EPISTEMOLOGY OF SEMIOTICS AND EPISTEMOLOGY WITH SEMIOTICS[1]

Andrej Pinter

University of Ljubljana

Abstract. Due to fortunate circumstances, semiotics experienced what is now often referred to as a 'golden legend'. But the reasons why semiotics has been in the centre of scholarly interest for quite some time now do not tell much about semiotics itself. Thus, another path was taken in the paper in order to explain the recent drive to semiotics. Semiotics is not directly analysed, it is analysed through its underlying epistemology. Moreover, contemporary epistemological discussion is taken as a starting point in finding a place for semiotics among other scientific disciplines. As constructivist epistemology is taken to be a likely contestant for the epistemological primacy among other traditional stances, its basic premises are more closely analysed and an epistemology with semiotics is succintly outlined in order to go beyond the key problems of constructivism.

Key words: epistemology, semiotics, constructivism.

The reasons explaining why semiotics has been in the centre of scholarly interest for quite some time now do not tell much about semiotics itself. They rather say a whole lot about those who come across it in order to explore 'semiotic wilderness'[2]. Due to fortunate circumstances, semiotics experienced what is now a 'golden legend': it has grown from an intellectual attempt that could be compared to an ugly duckling among its contemporaries into a wide scope of interests that attracts the attention of a gorgeous swan.

In the present paper I will try to clarify some impulses and also some consequences of the drive to semiotics. I will be especially interested in this from the point of view of epistemology in the sense of knowledge organization. My

---

[1] My sincerest thanks to dr. Andrej Škerlep, dr. Andrej Kirn, and Karmen Šterk for helpful and stimulating discussions; and to Anka Furlan.

[2] Spinks' (1990) term, which he actually uses to stress what may be compared to endless possibilities of the application of logic in semiotics, but can nevertheless just as well be applied to the seemingly unlimited possibilities of semiotics itself in respect of their use in research interests of contemporary scholars.

starting premise here is that studying the epistemological background of theories that form this body of knowledge, identified with a unifying label – semiotics, can provide deeper understanding of the semiotics itself, since such background is the exact reflection of the semiotics' self-perception. Moreover, epistemology is in my opinion the most appropriate approach to outline horizons of semiotics' erudition without forgetting its knowledge. Thus, epistemology is understood in its broader sense here. Not only is it used here as an approach to knowledge organization, but it is also used as an approach to display historical development of this knowledge and, not least importantly, it is used as an approach to apply this knowledge.

That semiotics is broad enough in grasp not to exclude any of the three ambitious possibilities is an immense benefit, and perhaps also one of the main reasons why contemporary semiotic theory is considered so significant. However, it does not seem at all easy to deal with semiotic theory in its present state. On the one hand there is immense production of semiotic knowledge, on the other, the whole range of semiotic studies seems to be ailing from the pressure this huge quantity is putting on the recognizable identity of its tradition. Exactly because of its excellent integrative capabilities, semiotics is receiving constant 'hit-backs' to its scholarly identity. One could even say that after a century of intellectual project called semiotics, its scientific status still remains an open question.

My aim in this paper is not really to clarify the scientific status of semiotics. On the contrary, I will present an understanding that may bring forth even further complications regarding any attempt to narrow the semiotic scope to some kind of rigid domain. However, I will promote some solutions the 'semiotic way' to the current problems of epistemology, theory of knowledge and social theory because I think that this way semiotic possibilities can be far better understood.

1. Epistemological pitfalls and pendulums of the contemporary semiotics

1.1. Pendulums

> "It may be assumed that the history of semiotics cannot take the
> form of a chronicle of past and evident events, as such chronicle
> naturally contains no explanatory comment beyond the
> factual documentation." (Eschbach 1983b:25)

Thus, when one decides to search for a thorough historiographic presentation of semiotics, disappointment may be extensive. It may be that due to its broad definition it is hard to agree upon its exact beginning (Bouissac 1976), or it may be that it is not easy to systematize influences from other sources of knowledge or from the social conditions in a given time of its development (Nolan 1990:84), or it may be that interrelations between different authors and different semiotic currents are so complex that it takes more studying in detail than overall historical presentation can provide (Sebeok and Umiker Sebeok 1991). It may just be so, moreover, we can all probably agree that without resolving such difficulties any

endeavour to give a comprehensive overview of semiotic history is doomed in advance.

As a result, researchers usually end up writing their own semiotic 'histories'. According to one's more or less arbitrary preferences of certain theorists and to one's own scope of interests, of course. But, in my opinion this is not at all inappropriate and if it were not so, regardless of the aim of a particular study, it would be highly advisable that researchers would concentrate on that particular aspect. For individual histories of semiotics are both swings of pendulums and foundations for understanding theoretical progress; it is not just learning from the history involved, more importantly, such displays establish some sort of an evaluative attitude of the researcher to his predecessors and confine the study itself to the intersubjective standards of interpretive community one belongs to and/or one wishes to present his views to. In other words, such individual histories are, in Peirce's terms, 'objects' to indexical signs of theoretical progress and of epistemological development regarding the problems and solutions that previous researchers have offered. Thus, the past and the present are put conjointly into the perspective. And surely even more importantly, such historical considerations also guarantee that new proposals can be acknowledged as such and be properly criticized among other semioticians in the sense that Karl R. Popper promoted.

While it is obvious that history of semiotics can be approached in many different ways (see Nöth 1995, Gordon 1991, Eco 1984a, 1984b, Eschbach 1983b, Perret 1983, Malmgren 1984), it nevertheless seems that hardly anyone could afford to neglect basic stages in its disciplinary development. From my point of view, but note that this is just another personal semiotic history, there are three: the 'point of no return'[3], the discovery, and the perfusion.

In spite of many reasonable argumentations why several premodern thinkers can be considered semioticians, decisions to accept them in the overviews of semiotic history largely depend on one's understanding of semiotics. Namely, if one understands semiotics in its stern and rigid scientific sense, there will clearly be a different picture of its history than in the case of understanding semiotics as, say, an eloquent epistemological point of view. Still, despite some obvious similarities with presemiotic ideas and despite the unquestionable influence of the latter upon the development of the modern semiotics, I think that it is not wrong to take Charles Sanders Peirce's and Ferdinand de Saussure's opus as a point of departure; as a point of no return. While in the works of earlier authors semiotic ideas are merely implicit or even only hunched, both de Saussure and Peirce expressed their ideas explicitly as being semiotic/semiological. They were both aware of the shift in the way of thinking they were proposing and they were both conclusive in giving thorough foundations for such a shift.

---

[3] The notion of the 'point of no return' was introduced into the semiotic context by Achim Eschbach (1983b) to name the point of "formulation of semiotic maxims in terms of the logic of relations, which took place around the year 1870." (Eschbach 1983b: 26)

Generally speaking, both Peirce and de Saussure were too advanced for their contemporaries to be understood and to be credited for the importance of their endeavours. Thus some time was needed before they were given full acknowledgment. And when they were, the second period of semiotic history was set up, the period of discovery. Many schools and individual researchers emerged in this period, deriving their starting positions from either Peirce or de Saussure, and spreading from Morris, the Prague circle, the Copenhagen school, Lévi-Strauss, to the Tartu school, the Perpignan group and Greimas' followers in the Paris circle etc[4].

Coming to the third and present phase in the semiotic history, one can say that eclecticism and perfusion of semiotics is hardly controllable. The interest in semiotics has become widespread and so have the objects of semiotic studies; thus it is not merely amusing to say, as Marcelo Dascal (1983) did, that semiotics is a "supermarket of ideas" (1983:61). On the other hand, it seems to me that such development is not at all to be equated with the fulfilment of intuitively devised frameworks which de Saussure and Peirce have envisioned in their own work. For neither is contemporary eclecticism of semiotics "a science that studies the life of signs within society" (de Saussure 1994:33) nor is it quite the same as Peirce's idea of the "doctrine of signs" (Peirce 1931–58:5.488). Let me give some reasons for such a claim. Should we take contemporary semiotics as a unified sphere, in my opinion it certainly cannot be said that it is a fulfilment of either de Saussure's or Peirce's projection because there are several key features missing when comparing the projections of the two to the present situation in semiotic theory. There seems to be less and less stress on the language as a social fact which de Saussure wanted to be investigated, mainly because of increasing interest in the human cognitive processes and his individual signifying practices. Especially poststructuralist semioticians are becoming ever more oblivious of de Saussure's assertion that natural language is not the only code of signification[5]; on the other side, post-Peircean semioticians are showing significant indifference to the natural language. Another de Saussure's prediction that a general science of semiology should be a part of psychology, has also proven to be inaccurate. Next, Peirce's projection of the doctrine of signs is just as remote to the present semiotic theory. For one, there is no unified interest among contemporary semioticians in (his) theory of logical relation which is the basis of semiotic theory. There is no unified application of Peirce's semiotics as his endeavour should be understood. Semioticians tend to focus on separate parts of Peirce's doctrine, expanding its limits in separate, rarely systematic ways.

---

[4] Umberto Eco (1984) drew a table of relevant authors in semiotic history. Göran Sonesson (1992: 212) drew a nice graph to give a legible overview of the emergence of those 'semiotic nests' in time and in their influential relations.

[5] But see Riggins (1994).

But in a sense, expecting verbatim fulfilment of the intuitive projections of any, or even of both semiotic founders, would be illusory. Therefore, deviations are not to be condemned, they should rather be examined, in order to understand better their determining reasons.

However, the influence of both Peirce and de Saussure should not be overlooked. Many influential and important semiotic authors from the past are presently facing inattention or even omission in recent literature, whereas Peirce and de Saussure remain the basic reference. Moreover, due to their constant influence, a distinction along the lines of their theoretic systems and their theoretical successors has become quite frequent.

A distinction commonly referred to was elaborated by Milton Singer (1984). He built it upon six divergence points between the two authors, and presented thus gathered results in an intelligible table (1984:42) 1.

Table 1

Six points of distinction between semiotics and semiology (Singer 1984:42).

POINTS OF COMPARISON	SEMIOTIC (PEIRCE)	SEMIOLOGY (DE SAUSSURE)
1 Aims at a general theory	Philosophical, normative, but observational	A descriptive, generalized linguistics
2 Frequent subject matter domains	Logic, mathematics, sciences, colloquial English (logic-centred)	Natural languages, literature, legends, myths (language-centred)
3 Signs are relations, not 'things'	A sign is a triadic relations of sign, object, and interpretant	A sign is a dyadic relation between signifier and signified
4 Linguistic signs are 'arbitrary'	But also include 'natural signs' – icons and indexes	But appear 'necessary' for speakers of the language (Benveniste)
5 Ontology of 'objects' of signs	Existence presupposed by signs	Not 'given', but determined by the linguistic relations
6 Epistemology of empirical ego or subject	Included in semiotic analysis	Presupposed by, but not included in semiological analysis

Without much doubt, Singer's distinction shown in table 1 is fitting enough for exposing the differences in the theoretical frameworks of Peirce and de Saussure, for it elaborates the divergence in terms of their different methodological, ontological and epistemological premises. But if one wishes to apply the scheme to the contemporary semiotic theory, one encounters considerable problems. Perhaps a very important one is that contemporary semiotic studies are taking the path of productive merging, so that they fuse both semiotic (Peircean) and also

semiological (Saussurean) premises (for example, Barthes 1973, Jakobson 1989, Ponzio 1990, Eco 1976, 1984, 1992, Sonesson 1992, Johansen 1993 etc.). Moreover, along with the emergence of the International Association for Semiotic Studies (IASS), the term semiotics was adopted for both semiologically and semiotically oriented inquiries.

Thus a couple of dozen years ago, when still strongly in the second period of the semiotic theory, categorical distinction between semiotics and semiology would be completely justified, but since that time it has become clear that some decisive points to ground such claim with have simply disappeared. Most importantly, many schools of thought from Europe that endorsed early structuralism-related sign analysis as a way of doing semiotics, recently remained without many prominent followers so that now one can hardly label anything as "the European current" (Justin 1990). Save for Hjelmslev, the Danish glosematics are almost forgotten; aesthetics and linguistics that were once strongly influenced by the Prague circle are developing in other directions; and, save for rare exceptions (Bakhtin, Lotman), little has been heard of or from the variety of renowned Eastern European semioticians.

Nevertheless, I think it is still reasonable to separate two relatively autonomous and identifiable semiotic perspectives (Pinter in press): one that is predominately stemming from de Saussure's legacy and the other drawing heavily on Peirce's theoretical framework. During recent years both of them have been given different names, so that the former, for example, would be recognized either as Frankophone or, more commonly, post-Saussurean, or poststructuralist semiotics, postmodernist semiotics, or even "the semiotic left" (Lash and Ury 1994:6), "continental semiotics" (Parret 1983), etc. To avoid several names which were mainly devised to expose a certain specific aspect of a current and cannot cover a general interest of it, I will use a bit simplistic, but still very eloquent characterizations: Saussurean and Peircean semiotics to distinguish between the two[6].

In order to present distinctions between them one would have to elaborate certain criteria to show what is dominating in a current. Since it can be said that eclecticism of contemporary semiotic studies is fogging traditional divergences based on the opuses of the two founders, points of comparisons would have to be outlined differently.

---

[6] But I do not want to endorse an oversimplified and naive view that contemporary semiotics consists of two camps: followers of Peirce and followers of de Saussure who battle their views to reach dominancy over others (as the one that can be deduced from Jensen's (1995) presentation or that Sonesson (1994) and Johansen (1993) criticize). What I am stressing by this separation is already implied in what I have said earlier. The difference that grounds the separation is basically one made along epistemological lines. Therefore I claim for recognizability and identifiability of the two currents' epistemology.

Table 2

Five points of distinction between contemporary Peircean and Saussurean semiotics

POINTS OF COMPARISON	PEIRCEAN SEMIOTICS	SAUSSUREAN SEMIOTICS
1. *'Referents' of the signs*	meaning either as interpreted, or as intended by the active subject; semiotic trichotomy in semiosis	system or systems of distinctions; double dichotomy: sign-system; sign-reference; sign-thing
2. *Metaposition of semiotic theory*	is presupposed by universality of logic relations and sign types thus integrating various objects of inquiry and various disciplines	is presupposed on the basis of the alleged centrality of natural language; thus unifying various objects in the linguistic domain
3. *Understanding of observed signification practices*	continuous, homogeneous, analogous or amorphous; semiosis	discontinuous, discrete, relational, symbolic; language
4. *Sign articulation*	panchronic	diachronic
5. *Understanding of sign contents grasping*	pragmatic; inferential 'constructivist'	structuralist; by decoding 'naturalistic'

Elaboration of the above presented points of distinction was originally developed for another study (Pinter in press), however it will not be further examined nor repeated here. I will only intertwine some key findings of the study in the argumentation throughout the paper.

To summarize this section: considering all three historical periods, the development of this whole variety of semiotic theories would probably be best described by Toulmin's evolutionary theory of science (Toulmin 1960, 1972); for semiotic studies are rarely interested in either solving unsolved problems of existing theories[7] (which would be consistent with, say Popper's theory (Popper 1991, 1994) of the growth of knowledge), and they also rarely show any interest in searching for paradigm starting breaks[8] (which would be in accordance with Kuhn's (1970, 1977, 1984) concept of paradigm shifts). In accordance with Toulmin's understanding of science, semiotics is accumulating, not very systematically one could say, modified reproductions of existing premises, therefore feeding both emerging nests of problems and existing academic disciplines.[9]

---

[7] But see Parret 1983; Eco 1984; Spinks 1991; Johansen 1993 etc.

[8] But see Dadessio 1995; Jensen 1995; Groupe μ 1991. Of course, whether the texts eventually turn out to be paradigmatic, is up to the interpretive communitiy of semioticians.

[9] See Nöth (1995) for detailed description of recent achievements in broadening the semiotic range.

1.2. Pitfalls

> "It still seems to be impossible to establish a consensus
> among all semioticians on what semiotics is all about;
> and many semioticians will not even care to define
> their discipline." (Sonesson 1996:44)

To some observers it may appear that it is not even clear whether contemporary semiotics is at all a discipline as suggested by Sonesson. Umberto Eco (1976), for example, thought of it that way. In his Theory of Semiotics, he endorsed a claim striving for its conclusiveness. Eco started from the point that:

> *Any study of the limits and laws of semiotics must begin by determining whether*
> *(a) one means by the term semiotics a specific discipline with its own methods*
> *and a precise object; or whether (b) semiotics is a field of studies and thus a*
> *repertoire of interests that is not as yet completely unified.* (Eco 1976:7)

And since "one cannot do theoretical research without having the courage to put forward a theory, and, therefore, an elementary model as a guide for subsequent discourse," (Eco 1976:7) his Theory of Semiotics is proposing just that: a unified model for semiotic research. Thus it may be reasonable to recapitulate that it was Eco's assumption that semiotics was not a discipline at the time and that his apparent attempt was to shift the semiotic studies from their 'field-like' state to the less disordered state of a 'discipline-like' study. However, his *'scientifization'* of semiotics has failed. Neither has his argument about the status of semiotics any conclusive value at the moment, nor has he managed to gather significant number of researchers to follow his methodologically unifying project. Thus it would be logical to conclude that semiotics remains in its status of a field of studies, as was Eco's incipient observation. In other words, the 'scientifization' attempt of Umberto Eco (1976) caused no intended difference to the scientific status of the semiotics.

Nöth's argument is revealing the same thing, but perhaps his more direct purpose is more in stressing eclecticism of the current, perfusing, phase of semiotics. So, "semiotics has become neither that unified science [envisioned by de Saussure] nor that 'unifying point of view' which Morris had in mind when he delineated 'the contours of the science of the signs'." (Nöth 1995:3) But bear in mind that semiotics of Morris is just a prolongation, and in some sense even radicalization, of Peirce's semiotic project.

Later (1984a) Eco switched his attention, for he says: "the real problem is not so much *which* object has to be appointed as the central one; the problem is to decide whether there is a unified object or not." (Eco 1984a:7) So, now the method is not as important as before, the key is in object.

Pelc (1992), to bring another example, tried to build up his proposal in much the same way as Eco (1976) had done some time before.

My remarks will have the character of projects and postulates rather than being of an historical or descriptive nature, and will concern mainly the problem of the limits of semiotics. The range of a given science or theory and its basic notions and methods are interrelated (...) Conversely, the choice of notions and methods depends, among other things, on the limits imposed on the considerations dictated by such-and-such research tasks and objectives. (Pelc 1992:24)

Although Pelc's proposals are not devised to uniform, but rather to clarify, the 'scientifization' attempt of his endeavor can hardly be overlooked.

So, in these examples it is obvious that it all, basically, boils down to the question of how narrow and how exact the status of the semiotic scope actually is. In both excerpts presented above there are three notions that are crucial: science, discipline, and field. Parallel to the above arguments, we could even array them so that the 'science' is the narrowest[10] and the 'field' the broadest. They could be differentiated according to the criteria they are bound to (use of language(s), method(s), object(s) and aim(s) of inquiry etc.[11]). But instead of elaborating on that, let me bring an example first. According to the array, in this example archeology would be classified as a science, physical anthropology as a discipline, and anthropology as a field. Now, it is obvious that all three can and do indulge interconnections with other sources of knowledge no matter what the 'array position' of the latter is: say, chemistry can exchange its findings with either of the three. However, differences of the extent of their object that is implied are not hard to assert. In the case of anthropology that I have used above to illustrate an important point, Mauss (1982) charted such differences in his elaboration of the anthropological limits using concentric and eccentric circles.

Contrary to such perspectives, I think that *both firm definitions of the scientific status of semiotics aiming to reduce wide range of studies to a common denominator as well as coercive unification of its method are not only unnecessary, but also counterproductive*. A glance back in time may substantiate that during its centenary tradition, semiotics has witnessed many such attempts (among the important ones, one could enlist Morris, Hjelmslev, Greimas, but also others). Still, in this specific respect semiotics has not benefitted from them as much as had been foreseen. Thus, I am tempted to say that this is due to the nature of semiotic inquiry, whatever the latter may be.

---

[10] Science, being the most narrow of the three concepts, has not much to do with Aristotelian understanding of the unified science, where 'science can explain anything but cannot explain everything'. "It is apparent that the word science that has long designated knowledge in general ceased to have such meaning in order to designate a particular and privileged mode of knowledge." (Gusdorf 1977: 11) Therefore, the notion of the word science used in the text above, derives its meaning from the last (half of) century. Thus, such modern concept of science charaterizes not idiographic but nomothetic features.

[11] Such approach was embraced in Hribar 1991, Wohlgenannt 1969; Bunge 1967 and many others.

If the concern for the scientific status of semiotics is crucially dependent on anything like what was used above to show the array example, it is sure that no such concern can be successful. For this specific array which was seen above, is not at all the most helpful tool. It only produces some order at first glance, but it does not explain all that much, save for its promoter at the closer scrutiny. I will briefly expose three considerable epistemological dangers that such attempts initiate: hierarchy pitfall, autocentricity pitfall, and phenocopy pitfall.

First of all it has to be clear that any positioning of the intellectual projects of either individuals, small groups or schools of thought, or of large interpretive communities is relative to the point of departure of the classifier. To recall our example once again, Marcel Mauss (1982) as an anthropologist, was clearly favouring his own domain since he knew most of its limits and horizons. If he had been specialized in, suppose, biochemistry, his charts of concentric and eccentric circles would probably have been designated differently.

Thus the hierarchy pitfall is the point where different intellectual pursuits of theories explaining certain phenomena are pictured in a way that may give biased indication as to their value, importance or weight. Of course, such evaluations cannot be avoided, but what can be avoided is their justification and/or foundation on biased hierarchizations.

Autocentricity pitfall hidden behind the attempts of coercive scientifizations, involves criteria of distinctions suited to and measured by one pursuit only. This means that by drawing the limits of a certain domain, let me call them disciplinary boundaries, one clings to them also when identifying other domains (or disciplines) irrespective of what these other disciplines may 'think' of themselves.

Phenocopy[12] pitfall occurs when researchers tend to forget that what they are using in their research is the method and not the nature of the object of their studies. The result is generally a gratifying fallacy meaning that the models which are being devised to study the phenomena receive their relevance precisely from the point of view which they are assumed to have generated, and not vice versa. For reality always exceeds the models that try to capture it. Or, as Peirce said in accordance with his pragmatic maxim, reality is "independent of what anybody may think to be" (Peirce 1931–1958:5.402)[13].

Although it is quite obvious that I am not inclined toward an objectivist's attitude on the matter, my opinion is as far from epistemological anarchism as can be. Namely, I think that boundaries are necessary and that certain degree of

---

[12] In genetic terminology the term phenocopy refers to the case of describing a subject's appearance (phenotype) developed from certain genetic predispositions (for example, out of normal genotype) as if he had some other predispositions (for example abnormal genotype) due to the common association of the two in other cases. In the sense used above, the term refers to the imprecise conclusion oblivious of the reason or cause that inspired such connection in the first place.

[13] However, at some point of his writings, Peirce himself seems to have fallen in one of those traps for he was convinced that "entire universe" is being "prefused with signs, if not composed entirely of signs" (Peirce 1931–1958: 5.488).

boundedness is essential for an interpretive community to exist, to communicate, and to interchange ideas. I shall use a quote from Dadessio on that point. Just like any other, "semiotics as a discipline concerned with particular questions and employing particular methods is a product of a series of conventions recognized by the community of semioticians at a given moment of its history." (Dadessio 1995:15) As Steve Fuller (1991) has shown, such conventions are depending on certain *"argumentation format* that restricts (i) word usage, (ii) borrowings permitted from other disciplines and (iii) appropriate contexts of justification/discovery." (Fuller 1991:191) This means that whatever the object, the method, or the aim of an individual inquiry are, in order to be accepted as 'disciplinary' they should present the unknown through the known. Or in other words, they should be intelligible, understandable and logically consistent.

This way my claim of the unnecessity of coercive methodological unification and of scientization in semiotics has been elaborated in more detail. Now, a few words should be said to support another claim stating that such attempts are even counterproductive. Namely, I think that immediate consequence of the latter would be to diminish several capacities and possibilities offered by the semiotic framework. Hence also the counterproductivity of what I called firm definition of the scientific status. Namely, semiotics can surely be conceived of as rigid science (in terms of empirical or positivist concepts), but this would not strengthen its position. Furthermore, this would dispossess semiotics of its genuine potential of being something much broader than 'just' a rigid scientific framework. I dare say that this broadness, whatever it consists of, is also a distinctive feature of semiotics and surely that what made the semiotic drive look paradigmatic in Parret's terms (Parret 1983). Thus depriving semiotics of such feature in the sense of reducing it to the more rigid type, clearly seems counterproductive.

Exactly the same is the case with the already mentioned example, the contemporary anthropology, that is in many respects parallel to that of semiotics. Despite many integrated disciplines or sciences, anthropology is not just that, simply because it offers much more than a more or less consistent set of propositional knowledge. And that much more is a specific point of view. Far-reaching concepts such as cultural relativism of Boas, heterology of Margaret Mead, or subject-object relation of Lévi-Strauss are not 'methods' specific to anthropology. They are stances or attitudes that were derived among anthropologists that make their intellectual project identifiable and recognizable.[14]

Within semiotic tradition, such capacities had been already provided by both founder fathers of modern semiotics, de Saussure and Peirce. On the one hand,

---

[14] I do not want to say that other disciplines are not in possession of a point of view of its own, but I do want to say that many of those are drawing on other sources to find one. It is an old saying "that all key sciences developed out of the broad speculative scope of philosophy" (Miheljak 1995: 27), but it can be further said that the majority is still returning to it in search of epistemological arguments; thus stepping in and out of their own initial domain. Semioticians need not do that, the broadness of semiotics serves them just as well.

Peirce's "theory of semiosis appears to be essentially epistemological in the sense that it consists of the reworking of the traditional subject/object relationship of epistemology, which underlies the mechanism involved in the acquisition of knowledge." (Niklas 1991:271) But while Peirce's position on this, intertwined with some premises of philosophical pragmatism (fallibilism, scientific interpretive community), is well known, de Saussure's view on epistemology is less famed. On the part of de Saussure it is not just his most frequently quoted prediction that:

> *a science that studies the life of signs within society is conceivable; it would be*
> *a part of social psychology and consequently of general psychology; I shall call*
> *it semiology... Semiology would show what constitutes signs, what laws govern*
> *them... Linguistics is only a part of the general science of semiology; the laws*
> *discovered by semiology will be applicable to linguistics, and the latter will*
> *circumscribe a well defined area within the mass of anthropological facts... By*
> *studying signs, rites, customs, etc. as signs I believe that we shall throw new*
> *light on the facts and point up the need for including them in a science of*
> *semiology and explaining them by its laws.* (de Saussure 1994:33)

It was also his claim that it was a particular point of view of semiology to study the point of view itself[15]. "Although de Saussure's work was not essentially 'epistemological' in orientation, there is, however, a Saussurean epistemology." (Innis 1985:26) Or, as de Saussure says himself:

> *Far from being the object that antedates the viewpoint, it would seem that it is*
> *the viewpoint that creates the object; besides nothing tells us in advance that*
> *one way of considering the fact in question takes precedence over the other or is*
> *in any way superior to it.* (de Saussure 1994:40)

In this manner de Saussure himself sets up the possibility to consider the approaches, as well as the approachers and the approachables epistemologically. Thus, one can justly say that semiotics has grounds for self-referentiality[16] since its very foundation. The immense importance of this feature will be discussed throughout the rest of this paper. Nevertheless, it is in context of this section to say that dismissing such broad potential by disregarding the self-referential ability of semiotics is not just a pitfall, but a serious error.

---

[15] For a more focused discussion on this see Prieto 1975; and Sonesson 1996.

[16] Perhaps exactly this is what shapes the 'nature of semiotic inquiry' that I set up earlier as the reason for unnecessity and counterproductivity of firm definitions of the semiotics' scientific status. Namely, strong influence of both still characterizes semiotic researches, and no matter how diverging their theories are, they both had similar role of semiotics/semiology in mind. Such role can be called metatheoretic or metascientific (Jensen 1995; Pinter in press).

2. Constructivist solving of epistemological problems and problems of constructivism

"There is an uneasiness that has spread throughout intellectual and cultural life. It affects almost every discipline and every aspect of our lives. This uneasiness is expressed by the opposition between objectivism and relativism, but there are a variety of other contrasts that indicate the same underlying anxiety: rationality versus irrationality, objectivity versus subjectivity, realism versus antirealism."

(Bernstein 1983:1)

Bernstein's demarcation between the bulk of theories may seem almost frantic or at least artificial at first glance; anyway, one has to bear in mind that his understanding of the binary oppositions he presented is not at all a very conventional one. Thus assembling, for example, Frege, Husserl, Quine, Popper, and early Wittgenstein under the label objectivists, but Rorty, Feyerabend, Kuhn, and later Wittgenstein under the label relativists, as Bernstein did, may not be understood well if the criterion of distinction is not known.

> *By 'objectivism' I mean the basic conviction that there is or must be some permanent ahistorical matrix or framework to which we can ultimately appeal in determining the nature of rationality, knowledge, truth, reality, goodness, or rightness.* (Bernstein 1983:8)
> *As I have characterized the relativist, his or her essential claim is that there can be no higher appeal to a given conceptual scheme, language game, set of social practices, or historical epoch.* (Bernstein 1983:11)

To recapitulate, the criterion of demarcation is to Bernstein understanding of an individual theoretic endeavours' reach. Thus the tragical cleavage, which he identifies, is apparently in relation to their goals first, and it is only afterwards in relation to their approaches. It may be exaggeration to maintain the thesis, as Bernstein does, of the chasm's tragicality. Namely, the two groups still have "many resources in common, such as a natural language mode of communication and a core set of elementary social norms of courtesy, conformity etc." (Solomon and Ziman 1994:17) Or in more specific terms, scholarly advocates of either way care for their wages, promotions, academic reputation and good name in much the same way, "which add a different dimension to their battle to do 'good science'." (ibid.) It can also be seen as problematic that in Bernstein's view there appear several epistemological stances as simplified dichotomies, all reduced to the pair of objectivism and relativism in the final instance. Whatever the shortcomings, such elementary presentations seem to be not at all uncommon (see Burge 1992, Johnson 1992, Jensen 1995, Miheljak 1995, Ritzer 1996 for examples from the variety of disciplines).

Here is also a telling example from a specialized field of organizational communication research to support that claim, outlining perhaps a good epitome

of both characteristics: of the overt tragicalness which Bernstein exposes on the
one hand, and of the grounds for many alike dichotomizations along epistemo-
logical lines on the other:

> *Functionalist research was invested with an objective ontological stance in contrast*
> *to interpretive research's interest in the subjective. Epistemologically, functionalist*
> *research sought generalizable, ordered knowledge claims, whereas interpretive*
> *research was more concerned with understanding the particular. Having made this*
> *distinctions, the 1980s witnessed an uneasy coexistence between scholars within*
> *these two paradigms. An examination of publications and conference papers*
> *indicate a normative wall separating functionalist research, with quantitative*
> *methods on one side and interpretive research using qualitative methods on the*
> *other.* (Contractor and Grant 1996:217–218)

However, neither of the two extremes seem to be sufficient or even superior in
relation to the other. Thus, hardly any argument on the matter appears to be
conclusive; while on the contrary, criticisms of both positions are very powerful.
For example, Quine once said critically:

> *Truth, says the cultural relativist, is culture-bound. But if it were, then he, within his*
> *own culture, ought to see his culture-bound truth as absolute. He cannot proclaim*
> *cultural relativism without raising above it, and he cannot rise above it without*
> *giving it up.* (Quine 1975:315)

Since there are many varieties of both positions, one can focus on specific
aspects through lively discussions in Brown 1979, Putnam 1981, Rorty 1982,
Siegel 1987, Johnson 1992, Harré 1996 etc. But it seems to me that inefficiency of
both criticism and employment of either objectivism or relativism, as seen by
Bernstein, is exactly the reason why searching for less controversial or perhaps
less conventional stances is recently becoming ever more popular. Varieties of
this could be arranged into three different groups of approaches: one way is to
search for an integrating position, another is to shift epistemological attention and
the last, and perhaps, the most important is to endorse some sort of a third
epistemological extreme position, as is recently the case with constructivism.

Integrative endeavours emerged within a wide range of disciplines, so that now
we have very elaborate and very influential expositions from as different authors
as sociologist Anthony Giddens, social theorist Margaret Archer, also from
philosopher Jürgen Habermas, communication scientist Klaus Bruhn Jensen,
George Ritzer, John Baldwin, and in a way even from authors of British cultural
studies, but also from many others (see Giddens 1986, 1987, Archer 1988, 1969,
Jensen 1995, Habermas 1984, 1987, Ritzer 1996, Baldwin 1987, Splichal 1988
etc.). No matter how important these ideas are, none is conclusive or immune to
profound criticism. While further elaboration would be beyond the scope of the
present paper, it is important to note that none of these attempts has unified the
epistemological scope; that is to say: none of the alike integrative elaborations has

(yet) managed to bring together all or at least the predominant majority of the researchers, experts and practitioners.

Another way of recovering the epistemological position was to shift epistemological attention out of epistemology as normally known, so that the unproductivity of polarized epistemological stances would be solved by dismissal of such dyadic Alcatraz. Thus Bernstein (1983) himself, for instance, claims that beyond relativism and objectivism, praxis is a plausible solution. In this sense he says: "What has become manifest is that the movement beyond objectivism and relativism is not just a theoretical problem but a practical task." (Bernstein 1983:230) Similar inclination to the praxis in the light of it being a solution is occasionally also present in some of Habermas' and Bourdieu's works. Rorty (1979), on the other hand, is even more radical in shifting the attention away from the question of objectivism/relativism duality. His idea is that epistemology as such should no longer be understood in any other but in its therapeutic role, because if statements are justified through society and not through the nature of its inner representation they express, any attempt of *privileging* representations is senseless. (Rorty 1979:174) While many such shifts have attracted respectful amount of attention, they do not seriously endanger the predominant chasm of epistemological positions.

The third option in solving objectivist-relativist problem has lately often been referred to as epidemic epistemological shift. It was brought into light by the premise that reality is constructed. Recently this specific epistemological stance, being significantly different from all the above mentioned epistemological positions, has become rather fashionable[17]. Most significantly, its main difference compared to integrative approaches is that the latter see the two niches (that otherwise constitute the core of each of the two polarized extremes: say, subject and object) as interchangeably interactive, while constructivism actually dismisses the objective pole. For the elementary premise of constructivism is that "the outside world as 'objective reality' is cognitively inaccessible" (Škerlep 1995:776). Thus constructivism's solution is basically very simple and at the same time autonomously offers a distinctive approach since it does not give up anything that shapes the other two epistemological extremes in the sense that would directly oppose to either of them. Above all it seems that this stance is in great consonance

---

[17] Constructivism is influential especially in contemporary German studies in humanities and social sciences. Besides that we can also speak of its domination in specialized research domains like educational theories, psycholinguistics, social psychology, etc. (see Geelan in press; Solomon and Ziman 1994; Knorr-Cetina 1994; Fuller 1994; Mali 1994; Škerlep 1995; 1996; Miheljak 1995; Luthar 1996).

with the Zeitgeist of these times[18], so that "today it is almost impossible to find an intellectual who would not write the word 'reality' in quotation marks." (Lears cf. Luthar 1996:183 fn 4).

As I consider constructivism to be a likely contestant for the epistemological primacy, I will next focus on it in more detail. I will start with the premise that *constructivist position is not at all an unproblematic one, although it should be stressed in the same breath that it is very likely to be unavoidable in setting epistemology that goes beyond the 'sectarianist-like' epistemological extremes.* Problems of the latter two were, as pointed out before, lively discussed elsewhere, so I will content here just by exposing performative contradictions they contain. Roughly speaking, such contradictions can be unveiled by the following: relativism cannot argue for the non-relativity of its position (universality, truthfulness, fixedness, etc.) due to its relativism, objectivism, on the other hand, in its search for a universal matrix, such matrix already presupposes (it is the premise that such a matrix exists), from which it starts in the first place. Presenting shortcomings of the constructivist epistemological position, though, will be approached differently. Moreover, they should be exposed in a different manner because constructivism, especially its radical version, dismisses such ontological questions that eventually lead in performative-contradictory positions.

Thus I will next focus on the so called radical or 'cognitive' constructivism, which was introduced and developed in the circle of researchers from Biological Computer Laboratory (see von Foerster 1984), reaching its peak in the works of Humberto Maturana. I will present the key difficulties of constructivist epistemological position regarding two points; let me address to them as the (i) *paradox of (in)accessibility of socialness* and (ii) *the paradox of third order coupling.*

Constructivist epistemology is probably the most problematic at the point where it does not consider basic difference between subjective construction of reality and social reality in a satisfactory manner. As already said, constructivism centres on the premise that there is something out there, but that something is cognitively inaccessible for human cognitive apparatus; furthermore, human cognitive apparatus is not capable of distinguishing between that which produces itself and that which is independent of such constructions. Outside there is just a vast range of impulses that have no meaning or sense by themselves, they acquire both only during cognitive processing of an individual. But exit into social reality, that is socially or inter subjectively observable, is unsatisfactorily read for there

---

[18] Nevertheless, modernity or fashionability of constructivism is shown in a slightly different perspective if its roots are sought. On the one hand, it may be stated that its philosophical foundations are laid already in Hume's problem of induction (Solomon and Ziman 1994). So it can be deduced that the unsolved problem of induction (in spite of some very plausible attempts like that of Black (1934) or Popper (1994/1972)) is certainly an influential element in the emergence of constructivism. On the other hand, we have claims that the search for constructivist fundaments stops at Gianbatista Vico and his *De antiquisima italorom sapientia* from 1710 where he limited human's knowledge to the 'stuff' that can be assembled by mental operations from elements in one's head (Miheljak 1995:197).

exists imperialism of constructs while intersubjective sphere is largely over-looked. Thus, leaving out this part of individuals' environment, constructivism is not only close to solipsism, that should be allegedly surpassed by centering the observer, but is also contradictory.

The following quote may serve as a starting point to argue on the part of the danger of solipsism proximity:

> *Although a distinction performed by an observer is a cognitive distinction and, strictly, the unity thus specified exists in his cognitive domain as a description, the observer in his discourse specifies a metadomain of descriptions from the perspective of which he establishes a reference that allows him to speak as if a unity, simple or composite, existed as a separate entity that he can characterize by denoting or connoting the operations that must be performed to distinguish it.* (Maturana and Varela 1980:xxii)

It is the point where Maturana sets up a cognitive domain that evokes the solipsism danger. For now language and languaging, that articulate distinctions, must be taken as fully referential to the cognitive domain itself. Thus, according to this stance language exists ontologically, epistemologically and observably separated from other phenomena in the subject's or observer's environment.

The danger of proximity to solipsism was also pointed out by Miheljak (1995), Schmidt (1992) and Richards and Glaserfeld (1991). Miheljak says that radical constructivism is "by no means determined by some sort of ontological solipsism, but is primarily an epistemological solipsism." (Miheljak 1995:271) Schmidt's position on the problem is much alike as he says that "radical constructivism does not represent an ontological solipsism (or objective idealism) but – if at all – an epistemological solipsism that could be attached to the concept of the observer." (Schmidt 1992:35)

But in my opinion, the danger of solipsism lies not in the epistemic priority of the observers' cognitive domain; rather, it is hidden behind the explicit negation and omission of any kind of ontological questions. Danger is thus hidden behind the fact that although constructivism does not search for it, ontology of both observer and his environment is implicitly taken for granted; in other words it is presupposed but not searched for. The danger then is not exactly in leaving out the epistemic possibilities of the environment but, to precise its origin, in leaving out the (ontological) questions about what that environment actually is.

Heinz von Foerster, for example, shows the omission of ontological questions so typical for constructivism in his characteristic humorous way:

> *Take language for example. Surely a question 'What is language?' comes to someone's mind. If you are in a good mood, you can answer: 'How can you ask me this, you surely must know what language is, for if not how could you have then expressed your question.'* (von Foerster 1992:135)

Von Foerster also categorically defies the use of the term solipsism and labels the problematic postulate as "omnisolipsism" stance (von Foerster cf. Miheljak

1995:270). Elsewhere he argues that "the solipsistic claim falls to pieces when besides me I invent another autonomous organism." (von Foerster 1984:307) I would take von Foerster's side in the matter because it seems to me that it is at least a bit awkward to term a proximity to solipsism with a 'sort' of solipsism, as did above mentioned authors, even if it is an "epistemological" sort. For as things stand in constructivist epistemology, one cannot really demonstrate the solipsist position because there is no explicit elaboration of its necessary foundations, since in constructivism they are, as already said, left out. It is their absence that deprives any argument of solipsism of crucial substantiation. Therefore Miheljak (1995:270) is forced to state that solipsism is only overt if one drives (one of the) constructivist postulates to the extreme; and, as could be inferred from von Foerster's statement, it becomes overt if one does not confront the premise of autonomy with the postulate of the active observer. But the two things are continuously avoided in constructivist writings.

Conclusion thus follows that radical constructivism did not solve the problem of ontology which conditions epistemological troubles of relativism and objectivism; it merely makes no effort to stress its importance.

On the other hand, deficiency in terms of social reality is paradoxical in the sense that it is in unavoidable logical opposition with another constructivist postulate[19]. Let me demonstrate this with an example. If 'reality' grows into a meaningful entity through processes of an individual's cognitive apparatus, then this individual can in some way or another (by language, gesticulation, movement etc.) articulate it and it should by definition follow that these same constructions would appear as 'objects' or elements of constructions to other individuals who observe. But by definition such constructions could not be anything but meaningless impulses. Now to avoid any unwanted consequences, Maturana escapes this closed circle with another theorem. According to him, such articulations appear in other observers' observations as ones of a different sort: he terms them second order observations.

Suppose a situation when someone, let me call her A[nn], has an impression that she sees a dog (whether she sees it or not does not matter yet). Her seeing of environment or her construction of it is articulated in a form of a loud scream. "A dog!" Someone else, let us call him B[ob], who seems to hear the scream, is then aware of an impulse from his environment. But it is only a meaningless impulse and he still has to make sense of it. On the basis of this audible experience, his brain constructs an impression of his own, to which the scream and not the four-legged animal is the referential object from the environment. The dog is not

---

[19] Namely this paradox is also inherent in two key axioms of constructivism that are presented in von Foerster's (1979) short constructivist programme. The first postulate that von Foerster summarizes after Maturana and therefore calls it Maturana's theorem number one, goes like this: "Anything said is said by an observer." (von Foerster 1979: 5; or Maturana and Varela 1980: xxii; 8 etc.) And the second constructivist axiom, or von Foerster's corollary (to) number one, says: "Anything said is said to an observer." (von Foerster 1979: 5)

important at the moment, nor is everything else but the impulse which crossed the door-step of attention. Maturana confirms such reduction of the environment to one particular construction or phenomenon by saying: "The fundamental cognitive operation that an observer performs is the operation of distinction. By means of this operation the observer specifies a unity as an entity distinct from a background and a background as the domain in which an entity is distinguished." (Maturana and Varela 1980:xxii) Thus the immediate object that conditioned B[ob]'s construction of the situation's image is only the scream.

And there is the point where epistemological understanding of social construction of reality is unsuccessful. Because if society (a number of socially interactive individuals) rotated in the same knowledge building circle as Maturana[20] described when elaborating on the position of subject-observer (Maturana and Varela 1992:28), *it would mean that individuals would be able to grasp the difference between 'constructed' and 'objective'.* But that is exactly what radical constructivism denies at the point of its starting epistemological decision. Observers can only construct such a difference, by definition it should not be transparent to them.

For when Maturana discusses language, he does not compose another meaningful entity which should comprise culturally conventional meanings, or on the other hand meanings articulated by communicators:

> *Linguistic behaviour (...) orients the orientee within his cognitive domain to interactions that are independent of the nature of the orienting interactions themselves. To the extent that the part of its cognitive domain toward which the orientee is thus oriented is not genetically determined and becomes specified through interactions, one organism can in principle orient another to any part of its cognitive domain by means of arbitrary modes of conduct also specified through interactions. However, only if the domains of interactions of the two organisms are to some extent comparable, are such consensual orienting interactions possible and are the two organisms able to develop some conventional, but specific, system of communicative descriptions... (Maturana and Varela 1980:30)*

Such meaningful entity or, I will call it intersubjective domain of meaning, is, according to his elaboration, constructed among the observers themselves. His approach is allegedly better than pre-theoretic presuppositioning of such a domain common in non-constructivist epistemologies because in the latter "language has

---

[20] Maturana described his circle of knowledge building with four phases of scientific research which occur repeatedly.
"A. Describing the phenomenon (or phenomena) to be explained in a way acceptable to a body of observers. B. Proposing a conceptual system capable of generating the phenomenon to be explained in a way acceptable to a body of observers (explanatory hypothesis). C. Obtaining from (b) other phenomena not explicitly considered in that proposition, as also describing its conditions for observation by a body of observers. D. Observing these other phenomena obtained from (b) RETURN TO (A)." (Maturana & Varela 1992:28)

been considered as a denotative symbolic system for the transmission of the information." (Maturana and Varela 1980:30) But "in fact," he continues, "if such were the biological function of language, its evolutionary origin would demand the pre-existence of the function of denotation as necessary to develop the symbolic system for the transmission of the information, but this function is the very one whose evolutionary origin should be explained." (Maturana and Varela 1980:30)

But the problem, which Maturana is again unsuccessful in solving, is that communicating observers cannot 'know' that they have the same meaning in mind, they cannot know through articulations of their meanings that they share it and that they cannot really agree about what they mean: and so interacting observers cannot agree to a convention in the way proposed by Maturana. According to the basic constructivist theorem, observers only know independently of each other about arbitrary denotative qualities which each of them is ascribing to a linguistic term, because due to the dismissal of the environments independent ontology in constructivism, there is no reference by which individual uses of linguistic terms could be compared. As stated in above passage, the linguistic behaviour of other observers orients a certain observer within his own cognitive domain, and not within the cognitive domain of the others.

Thus, the epistemology of radical constructivism appears problematic when one tries to explain socialness and its recognition with it. As shown on this problem, constructivism is in danger of submerging in the solipsist position and is even contradictory in its stance on the matter, because it cannot possibly overcome its outlaying observer-postulate without forming a paradoxical framework.

The second problem of constructivist epistemology, which I intend to explain, is the problem of superiority of the concept of society in terms of structural levels. Maturana speaks of a community of organisms as "third order systemic joining", drawing strongly on systems and cybernetic theories. Since a biological unit, a cell, is taken to be elementary, the joining of cells is to Maturana second order coupling. The level of joining in which a subject (an organism) takes part as a unit is thus called "third order coupling", the latter being a synonym for society. "In the first place, we must realize that such couplings /third order couplings/ are absolutely necessary for the continuity of a lineage in organisms with sexual reproduction, for gametes have to meet and merge." (Maturana and Varela 1992:181) Along with that, functional framework of second and third order couplings is identical (Maturana and Varela 1992:198). Yet the crucial difference is, according to Maturana, that social systems are not autopoietic. However, such an organization of field (of coupling) inevitably leads to a position that is implied, for instance, in the understanding of communication.

We call communication the coordinated behaviors triggered among the members of a social unity. In this way we understand as communication a particular type of behavior, with or without the presence of the nervous system,

> *in the operation of the organisms in social systems.* (Maturana and Varela
> 1992:193)

So, what is problematic in the superpositioning of society or, in other words, in the reducing of the notion of society to its functional and organizational aspects, is the contradictoriness of understanding to which it leads. Luhmann's case is exemplary for he has to exclude the subject from the concept of communication in order to retain the role and the level of notion of social systems. Communication, which is – we can probably all agree to that – the key element in a society, is understood by constructivism as a result of third order coupling and not as its condition. For in the place of the latter already stand functional (reproductive) and organizational aspects. Hence, it is possible in Maturana's view, at first glance conveniently, to exclude the neuronal systems. However, in my opinion they are crucial but carelessly omitted by constructivists as well as is Luhmann's subject. To summarize with an example, from constructivist point of view, communication happens in society and not the other way round. Inconsistency of such stance is equal to the set of three formulae: $A + A = B; B + B = C; C + C = B$. A, which is biological potential, produces B, namely – the human individual. B can produce C by coupling with other Bs, where C means society. Yet C in turn produces B, that is a human individual. But since constructivism is no symbolic interactionism or phenomenological sociology, we have there a paradox, for it is explicitly demanded by Maturana and other constructivists that third order coupling (social systems) are not autopoietical.

A helpful conclusion follows from the contradictions shown above. Namely, unless society is understood as a cognitive construct on the level of consciousness, it cannot be conceptualized as 'objective' or perceptible, moreover it cannot be given a function of third order coupling. But if it is understood as such, that is on the level of consciousness, it would mean that society is constantly a preconscious phenomenon and that it can never be cognitively accessible.

***

To conclude the section, let me repeat that constructivist premise claiming that objects in the world by themselves are cognitively inaccessible, is necessary. Especially when trying to bridge the chasm between objectivist and relativist epistemology. Thus the goal of the above presented criticism was not to reject constructivism but to show where it should be improved. *For I think that grounding an epistemological stance by denying another is as unproductive as can be.* Each of the three contains a performative contradiction, as shown earlier in this section, that cannot be solved inside the given stances' epistemological framework itself, nor can it be avoided by criticizing it from the other epistemological ground.

3. Epistemology with semiotics

"One singular deception of this sort, which often occurs,
is to mistake the sensation produced by our own unclearness
of thought for a character of the object we are thinking.
Instead of perceiving that the obscurity is purely subjective,
we fancy that we contemplate a quality of the object which
is essentially mysterious". (Charles Sanders Peirce 1878)

Although it has already been shown in previous sections that both semiotic founders, de Saussure and Peirce, developed very similar epistemological frameworks, regarding the (semiotic) self-referentiality and thus enabled researchers in semiotics to benefit from that, it is quite clear that Peirce's concern with epistemology was far more profound, more thoroughly focused and more precisely elaborated than that of de Saussure. Any of the three reasons alone, not to mention all three together, appoint for the fact that Peircean semiotics is epistemologically in significant advance comparing it to de Saussurean semiotics. Since it is also clear that a theoretical framework's epistemology cannot consist of the view of its role alone, needing thus much, much more refinement, conceptualization of epistemology that makes up de Saussure's and, consequently, structuralists' semiotics (semiology) is beyond my interest here. No doubt, immensely interesting characteristics of de Saussurean epistemology are crying out for not one, but quite a number of conceptualizations[21], however their outcomes lack the concurrent actuality, linked to the contemporary epistemological discussions, which is, in turn, characteristic of Peircean epistemology throughout its history. Hence, if not stressed differently, when referring to semiotic epistemology in this section, I am referring to Peircean semiotics.

To begin this concluding section, it seems important to note that semiotic and constructivist tradition differ significantly in (mainly) three respects. (i) They emerged out of different historical traditions – semiotics emerged in the first place as Peirce's philosophical response to the subjectivism of European philosophical classics; and constructivism emerged as an alternative stance to various forms and ways of predominate objectivism. (ii) The centre of the stage is in each tradition filled with notably different conceptual apparatuses. (iii) They differ in time almost as much as a whole century – semiotics was started at the end of the nineteenth century, whereas contemporary constructivism started taking its shape in the seventies or even eighties of this century.

Semiotics and constructivism thus seem worlds apart in terms of tradition, historical emergence and conceptual devices. Hence, it is very impressive that Peirce anticipated some epistemological problems that have emerged only later in scholarly debates and that he still ranks as a highly useful and stimulating source in contemporary scholarly works. On the other hand, this historical position is also

---

[21] An exemplary presentation of de Saussurean epistemology are in my opinion Culler (1976) and, especially, Močnik (1985, 1989).

the exact reason why the order of argumentation is somewhat chronologically uncommon in this paper: the idea is that it is possible and useful to go epistemologically beyond objectivism and relativism, and even to pursue the way beyond the problems of constructivism – precisely with semiotics.

Moreover, the introductory quotation to this section clearly shows that Peirce's position actually incorporated basic constructivist idea, the essential mysteriousness of the contemplated objects' qualities, and that therefore the claim which appears only somewhat shyly indicated in the estimations of some contemporary commentators, namely that there could be found essential complimentarity of semiotic and constructivist epistemology, is not ungrounded.

At this point, I will therefore present some basic notions of the epistemology as are shaped by, or more precisely, that underlie the theoretical framework of Peircean semiotics. One could start unveiling this epistemology by setting up the concept of *sign* in between the *subject* and its *environment*. Thus one would get three conceptual niches that are impossible to reduce onto relations between pairs. Nevertheless, they can be theoretically abstracted.

SIGN. A definition of sign no semiotic study can pass by, originates from Peirce's unpublished paper. He argued that

> *a sign, or* representamen, *is that which stands to somebody for something in some respect or capacity. It addresses somebody, that is, creates in the mind of that person an equivalent sign or perhaps a more developed sign. That sign which it creates I call* interpretant *of the first sign. The sign stands for something, its* object. (Peirce 1931–58:2–228)

Thus, according to Peirce, *a sign is triadic by nature: a sign can only be something if it represents something else to someone.* None of the three sign-elements should be left out if the sign is to be considered a sign. The notion of the Peircean sign represents a mediator that functions in order to provide some sort of experiential access to that of which it is a sign. The sign, however, does not manifest the object in its totality, it is not its complete substitute, but makes it accessible only in some respect or capacity.

SUBJECT. The position of the subject in semiotic framework is very similar to that in radical constructivism of Maturana. Namely, it is positioned as an observer. Nevertheless, one major difference between the two is that semiotics does not equate observing environment with constructing an image of it. Semiotic subject observes environment but it can only grasp its meaning through signs. Therefore, observing in semiotic terms represents an attempt to get to know a certain semiotic object through the experienced representamen, thus making an interpretant. Peirce goes further by saying: "I do not make any contrast between Subject and Object, far less talk about subjective and objective in any of the (...) senses which (...) have led to a lot of bad philosophy." (Peirce cf. Tejera 1988:35) "Thus, in Peirce's semiotic there is no interpreter over here, as opposed to an object over there." (Tejera 1988:35)

ENVIRONMENT. Much like in radical constructivism, semiotics understands
environment as complex, but this complexity is not cognitively accessible by
itself, save through the signs that give reference to the objects pertaining to the
environment. Thus, environment consists of what is perceptible to an individual or
individuals for limits of perception are set both ontogenesically by 'norm of
reaction' and philogenesically. But perception is here understood broadly, that is
in the sense that environment, if said to be perceptible, can produce perceptible
signs and their references. The role of signs is that they represent certain features
of objects pertaining to the environment and they are not, however, complete
replicas of those objects. But even though an object is not completely available
through any given sign, there is, according to Peircean semiotics, no property of
the environment which is not available through some possible sign.

<p style="text-align:center">***</p>

Confronting semiotic epistemology with problems of the constructivist
position, one may come to conclude two things. Semiotics is not only
straightforward in asking ontological questions, it is also more successful in
answering them in the sense that it does not trap itself in performative
contradictions originating from reductions in the questions of ontology.

Probably the most uncommon consequence of setting the semiotic path beyond
the problems of constructivism's epistemology, is the semiotic solving of the
problems of the latter, for they seem to be hidden to Maturana himself. For
example, in a dazzling recapitulation of his epistemological stance written as an
Introduction to the Autopoiesis and Cognition (Maturana and Varela 1980:xi–
xxx), Maturana does not find it a problem to say that "an operation of distinction
is also a prescription of procedure which, if carried out, severs a unity from
background, regardless of the procedure of distinction and *regardless of whether
the procedure of distinction is carried out by an observer or another entity.*"
(Maturana and Varela 1980:xxii; italics added). To recall the paradox of
(in)accessibility of socialness from above, it might be asked: how can that be,
since even a distinction of one observer is only an outward impulse without any
given meaning or sense to another. While Maturana heavily relies on the language
as a carrier of such meanings, in semiotics such problem is addressed differently.
Most commonly, there appear two ways, one stressing the importance of sign
objects, the other asserting the importance of sign interpretants. But there is also a
third way, which seems the closest of the three to Peirce's premise of
irreductibility of the semiotic relationships. This third is Umberto Eco's notion of
the open text or intentio operis (Eco 1992:67), which is a variety of possible
interpretations available or open to the reader. Eco thus maintains the autonomous
role of the third element in semiosis, the niche of signs.

Already at the point of introducing the semiotic sign, a way out of
epistemological chasm between the subject and the object was implied. Since
there is a third autonomous conceptual niche positioned in between the two, the

dyad no longer appears as unresolvable antagonist opposition, that can only be thought of as one against the other. It is rather a semiotic relationship where each of the three included elements should be considered as synchronous totality, for either of them is unimportant if standing in isolation. Namely, according to semiotic epistemology, uninterpreted environment is meaningless and remains such unless interpreted; by definition, there is no unused sign; and the subject that is not conceptualized as observer, is biologically probably less than a virus.

The three conceptual niches would most effortlessly be presented in graphical scheme in the plane; however, such reduction of the epistemic triad into two-dimensional presentation would be untenably dissatisfactory. Thus, I will content with presenting imaginary examples.

The 'broadest' of the three – but appearances may be misleading – seems the concept of the environment, so it is clever to start with it. While it consists of what is perceptible to an individual, it is important to stress that, from the point of view of individual persons, neither environment's range nor 'quality' nor anything can be quite the same for each one of them. If we only compare two individuals, the environment of each is different to the one of the other in the terms of the two already mentioned elementary respects. Primarily, each individual perceives different amount of environment, or, in other words, limits of individual's environment are particular to that individual only. A[nn], for instance, walking down the avenue sees a nice car on her left, however, B[ob], who is escorting her on her right, cannot see the car she is admiring, for she is setting the way of his environment by blocking his view. Perceptive differences emerge out of biological, social (see Dobzhansky (1982), Godina (1990) etc. for discussion) and, obviously, also contextual elements. Secondly, where individual environments differ is the part where each individual is (a part of) an environment to himself or herself. And it is only to itself that the subject in its whole totality constitutes an environment. To the other it is only partially a part of environment; A[nn] for instance cannot 'see' into B[ob]'s head, nor can she feel his or any other's feelings or think his or any other's thoughts.

However, such simple intervention that establishes the three autonomous conceptual niches is hardly enough. Hence, in epistemological terms (at least) three further semiotical theorems – *theorem of semiosis, inferential theorem* and *theorem of reflexivity* – are needed.

Theorem of semiosis, which was eloquently introduced by Peirce, is setting the relationship between subject, environment and sign as *continuous*. The term semiosis itself is defined as continuous change of interpretations or interpretants into representamens or objects that will in turn again condition further interpretations, for what a subject cognitively constructs through certain signs can be repeatedly turned into signs again by any form of articulation. The process of such (ex)changes proceeds ad infinitum or 'ad mortem'. The only difference in each round is that elements are qualitatively different: environment is ever more complex and changing in time and space; signs have different referential

connections with environment; and subjects are ever more experienced and knowledgeable.

Augusto Ponzio explained the theorem of semiosis with a striking precision:

As a sign, the interpretant refers to another interpretant which a sign refers, in its turn, to still another interpretant and so forth in an open-ended chain of deferrals from one interpretant to the next. There is no fixed point. No definitive interpretant. The sign's identity is constituted by its continual displacement, so that each time it is interpreted it becomes another sign which in fact acts as an interpretant of the preceding sign. (Ponzio 1990:253)

Nevertheless, the theorem of semiosis does not tell a thing about the quality of the triadic relationship. In the semiotic epistemology, the latter can be outlined with the inferential theorem which explains how semiosic elements are connected. Peirce thoroughly elaborated three autonomous forms of logical inferences: abduction, induction and deduction (Peirce 1931–58:2.623), where autonomy of each form means that none of them is reducible or translatable into any other. The subject derives his knowledge of the environment through inferences from signs. Thus his relation to the environment is inferential. This exact point was stressed in one of the discussions a philosopher sir Karl Popper had with his fellow John Eccles. The former then said: "There are no sensory 'data'. Rather, there is an incoming challenge from the sensed world which then puts the brain, or ourselves, to work on it, to try to interpret it. (...) Nothing is directly 'given' to us: perception is arrived at only as a result of many steps involving interaction between the stimuli which reach the senses, the interpreting apparatus of the senses, and the structure of the brain." (Popper and Eccles 1993:430) Hence, it is important to know that signs are not what a person, a subject knows, they are the answer to the question of how he or she obtains the knowledge of his or her environment.

Still, inferential theorem is presenting human cognitive mechanism in extremely simplistic manner, exaggerating in exposing its alleged rationality. Hence, at least the theorem of reflexivity should be added to semiotic epistemology. Giddens may be taken as an exemplary reference of thoroughly presenting such a theorem. "Continuity of practices presumes reflexivity, but reflexivity in turn is possible only because of the continuity of practices." (Giddens 1984:3) "Thus it is useful to speak of reflexivity as grounded in the continuous monitoring of action which human beings display and expect others to display." (Giddens 1984:3) On the one hand, such reflexivity is bound to the subject and its social practices and on the other hand, to the rationalization of action and motivation (Giddens 1984:5–14). Thus, by reflexivity, routine or habitual, ethical and subconscious aspects of subjects relationship to the environment and signs are introduced.

Before drawing a general conclusion from these starting points of semiotic epistemology, I would like to put forward some important questions that cannot be left open. However, I am well aware of the investigator/respondent truism, which says that: "Those who can give the answers did not ask the questions; and those

who asked the questions cannot provide the answers." (Rosengren 1985:240) So, I will only present sketchy grounds through which solutions, answers and replies are in my opinion best to be sought.

First, one may ask what is the big difference between the sign in Peircean semiotics and the metadomain of individual's knowledge that Maturana proposes. To find an answer, one would have to consider what was shown above, namely that Peircean sign is a relative concept constructed in the triadic relation of semiosis, whereas metadomain of Maturana is an exclusively cognitive and self-sufficient autopoietic phenomenon, on which one draws his discursive reference when articulating his descriptions. Thus, probably the most important difference between the two lies in the point that while semiotic sign is balanced in both the environment and the subject, metadomain of constructivist epistemology is a result of an individual's cognitive apparatus only. Then, one could also struggle to find differences among the concept of environment and life-world as developed in the tradition of phenomenological sociology. The way Husserl, Schutz or Habermas elaborated on the concept, it is easy to see a significant similarity between the two (See Sonesson 1994 for discussion). Nevertheless, a significant difference could be seen if one remembers the semiotic stance regarding this point. A member of Tartu school of semiotics, A.M. Piatigorsky, phrased it as follows:

> *Claims of the type 'we live in the world of signs' or 'humans live in the world of signs' are just as unreal as the ones saying 'humans live in the world of objects' or 'humans live in the world of ideas'. It is more proper to say that humans live in the world of choices.* (Piatigorsky 1979:554)

Perhaps an even more interesting topic is the notion of subject in semiotics. While the subject has often been considered in the semiotic literature, in the majority of cases it is built up in such a manner that its position, definition and role are very similar to the ones which are attributed to the notion of the subject in the texts of classical anthropology. Ponzio (1990), for instance, goes very close to Plessner's subject which is the key feature of social and cultural anthropology. Namely, Ponzio says that subject

> *is continually displaced and made other in a process of deferrals from one interpretant to the next. Rather than being antecedent to the sign and exerting control over it, the subject presupposes the sign, it is determined and identified by becoming itself an interpretant-sign of another preceding sign. Self-awareness is no more than a relation between a 'sign-object' and a 'sign-subject' or meta-sign, or more simply,* it is no more than a relation between a sign and its interpretant. (Ponzio 1990:253; italics added)

***

Three ways of 'bridging' have been presented in this paper: bridging the epistemological differences, bridging the distinctions in the history of semiotics itself, and bridging the troubles in contemporary semiotic currents. There are several ways to look at this overt feature of my paper. To bring the paper to a purposeful end, I will comment on two of its – in my opinion main – implications.

In the paper that is behind us now, it has already been demonstrated that semiotics holds excellent integrative and adaptive capacities. While some time ago it was perhaps more desirable to nurture stern and tangible little 'flower bed(s)', the present 'Zeitgeist' is forcing, which is not even too strong a word, things from the economy to scholarly domains and everything in between to adapt to the situation of multiple interests, multiple viewpoints and also of multiple legitimate objects inquiries. Perhaps sciences of the past time are having difficulties with such climate, but in general they seemingly react inadequately. They are battling other high plants from other 'flower beds' as the existence of the latter would be the end of the former. Thus leaving science in a poor and helpless state, where not even key problems and solutions can be unearthed or at least agreed upon. It is clear now that different practical or theoretical starting points, different approaches or assumptions, different traditions or contexts of thoughts lead to different explanations and different diagnoses of basically the same core of problems. Thus something as extreme as Popper's comment on this is becoming acceptable; "there are only problems, and the urge to solve them. A science such as botany or chemistry (or say, physical chemistry or electrochemistry) is, I contend, merely an administrative unit." (Popper 1994:5) A more hesitant way to express this observation is to talk about globalisation, pluralisation, multi-culturality, and in science (of science) more specifically: about interdisciplinarity, transdisciplinarity, integrative approaches and so forth. Semiotics can help in this situation in two ways. For one, it has capacities to unify a whole diversity of interests or else, it can provide an epistemological framework that enables mutual communication, exchange of knowledge and acceptance of multiform arguments, claims, findings, methods, views etc. Two recent examples which are both very promising are Sebeok and Umiker-Sebeok (1995) and Jensen (1995). While it is on the interpretive community of the scholars to endorse any of the paths, I think that only the second path, the one of unifying and integrative epistemological grounding framework, is actually prospective in perspective. Therefore, I have demonstrated how such a framework might look, but it is not at all my contention to claim that it should be exactly like this.

Another thing is that semiotics holds an always important feature of strenuous self-reflexivity. The proverbial saying that one's conscience is his best judge may be duly extended here. It is not my contention that no other discipline has such qualities, but it is my claim that there is hardly a discipline whose epistemology would be based upon that and would at the same time provide positive findings, knowledge and abstract constructs.

<center>***</center>

I wish to return to another question that has not been addressed since it was introduced at the beginning of this paper; it is about the relationship of semiotics on the one hand and the possibility to narrow it down to the scientific-like frame-

work on the other. I suppose, during the above discussion, there have arisen some new aspects, shedding some new light on the matter. As already said, ambitions to capture semiotics into a controllable framework are to be seen as expected consequences due to the vast semiotic perfusion and due to the intense semiotic production. And I think that they should not be simply overlooked, but very closely studied.

Although one is often tempted to ask of what use the wide and all-inclusive stance of semiotics is, I think that it is not the wide range of individual semioticians' interests pursuing their own goals that is the chief factor of such a development. In my opinion, it is epistemological richness and self-referentiality that allows for such theoretical inclusiveness and metaposition of semiotics. Thus any attempt to narrow semiotics down would actually be its epistemological 'plunder' and would have to cope with the loss of crucial epistemological background in the final instance, for this would inevitably arise from such understanding.

Hence, I do not think that the most important question is: "How many semiotics?" (Elam 1980:2) And I also do not agree with the thesis that

> *the basic problem of semiotics splits into three different questions: a) Can one approach many, and different, phenomena as if they were all phenomena of signification and/or of communication? b) Is there a unified approach able to account for all these semiotic phenomena as if they were based on the same system of rules (the notion of system not being a mere analogical one)? c) Is this approach a 'scientific' one?* (Eco 1984a:7)

It appears to me that, quite paradoxically, such questions are completely irrelevant for the scientific development of semiotics itself. Namely, I think that we already know the answers to such questions, moreover I do not think that spending much time on them would bring forth anything new. More reasonable questions would entail how and why. I guess any theoretic framework, regardless of its origin, scope or interest, could be carved so that it would made the fact about its narrowness clearly visible all the time. The only real problem facing such attempts is how not to leave out the interests, goals and theorems of any influential and at the time relevant current or variation of the narrowed framework. But such are not actual scientific goals.

I should say that for me the fundamental question is whether epistemological backbone of semiotics can hold the pressure of further elaboration. Due to the established vast scope of semiotic interest, its grounding epistemology could not afford to be superfluous, and for exactly the same reason it was, is, and it most probably will be very carefully, critically scrutinized.

So, my closing remark is that semiotics is not an endangered intellectual 'species', on the contrary – in the course of its centenary existence, it has retained a status of a promising and epistemologically fruitful intellectual project.

Address:
    Andrej Pinter,
    Tesarska 4,
    1000 Ljubljana,
    Slovenija.
e-mail: andrej.pinter@uni-lj.si
tel/fax: (0)61 222-620

References

Adam, Frane (1996) *Sociološki portreti*. Maribor: Založba Obzorja.

Archer, Maragret S. (1988) *Culture and Agency: The Place of Culture in Social Theory*. Cambridge: Cambridge University Press.

Archer, Maragret S. (1996) *Realist social theory: the morphogenetic approach*. Cambridge: Cambridge University Press.

Baldwin, John C. (1986) *George Herber Mead: A Unifying Theory for Sociology*. Newbury Park: SAGE.

Barthes, Roland (1973) *Mythologies*. London: Paladin.

Benveniste, Émile (1988) *Problemi splošne lingvistike 1*. Ljubljana: ŠKUC.

Bernstein, Richard J. (1983) *Beyond Objectivism and Relativism. Science, Hermeneutics, and Praxis*. Oxford: Blackwell.

Boon, James A. (1979). "De Saussure/Peirce. A propos language, society and culture". In *Semiotics of Culture*. Irene Portis Winner and Jean Umiker-Sebeok, eds. The Hague, Paris, New York: Mouton Publishers.

Brown, Harold (1979) *Perception, theory, and Commitment*. Chicago: Chicago University Press.

Buissac, Paul (1976) "The 'golden legend' of semiotics". *Semiotica* 17, 4.

Buder, Eugene H. (1996) "Dynamics of Speech Processes in Dyadic Interaction". In *Dynamic Patterns in Communication Processes*. J. W. Watt and C. A. VanLear, eds. London, New Delhi, Thousand Oaks: SAGE.

Bunge, Mario (1967) *Scientific Research I*. New York: Springer Verlag.

Burge, Tyler (1992) "Philosophy of Language and Mind, 1950–1990". *Philosophical Review* 101.

Carruthers, Peter (1996) *Language, thought and consciousness. An essay in philosophical psychology*. Cambridge: University Press.

Contractor, Noshir S. and Susan J. Grant (1996) "The Emergence of Shared Interpretations in Organizations: A Self-Organizing Systems Perspective". In *Dynamic Patterns in Communication Processes*. J. W. Watt and C. A. VanLear, eds. London, New Delhi, Thousand Oaks: SAGE.

Culler, Jonathan (1976) *Saussure*. Glasgow: William Colins Sons & Co.

Daddesio, Thomas C. (1995) *On Minds and Symbols: The Relevance of Cognitive Science for Semiotics*. Berlin, New York: Mouton de Gruyter.

Dahrendorf, sir Ralf (1996) "Redke ptice se selijo dalje: Zakaj danes ni več vznemirljivo biti sociolog; druge discipline stopajo v ospredje". *Nova revija*, XV 172–173.

Dascal, Marcelo (1983) "A semiotically relevant history of semiotics". In *Semiotics Unfolding III, Proceedings of the Second Congres of the International Association for Semiotic Studies, Vienna, July 1979*. Tasso Borbé, ed. Berlin, New York, Amsterdam: Mouton Publishers.

Dobzhansky, Theodosius (1982) *Evolucija čovečanstva*. (1962. Evolving mankind). Beograd: Nolit.

Eco, Umberto (1976) *A Theory of Semiotics*. Bloomington: Indiana University Press.

Eco, Umberto (1984a) *Semiotics and the Philosophy of Language*. Houndmills, Basingstoke, Hampshire London: MacMillan.

Eco, Umberto (1984b) "Proposals for a history of semiotics". In *Semiotics Unfolding I, Proceedings of the Second Congres of the International Association for Semiotic Studies, Vienna, July 1979*. Tasso Borbé, ed. Berlin, New York, Amsterdam: Mouton Publishers.

Eco, Umberto (1992) *Interpretatation and overinterpretation.* With Richard Rorty, Jonathan Culler, Christine Brook Rose. Stefan Colini, ed. Cambridge: University Press.

Elam, Keir (1980) *Semiotics of Theatre and Drama.* London and New York: Routledge.

Escbach, Achim (1983a) "The History of Semiotics and Charles S. Peirce". In *Studies in Logic.* A. Escbach and M. Fisch, eds. Amsterdam, Philadelphia: Joel Benjamins.

Eschbach, Achim. (1983b) "Prolegomena of a Possible Historiography of Semiotics. The development of a semiotical fact". In *History of Semiotics.* A. Eschbach and J. Trabant, eds. Amsterdam, Philadelphia: Joel Benjamins.

Flanagan, Owen (1991) *The Science of the Mind.* Cambridge: MIT Press.

Foerster, Heinz von (1979) "Cybernetics of Cybernetics". In *Communication and Control in Society.* Kurt Krippendorff, ed. New York: Gordon and Breach Science Publishers

Foerster, Heinz von (1984) *Observing Systems.* Salinas: Intersystems Publications.

Foerster, Heinz von (1992) "Erkenntnistheorien und Selbstorganisation". In *Diskurs des radikalen Konstruktivismus.* S. J. Schmidt, ed. Frankfurt am Main: Surkamp.

Fodor, Jerry A. (1980) "Methodological Solipsism Considered as a Research Strategy in Cognitive Psychology". In *Readings in Language and mind.* H. Geirsson and M. Losonsky, eds. Cambridge: Blackwell.

Fuller, Steve (1991) *Social Epistemology.* Bloomington, Indianapolis: Indiana University Press.

Fuller, Steve (1994) "Rethinking the university from a social constructivist standpoint". *Science Studies,* 7.

Geelan, David R. (In press) "Epistemological Anarchy And The Many Forms Of Constructivism". *Studies in Science Education.*

Giddens, Anthony (1986) *The Constitution of Society.* Cambridge: Polity Press.

Giddens, Anthony (1987) *Social Theory and Modern Sociology.* Cambridge: Polity Press.

Godina, Vesna V. (1990) " 'Nature' vs. 'Nurture' ". In *Antropološki zvezki 1: zbornik socialno-antropoloških besedil.* Godina V. V., ed. Ljubljana: Sekcija za socialno antropologijo pri slovenskem sociološkem društvu.

Gordon, Terrence W. (1991) "The Semiotics of C. K. Ogden". In *Recent Developments in Theory and History. The Semiotic Web 1990.* T. A. Sebeok, J. Umiker Sebeok and E. P. Young. Berlin, New York: Mouton de Gruyter.

Gould, Stephen J. (1991) *Darwinova revolucija.* Ljubljana: KRT.

Greimas, Algirdas J. and Joseph Courtés (1979) *Sémiotique. Dictionnaire raisoné de la théorie du language.* Paris: Hachette.

Groupe È. (1991) *Traité du signe visuel. Pour une rhétorique d'image.* Paris: Seuil.

Gusdorf, Georges (1977) *De l'histoire des sciences a l'histoire de pansée. Les sciences humaines et la pensée occidentale.* Paris: Payot.

Habermas, Jürgen (1984) *The Theory of Communicative Action. Volume 1, Reason and Rationalization of Society.* Boston: Beacon Press.

Habermas, Jürgen (1987) *The Theory of Communicative Action. Volume 2, Lifeword and System: A Critique of Functionalist Reason.* Boston: Beacon Press.

Harris, Roy (1989) *Reading de Saussure.* Illinois: Illinois University Press.

Hribar, Tine (1991) *Teorija znanosti in organizacija raziskovanja.* Ljubljana: FSPN.

Innis, Robert E. (1985) *Semiotics. An Introductory Antology.* Bloomington: Indiana University Press.

Israel, Joachim (1992) "Human methodology". *Science Studies,* 5, 1.

Jakobson, Roman (1989) *Lingvistični in drugi spisi.* Ljubljana: ŠKUC.

Jensen, Klaus Bruhn (1995) *The Social Semiotics of Mass Communication.* London, Thousand Oaks, New Delhi: SAGE.

Johansen, Jorgen Dines (1993) *Dialogic Semiosis. An Essay on Signs and Meaning.* Bloomington, Indianapolis: Indiana University Press.

Johnson, Mark (1992) *The Body in the Mind. The Bodily Basis of Meaning, Imagination, and Reason.* Chicago: Chicago University Press.

Justin, Janez (1990) "Semiotika: od 'znaka' k 'operacijam' ". *Problemi in eseji,* xxviii 2.

Knorr-Cetina, Karen (1994) "A Sociological Notion of Fiction". *Theory, Culture and Society*, 11, 3.

Koerner, Konrad (1983) "Quelques observations au sujet des sources de la sémiologie de Saussuriene". In *History of Semiotics*. A. Eschbach and J. Trabant, eds. Amsterdam, Philadelphia: Joel Benjamins.

Kuhn, Thomas (1970) *The Structure of Scientific Revolutions*. Chicago: Chicago University Press.

Kuhn, Thomas (1977) *The Essential Tension*. London, Chicago: Chicago University Press.

Kuhn, Thomas (1984) "Objektivnost, vrednostna sodba in izbor teorije". *Časopis za kritiko znanosti, domišljijo in novo antropologijo*, 64/65.

Lash, Scott and John Urry (1994) *Economies of Signs and Space*. London, Thousand Oaks, New Delhi: SAGE.

Luthar, Breda (1996) "Analiza medijskega vpliva v semiotski družbi". *Teorija in praksa*, 33, 2.

Mali, Franc (1994) *Znanost kot sistemski del družbe*. FDV: Ljubljana.

Malmgren, Bertil (1984) "Sur un projet d'histoire de la semotique". In *Semiotics Unfolding I, Proceedings of the Second Congres of the International Association for Semiotic Studies, Vienna, July 1979*. Tasso Borbé, ed. Berlin, New York, Amsterdam: Mouton Publishers.

Maturana, Humberto R. (1990) *Biologia de la cognición y epistemologia*. Chile: Universitad de La Frontera.

Maturana, Humberto R. and Francisco J. Varela (1980) *Autopiesis and cognition: The Realization of the Living*. Dodrecht: Reidel Co.

Maturana, Humberto R. and Francisco J. Varela (1992) *The Tree of Knowledge: The Biological Roots of Human Understanding*. Boston: Shambala.

Maus, Marcel (1982) *Sociologija i antropologija*. Beograd: Prosveta.

Miheljak, Vlado (1995) *Camera obscura psihologije: Konstrukcija in rekonstrukcija teorij v psihologiji*. Ljubljana: FDV.

Močnik, Rastko (1985) *Beseda... besedo*. Ljubljana: ŠKUC.

Močnik, Rastko (1989) "Teoretik za vse čase: spremna beseda". In *Roman Jakobson. Lingvistični in drugi spisi*. Ljubljana: ŠKUC.

Niklas, Ursula (1991) "Semiotics and Hermeneutics". In *Recent Developments in Theory and History. The Semiotic Web 1990*. T. A. Sebeok, J. Umiker Sebeok and E. P. Young. Berlin, New York: Mouton de Gruyter.

Nöth, Winfried (1995) *Handbook of Semiotics*. Bloomington: Indiana University Press.

Parret, Herman (1983) "La sémiotique comme project paradigmatique dans la histoire de la philosophie". In *History of Semiotics*. A. Eschbach and J. Trabant, eds. Amsterdam, Philadelphia: Joel Benjamins.

Peirce, Charles Sanders (1931–1958) *Collected Papers of Charles Sanders Peirce 1–8*. C. Hartshorne and P. Weiss, ed 1–6; A. W. Burks, ed. 7–8. Cambridge: Harvard University.

Pelc, Jerzy (1992) "The Methodological Status of Semiotics: Sign, Semiosis, Interpretation and the Limits of Semiotics". In *Signs of Humanity/L'homme et ses signes, I*. M. Balat, J. Deladalle-Rhodes, G. Deladalle, eds. Berlin, New York: Mouton de Gruyter.

Pinter, Andrej (1995) "Ikonskost kot funkcija časa". *Teorija in praksa*, XXXII 11–12.

Pinter, Andrej (1996) "Težave teorije in evidence: empirična paradigma raziskovanja javnega mnenja pod lupo". *Teorija in praksa*, 33, 3.

Pinter, Andrej (in press) "Kako semiotično misliti družboslovno teorijo in kako družboslovno misliti semiotično teorijo". *Časopis za kritiko znanosti, domišljijo in novo antropologijo*, 178.

Pjatigorski, A. M. (1979) "O nekim teorijskim premisama semiotike". *Treći program*, 42.

Ponzio, Augusto (1990) *Man as a Sign. Essays on the Philosophy of Language*. Berlin, New York: Mouton de Gruyter.

Popper, Karl R. (1991) *Conjectures and Refutations: The Growth of Scientific Knowledge*. Revised and Corrected Edition. London: Routledge.

Popper, Karl R. (1994) *Realism and the Aim of Science. From the Postscript to the Logic of Scientific Discovery*. London, New York: Routledge.

Popper, Karl R. and John C. Eccles (1993) *The Self and its Brain: An Argument for Interactionism*. London, New York: Routledge.

Prieto, Luis (1975) *Pertinence et pratique. Essai de sémiologie.* Paris: Minuit.

Putnam, Hilary (1981) *Reason, Truth, and History.* Cambridge: Cambridge University Press.

Quine, Willard van Orman (1975) "On empirically equivalent systems of the world". *Erkenntnis,* 9.

Richards, J. and Glaserfeld, E. von (1991) "Die Kontrolle die Wahrnemung und die Konstruktion von Realität". In *Der Diskurs des Radikalen Konstruktivismus.* J. S. Schmidt, ed. Frankfurt: Suhrkamp.

Riggins, Stephen Harold, ed. (1994) *The Socialness of Things: Essays on the Socio-Semiotics of Objects.* Berlin, New York: Mouton de Gruyter.

Ritzer, George (1996) *Sociological Theory.* New York, New Delhi, San Francisco, Milan: McGraw-Hill.

Rorty, Richard (1979) *Philosophy and the Mirror of Nature.* Princeton: Princeton University Press.

Rorty, Richard (1982) *The Consequences of Pragmatism.* Minneapolis: University of Minnesota Press.

Rosengren, Karl Eirik (1985) "Communication research: One paradigm or four?". In *The Media Revolution in America and Western Europe.* E. Rogers and F. Balle, eds. Norwood: Ablex.

Saussure, Ferdinand de (1994) *Cours de linguistique générale.* Paris: Bibliothéque scientifique Payot.

Schmidt, Siegfried J. (1992) "Der Radikale Konstruktivismus: Ein neues Paradigma im interdisziplinären Diskurs". In *Diskurs des radikalen Konstruktivismus.* S. J. Schmidt, ed. Frankfurt am Main: Surkamp.

Sebeok, Thomas A. and Jean Umiker-Sebeok, eds. (1995) *Advances in Visual Semiotics*: *The Semiotic Web 1992–93.* Berlin, New York: Mouton de Gruyter.

Sebeok, Thomas A., Jean Umiker Sebeok with Evan P. Young, eds. (1991) *Recent Developments in Theory and History. The Semiotic Web 1990.* Berlin, New York: Mouton de Gruyter.

Siegel, Henry (1987) *Realism Refuted: a critique of contemporary epistemological relativism.* Dordrecht: Reidel.

Singer, Milton (1984) *Man's Glassy Essence: Explorations in Semiotic Anthrophology.* Bloomington: Indiana University Press.

Solomon, Joan and John Ziman (1994) "How groups construct their science". *Science Studies,* 7, 1.

Sonesson, Göran (1992) "The semiotic function and the genesis of pictorial meaning". In *Center and Periphery in Representation and Institutions.* Eero Tarasti, ed. Imatra: ISII.

Sonesson, Göran (1994) "Prolegomena to the semiotic analysis of prehistoric visual displays". *Semiotica,* 100, 2–4.

Sonesson, Göran (1996) "An essay concerning images: From rhetoric to semiotics by way of ecological physics". *Semiotica,* 100, 1–2.

Spinks, Charles W. (1990) *Peirce and Triadomania*: *A Walk in Semiotic Wilderness.* Berlin, New York: Mouton de Gruyter.

Splichal, Slavko (1988) "Kritična teorija in empirična kritika – metodološka razmišljanja o komunikoloških raziskavah". In *Blejsko metodološko srečanje '88.* A. Ferligoj, ed. Metodološki zvezki 3. Ljubljana: FSPN.

Škerlep, Andrej (1995) "Maturana pred Luhmannom: kognicija, socialni sistemi in komunikacija". *Teorija in praksa,* 32, 9–10.

Tejera, Victor (1988) *Semiotics from Peirce to Barthes: A conceptual introduction to the study of communication, interpretation and expression.* Leiden, New York, København, Köln: E. J. Brill.

Tomc, Gregor (1994) *Profano. Kultura v modernem svetu.* Ljubljana: KRT.

Toulmin, Stephen E. (1960) *The Philosophy of Science.* New York.

Toulmin, Stephen E. (1972) *Human Understanding.* London: Oxford University Press.

Wohlgenannt, R. (1969) *Was ist Wissenschaft?* Braunschweig: Friedrich Vieweg.