or even a door between rooms, are all physical borders, but by or in and of themselves are not semiotic borders. However, they *can be* semiotic borders if interpreted as such. Also, the border of the biosphere is not a semiotic border for organisms, since it is not interpreted by organisms (except for humans who have a concept of biosphere).

In terms of general semiotics, the fundamental difference between the ways borders are described or formed should be kept in mind.

(a) *Physical borders* are the borders described in terms of physical forces, irrespective of anybody's umwelt. These are sharp differences as regards conditions

---

[8] On "primitive" societies against the state, see also Clastres (1989, 2010), and theoretical elaborations based on these: Deleuze and Guattari (1987), Viveiros de Castro (2019).

of movement, in terms of diffusion or re-flection or chemical conversion.

(b) *Semiotic borders* are borders within um-welten. These are differences made on a cognitive basis, the borders as sensed or felt in one's behavior or mental exer-cises.

(c) Also, a third principal type of borders is reasonable to distinguish: Physical bor-ders that are built as a result of semiosis, i.e., the ones that are products of semio-sis, or *artefactual borders*.

Biosemiotician Jesper Hoffmeyer paid much attention to the phenomenon of bound-aries. He writes: "The boundary, or – to use Bateson's term – the difference, [...] it is, in fact, a mental exercise. It forms the very roots of signification. Or, to put it another way: the boundary is not a part of the world unless "someone" chooses to picture it" (Hoffmeyer, 1996, p. 10). Later he adds: "a sign process is itself necessarily always a border-crossing process in which an interpretant is called forth by something else" (Hoffmeyer, 2008, p. 213).

The way in which differences in com-municating groups of organisms appear has been described via the biosemiotic concept of speciation, which is based on the limits of recognition windows (Kull, 2016). This has some analogy with the processes of perceptual categorization.

Thus, the origin of borders requires at-tention. It may be asked whether functions fol-low the creation of borders, or are there some functions that may themselves create the bor-ders?

If focusing on perceptual categorization, one can observe that categorization (which

means the emergence of borders) may occur in the conditions of a continuous, borderless environment. Particularly, if the scope of the continuum is larger than the scope (the recog-nition window) of functional systems, then the continuum is becoming divided into catego-ries. The precise placement of borders then does not depend on the environment and can be rather accidental. However, once some un-evenness is met in the environment, the cate-gorization will tend to adjust to it.

An analogical mechanism of internal border-creation based on mutual recognition versus non-recognition may be rather wide-spread in living systems. It can be observed in the morphogenetic segmentation of a commu-nicative system, including a living body or its tissues, as well as in an internal division of a social system.

A good example of a debate on the role of borders in biological evolution has been the one between proponents of the *isolation mechanism* versus the *recognition mechanism* of speciation. According to the isolation mechanism notion, presented and promoted, for instance, by ornithologist Ernst Mayr, a necessary condition for speciation is an isola-tion barrier, preventing free sexual communi-cation between specimens. Alternatively, en-tomologist Hugh Paterson argued for the recognition mechanism notion, according to which the mutual recognition between speci-mens is the primary process in group for-mation, while the borders appear as a second-ary consequence of this process.[9]

The recognition concept has important implications. Namely, that environmental het-erogeneity is not at all necessary for the emer-gence of borders, although it does enhance

---

[9] See details on this mechanism and relevant references in Kull (2016).

their origin and certainly influences the place-ment of borders. Analogically, such a mecha-nism may work for social systems: In the pop-ulation of a continuous internal variability, a separation into groups and, accordingly, the appearance of borders can simply be a result of a sufficiently-wide variability in which non-recognition is met too frequently.

One should certainly pay attention to the per-fect definition of the border given by De Luca Picione et al. (2022) "as an operator of mo-mentary ontology". Meaning-making as well as choice takes place exclusively in a momen-tary umwelt. Umwelt is a creation of multiple functional perception-action systems. Accord-ingly, borders work in the umwelt as operators of its diversification. Semiotic borders are dy-namic and permanently negotiated, even if once established and kept as habits, they can in certain cases be rather stable, and changing them may require a remarkable effort.

Conclusions

De Luca Picione et al. (2022) have pre-sented a remarkably rich and detailed account of the border as a general semiotic phenome-non, covering it from both cultural and psy-chological sides. In our remarks, we drew at-tention to some additional details.

(1) Whether implicit or explicit, the no-tion of the border has been central to the semi-otics of culture since its inception, defining key cultural-semiotic concepts in both posi-tive and negative manners. Here, the most straightforward example is that borders are considered the semiosphere's most important structural and functional positions. Further-more, the predication of the semiosphere and other semiotic units (such as texts or monads) – in terms of structure, function, or both – as being necessarily based on the presence of borders, provides further confirmation of the concept's importance to cultural semiotics, al-lowing, in the end, for the drawing of parallels on both the object- and metalevel.[10]

(2) Not only are borders constitutive of temporary (psychological) ontologies, but so-ciopolitical ontologies. In other words, they are the semiotic structural mechanisms for worlding(s), underlying the political practices of territorialization and community-formation behind already (seemingly) stabilized worlds. Borders establish social relations and thus structure the field in which it is possible to rec-ognize someone (no matter the species) as a social actor or being in the first place.

(3) A distinction between semiotic and non-semiotic borders should be considered. Semiotic borders have several sources of origin, which may be related to their function. Semiotic borders are always umwelt-related.

---

[10] The definition of the border as an "operator of mo-mentary ontology" that both separates and connects, alongside the elaboration of the so-called *Generalized* *Semiotic Functions of Borders'* model, fall well in line with the theories of cultural semiotics, and one future research direction should work towards their synthesis.

References

Agier, M. (2016). *Borderlands: Towards an Anthropology of the Cosmopolitan Condition*. Cambridge: Polity.

Balibar, É. (2002). What is a border? In: É. Balibar. *Politics and the Other Scene* (pp. 75–86). London, New York: Verso.

Bateson, G. (1935). Culture contact and schismogenesis. *Man*, 35, 178–183.

Bateson, G. (2015[1970]). Form, substance and difference. *ETC: A Review of General Semantics*, 72(1), 90–104.

Chernov, I. (1988). Historical survey of Tartu-Moscow Semiotic School. In: H. Broms, R. Kaufmann (Eds.), *Semiotics of Culture: Proceedings of the 25th Symposium of the Tartu–Moscow School of Semiotics, Imatra, Finland, 27–29 July 1987* (pp. 7–16). Helsinki: Arator Inc.

Clastres, P. (1989[1974]). *Society Against the State: Essays in Political Anthropology*. New York: Zone Books.

Clastres, P. (2010[1980]). *Archeology of Violence*. Los Angeles: Semiotext(e).

De Luca Picione, R., & Freda, M. F. (2016). Borders and modal articulations. semiotic constructs of sensemaking processes enabling a fecund dialogue between cultural psychology and clinical psychology. *Integrative Psychological and Behavioral Science*, 50(1), 29–43.

De Luca Picione, R., Marsico, G., Tateo, L., & Valsiner, J. (2022). Generalized semiotic functions of borders' model. Contributions from cultural psychology, semiotics and psychoanalysis towards the understanding of borders in human experience. *International Journal of Psychoanalysis and Education: Subject, Action, & Society*, 2(2), 81-111 .

De Luca Picione, R., & Valsiner, J. (2017). Psychological functions of semiotic borders in sensemaking: Liminality of narrative processes. *EJOP: Europe's Journal of Psychology*, 13(3), 532–547.

Deleuze, G. (1994). *Difference and Repetition*. New York: Columbia University Press.

Deleuze, G., & Guattari, F. (1987). *A Thousand Plateaus: Capitalism and Schizophrenia*. Minneapolis: University of Minnesota Press.

Descola, P. (2010). Cognition, perception and worlding. *Interdisciplinary Science Reviews*, 35(3/4), 334–340.

Descola, P. (2014). Modes of being and forms of predication. *HAU: Journal of Ethnographic Theory*, 4(1), 271–280.

Goffman, E. (1961). On the characteristics of total institutions. In: E. Goffman, *Asylums: Essays on the Social Situation of Mental Patients and Other Inmates* (pp.1–124). New York: Anchor Books.

Graeber, D., & Wengrow, D. (2021). *The Dawn of Everything: A New History of Humanity*. London: Allen Lane.

Hoffmeyer, J. (1996). *Signs of Meaning in the Universe*. Bloomington: Indiana University Press.

Hoffmeyer, J. (2008). *Biosemiotics: An Examination into the Signs of Life and the Life of Signs*. Scranton: Scranton University Press.

Kõvamees, E. (2020). Prisons as total institution semiospheres. *Sign Systems Studies*, 48(2/4), 297–325.

Kull, K. (2014). At the creative diversity of borders, for understanding the structure and the whole. In: P. Sériot, *Structure and the Whole: East, West and Non-Darwinian Biology in the Origins of Structural Linguistics*. (Translated by A. Jacobs-Colas.) (Semiotics, Communication and Cognition 12.) (pp. ix–xiv). Berlin: De Gruyter Mouton.

Kull, K. (2015). Semiosis stems from logical incompatibility in organic nature: Why biophysics does not see meaning, while biosemiotics does. *Progress in Biophysics and Molecular Biology*, 119(3), 616–621.

Kull, K. (2016). The biosemiotic concept of the species. *Biosemiotics*, 9(1), 61–71.

Kull, K., & Maran, T. (2022). Juri Lotman and life sciences. In: M. Tamm, P. Torop (Eds.), *The Companion to Juri Lotman: A Semiotic Theory of Culture* (pp. 461–475). London: Bloomsbury Academic.

Lotman, J. (1977[1971]). The concept of the text. (Translated by G. Lenhoff & R. Vroon). In: J. Lotman, *The Structure of the Artistic Text* (pp. 50–56). University of Michigan.

Lotman, J. (1988[1981]). The semiotics of culture and the concept of a text. *Soviet Psychology*, 26(3), 52–58.

Lotman, J. (1997[1989]). Culture as a subject and an object in itself. *Trames*, 1(51/46), 7–16.

Lotman, J. (2005[1984]). On the semiosphere. (Translated by W. Clark). *Sign Systems Studies*, 33(1), 205–229.

Lotman, J. (2019[1989]). Culture as a subject and its own object. (Translated by B. J. Baer). In: M. Tamm (Ed.), *Culture, Memory, and History: Essays in Cultural Semiotics* (pp. 83–93). Cham: Palgrave Macmillan.

Lotman, J. M., Ivanov, V. V., Pjatigorskij, A. M., Toporov, V. N., & Uspenskij, B. A. (2013[1973]). Theses on the semiotic study of cultures (as applied to Slavic texts). (Translated by T. Pern). In: S. Salupere, P. Torop, K. Kull (Eds.), *Beginnings of the Semiotics of Culture* (Tartu Semiotics Library 13) (pp. 15–37). Tartu: University of Tartu Press.

Lotman, J. M., & Uspenskij, B. A. (1978[1971]). On the semiotic mechanism of culture. (Translated by G. Mihaychuk). *New Literary History* 9(2), 211–232.

Nugin, R., Jaago, T., Kannike, A., Kull, K., Palang, H., Printsmann, A., Siim, P. M., & Lindström, K. (2020). A plurality of pasts and boundaries: Evidence from Estonia's last one hundred years. In: A. Kannike, K. Pärn, & M. Tasa (Eds.), *Interdisciplinary Approaches to Culture Theory* (Approaches to Culture Theory 8) (pp. 334–373). Tartu: University of Tartu Press.

Puumeister, O. (2022). Identities on the border. In: M. Piasentier & S. Raimondi (Eds.), *Debating Biopolitics: New Perspectives on the Government of Life* (pp. 109−127). Cheltenham: Edward Elgar Publishing.

Rajaram, P. K., & Grundy-Warr, C. (Eds.) (2007). *Borderscapes: Hidden Geographies and Politics at Territory's Edge*. (Borderliners, vol. 29.) Minneapolis: University of Minnesota Press.

Rattasepp, S. (2023). The ontological primacy of umwelt. *Sign Systems Studies*, 51(1) [forthcoming].

Scott, J. C. (2009). *The Art of not Being Governed: An Anarchist History of Upland Southeast Asia*. New Haven; London: Yale University Press.

Shields, R. (2006). Boundary-thinking in theories of the present: The virtuality of reflexive modernization. *European Journal of Social Theory*, 9(2), 223–237.

Sohn, C. (2022). How to brand a border despite its wall? A social semiotics approach to cross-border place branding. *Geoforum*, 135, 82–92.

Tamm, M., & Kull, K. (2016). Toward a reterritorialization of cultural theory: Estonian theory from Baer via Uexküll to Lotman. *History of Human Sciences*, 29(1), 75–98.

Tateo, L., & Marsico, G. (2021). Signs as borders and borders as signs. *Theory & Psychology*, 31(5), 708–728.

Valsiner, J. (2017). Semiosis and activity: Towards theoretical synthesis. In: J. Valsiner, *Between Self and Societies: Creating Psychology in a New Key* (pp. 283–316). Tallinn: TLU Press.

Valsiner, J. (2021). *Hyper-Generalization by the Human Mind: The Role of Sign Hierarchies in Meaning-Making Processes*. (Hans Kilian Award 2017.) Gießen: Psychosozial-Verlag.

Viveiros de Castro, E. (2019). *Politique de multiplicités: Pierre Clastres face à l'État*. Éditions Dehors.

Vólkova Américo, E. (2017). The concept of border in Yuri Lotman's semiotics. *Bakhtiniana*, 12(1), 6–21.

West, D. E., & Owens, G. R. (Eds.) (2020). *Semiotics 2019: New Frontiers in Semiotics*. Charlottesville: Philosophy Documentation Center.