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The Conscious Semiotic Mind

Abstract The paper discusses possible roles of consciousness in a semiotic (meaning-making) activity of a cognitive agent. The discussion, we claim, is based on two related approaches to consciousness: on Chalmers' theory of phenomenal and psychological consciousness and on Damasio's neural theory, which draws a distinction between core and extended consciousness.

Two stages of cognitive-semiotic processing are discussed: the moment of perception of a sign as a meaningful entity and the metasemiotic processes understood as the human capacity to reflect on signs and their usage, analyse and control processes of recognition, interpretation of signs and to detect and correct errors in semiotic activity.

In the case of the first stage, it is argued that signs as meaningful entities have a distincly experiential character. The feeling of meaningfulness is a result of phenomenal consciousness, in particular a result of the so-called valuation features of phenomenal experience. I claim that this aspect of cognitive-semiotic activity is possible owing to a special neural mechanism called a semiotic marker.

It is argued that semiotic systems have to be able to use signs as signs, i.e. they should display some metacognitive capacities, in particular an ability to analyse semiosis at a metalevel. It is argued that such metasemiosis is dependent on psychological consciousness (in Chalmers' terms: awareness) and is realized at the neural level in the form of extended consciousness.

The paper is based on a particular understanding of cognitive semiotics as a discipline involving analyses of cognitive processes as semiotic processes, i.e. processes requiring usage of signs.

Keywords cognitive-semiotic system, phenomenal consciousness, awareness, core consciousness, extended consciousness, valuation features, somatic marker, metasemiosis

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1. A view on cognitive semiotics

As Sonesson (2012, p. 208) notes, "cognitive semiotics has been invented many times over during the past few decades". In the context of the statement it is not surprising that different researchers take different perspectives towards such a marriage of cognitive, linguistic and semiotic studies. Sonesson himself characterizes cognitive semiotics as an approach which aims to wed cognitive science and semiotics. In a similar vein, Zlatev (2012, p. 2) defines cognitive semiotics as a discipline whose "ultimate goal is to provide new insights into the nature and culture of human beings, as well as other meaning-making creatures [...]". Cognitive Semiotics (henceforth CS) can be defined as an interdisciplinary matrix of (sub- parts of) disciplines and methods, focused on the multifaceted phenomenon of meaning. This article presents some aspects of cognitive semiotics as seen from the perspective of standard cognitive science[2] – from the Chalmersian (1996) conception of mind. The approach presented in this paper highlights the role of signs, in particular linguistic signs, in the explanations of cognitive functioning of a cognitive agent. Consequently, my understanding of cognitive semiotics is that it encourages us to study cognitive systems, either natural ones like animals or human beings, or, possibly, artificial ones such as sign-using and meaning-making systems. In other words, I assume that at least some cognitive processes involve, in a nontrivial way[3], the use of signs. This means that there are sign-using (semiotic) processes which are in fact cognitive processes. For now I leave open the question as to whether all semiotic processes or only some of them are cognitive. Even if just some of them happen to be cognitive, we can still gain some knowledge about the nature of semiosis by studying selected cognitive activities.

My cognitive reading of semiosis (and semiotic reading of cognition) is motivated by the Peircean theory of signs, semiosis as well as his epistemology. The Peircean notion of a sign states that, "a sign, or representamen is something that stands to somebody for something in some respect or

[2]The qualification "standard" or "cognitivist" seems to be necessary here, as cognitive semiotics highlights the role of non-standard: enactive and embodied cognitive science. My approach is grounded in the "old-fashioned" or Cartesian cognitive science based on the notion of representation and cognitive modeling (either symbolic or connectionist) as a primary method. See e.g. Harnish (2002) for a systematic presentation of standard cognitive science and Rowlands (2010) for discussion on the relationship between standard cognitive science and "4e" approaches (enacted, embodied, embedded, extended).

[3]"Nontrivial" here means that neither one can describe, nor explain, such cognitive systems without mentioning the notions of 'sign' and 'meaning'.

capacity. [. . .] The sign stands for something, its object. It stands not in all respects, but in reference to a sort of idea which I have sometimes called the ground of the representamen" (CP 2.228). In consequence, the notions of a representamen, its interpretation, and a respect are of special importance. The meaning of a sign, in turn, arises in the (dynamic) process of interpretation of the sign. Instead of a dyadic relationship between a sign and its object, we have here a triadic relationship involving interpretation as the third element. I interpret the notion of a sign in terms of the Peircean definition. In addition, the Peircean theory of signs is understood here not in a narrow sense, as a description of actual and possible signs and sign systems, but is interpreted in a broader sense, as a theory addressing fundamental questions of cognition, its relation to reality as well as a logical analysis of knowledge[4].

Any human being, or – more generally – any meaning-making creature (to use Zlatev's formulation[5]) uses signs in his or her everyday cognitive activity. Sign-using agents recognize smoke as a sign of fire, photos as signs of real people and a red traffic light as a sign of an obligation to stop. In addition, natural-language using creatures recognize certain sounds as sounds of language and (at least sometimes) they are able to understand and interpret these sounds as signs, i.e sounds standing for something else in some respect. One can interpret in a similar way more complex (or: high-level) cognitive abilities. One of the basic cognitive activities discussed within cognitive science, namely the problem-solving activity, calls for the use of signs (in the broad sense: indexes, icons or symbols) as clues or premises and usually requires an interpretation of such signs' indications[6]. (The reader

[4]It is worth mentioning that Peirce also proposed a classification of consciousness in connection with his triadic definition of a sign. According to Peircean classification, (pure) feeling is consciousness of the Firstness (CP 7.551); experience (CP 8.266) or Altersense (CP 7.551) is consciousness of "otherness or secondness", and – finally – Medisense (CP 7.544) is awareness of the Thirdness. The latter may be divided further into abstraction, suggestion and association (CP 7.544–548). In addition, consciousness has a bodily (neural) and social dimension (CP 575). See also (Houser, 1983).

[5]It is necessary to notice that Zlatev uses the formulation – in line with Thompson's (2007) approach – only in reference to natural, autonomous systems (see also: Zlatev, 2009, Thompson & Stapleton, 2009). In other words, Zlatev excludes possible artificial systems from the scope of meaning-making creatures; in his view artificial systems cannot be truly "cognitive".

[6]As one of the reviewers of the paper noted, this statement concerning a problem-solving activity may be interpreted as a statement about the dependence of problem-solving on its capacity to use symbols. The remark is justified in light of enactive approaches to cognition (e.g. Noë, 2004), supported by some robotic experiments (Brooks, 1991, Beer,

can imagine here Sherlock Holmes solving one of his cases.) In a similar vein, one can emphasize the role of signs (and semiosis) in other activities like decision making, planning, etc. I would like to stress that analyses in terms of signs and meanings are not only a fancy way of describing these activities, but I am convinced that sign using and meaning making are unavoidable elements of these activities[7].

The main point of the paper is that all these (and similar) cognitive-semiotic activities require some form of consciousness. This is in line with the general phenomenological orientation of cognitive semiotics. Cognitive semiotics highlights the importance of the first-person perspective by stressing the role of consciousness understood as a subjective, qualitative experience. Phenomenology, in turn, is considered to be an approach which provides the right kind of method for studying the structure and content of consciousness (Zlatev, 2012, p. 2).

In contradistinction to the above assumption, however, I am convinced that phenomenological experience goes well beyond phenomena involved in semiotic activity which are merely labelled as "conscious"; indeed, I suggest that we should broaden our perspective by including analyses of instances of so-called psychological consciousness (or awareness, cf. Chalmers 2004, pp. 618–619).

In what follows I present the conceptual background of the paper – the notion of a cognitive-semiotic system and a notion of consciousness (section 2). Section 3 presents two distinctions concerning the notion of consciousness: a philosophical one, based on the Chalmersian approach, and a neuroscientific stance based on Damasio's theory. Sections 4 and 5 are devoted to the two stages in the cognitive processing of signs. Section 4 presents the initial stage, that of sign perception. I highlight here the role of phenomenal experience of meaningfulness and its role in the cognitive activity of a sign-using agent. In section 5 I propose a metasemiotic level of analysis of semiosis.

1995), where not only symbols, but representations in general are rejected. To clarify my viewpoint, I take problem-solving to be one of the higher-level, "representation-hungry" activities (cf. Clark & Toribio, 1994) and – as such – involving (at least partially) usage of signs. It does not imply the necessity to use symbols.

[7]In other words, I am taking here a realist stance towards semiotic phenomena rather than an instrumentalist one.

2. Two basic notions

Before taking a look at the role of consciousness in a semiotic and cognitive activity, let me elaborate the two key notions of the paper, namely the notion of a cognitive-semiotic system and the notion of consciousness.

2.1 A cognitive-semiotic system

The notion of a mind as a cognitive system is one of the basic notions used within standard, cognitivist (Thompson, 2007) cognitive science. Keeping in mind the multidimensional character of a mind (phenomenal, emotional, subjective, cognitive, even computational), I will discuss – in line with the cognitivist approach – only cognitive aspects of mind. The focus on cognitive aspects is motivated by the initial assumption of the paper, i.e. the claim about a relationship that holds between cognition and semiosis.

The term "cognitive system", as I understand and use it, describes a complex, structured entity which is a subject of processes such as perception, action, reasoning, planning, problem soving, and natural language understanding. It is understood as a dynamic structure which receives environmental and bodily information, processes it according to its internal organization, stores the information and finally acts on the basis of this information (cf. Nęcka *et al.*, 2006).

As mentioned above, I am interested in a subclass of cognitive systems, namely cognitive-semiotic systems. Such systems are understood here as systems which use signs in their cognitive activity, i.e. they are able to create, distinguish, interpret signs as well as use them in directing their behavior. However, to avoid the temptation of behavioristic (cf. Fetzer, 1997) interpretations of the statement[8], one must take into account one more condition: any cognitive system should use signs as signs, i.e. the system should treat signs as something that stands for something else in some respect or other. In other words, "the behavior of the system is causally affected by the presence of a sign because that sign stands for something else iconically, indexically, or symbolically, for that system" (Fetzer, 1997, p. 358). As a consequence, the system is, or at least should be, aware that its mental activity and physical behavior is influenced by semiotic processes.

[8]I am not going to justify such avoidance – behaviorist approaches to mind have been severly criticized by philosophers representing different stances and repetition of all the arguments seems to be pointless. Consult e.g. (Kim, 2011) for an overview.

2.2 Consciousness (and awareness)

As David Chalmers notes, "consciousness is an ambiguous term, referring to many different phenomena" (Chalmers, 2004, p. 617). Contemporary literature on consciousness abounds with differing approaches to the phenomenon and various attempts to define it (cf. Jackendoff, 2007, pp. 77–80 for an overview). The spectrum embraces, among others, eliminativist approaches, which treat consciousness as a useful fiction at best (Churchland, 1981), reductionist theories (Place, 1956, Smart, 1959), functionalist approaches (Armstrong, 1980, Putnam, 1975) as well as theories highlighting the subjective character of conscious experience (Nagel, 1974, Searle, 1992). One can hardly disagree with Damasio, who claims that "the conflation of so many meanings around the word consciousness renders it almost unusable without qualification, and this conflation is probably responsible for the supreme status to which consciousness has been elevated" (Damasio, 1999, p. 309). To avoid the danger of conflation of this kind, I would like to put my philosophical cards on the table: I understand the phenomenon of consciousness in the sense of Chalmers' (1996) naturalistic and nonreductive theory of consciousness. Chalmers distinguishes between phenomenal and psychological consciousness, stressing both an experiential character of consciousness and a role of consciousness in a mental activity (functional aspect). Phenomenal consciousness is – in the context of this paper – an answer to the question: How is it like to experience signs or meaningful entities? Awareness (or psychological consciousness), in turn, answers the question of what the role of conscious states (processes) in recognition, comprehension and usage of signs is?

Even if one rejects materialistic approaches, which reduce consciousness to a brain activity (*pace* Place), one nowadays can hardly deny that it is impossible to discuss consciousness independently from the achievements of neuroscience[9]. This is the reason why I wish to suggest a kind of interpretation of Chalmers' distinction in terms of a neuroscientific approach to consciousness – from the point of view of Damasio's distinction between core and extended consciousness (Damasio, 1999).

[9]The need of neuroscientific grounding is appreciated also within phenomenological tradition. Neurophenomenology (Varela, 1996) is seen as an important project integrating phenomenological research on consciousness and results of sciences. In the case of standard, functionalist cognitive science the connection between consciousness studies and neuroscience is evident.

3. What is consciousness?

To sum up the above terminological considerations, I treat consciousness as a heterogenous phenomenon, which involve two distinctions: a philosophical distinction between phenomenal and psychological notions of consciousness and a neuroscientific distinction between core and extended consciousness. The two approaches are presented below.

3.1 Chalmers' approach to consciousness

In his nonreductive theory of consciousness, Chalmers attempts to explain a wide spectrum of phenomena called in commonsense language "conscious phenomena". The phenomena include, *inter alia*, perceptual experiences (experience of redness, auditory experience of loud sound or tactile experience of a sheer surface), experience of pain, reportability of mental states ("I see red"), belief formation and revision ("I believe I should stop"), decision making ("I deliberately choose not to obey the rules and proceed despite the red light"), problem solving ("How to explain it to the policeman?"), planning, etc. All these phenomena may be treated as conscious ones. Analysing such and similar examples of mental activities, commonly acknowledged as "conscious", Chalmers claims that these phenomena should be grouped into two classes: phenomenal and psychological, reflecting in this way the two ways of thinking or talking about consciousness[10].

Certain cognitive subjects, particularly human beings[11], sense the world and have feelings or experiences connected with sensory data. They experience – subjectively and privately – their world and their bodies. In that sense, cognitive agents are sentient. On the other hand, in the context of standard cognitive science and studies on cognitive systems, cognitivists highlight the sensitivity of an agent to information and they stress the role of information in controling agents' actions. In this sense cognitive agents are conscious as to whether they are able to adjust their mental or physical activity to incoming stimuli, state of knowledge, data in memory, etc. In other words, cognitive agents are *sapient*.

[10] The distinction is somehow grounded in (and motivated by) Ned Block's (1995) distinction between access consciousness and phenomenal consciousness.

[11] This formulation raises the question about a class of sentient creatures. Zlatev (2009, p. 1981) notes that a subject should be a "minimal self" in the sense of Gallagher (2005) and enumerates – on the basis of first-, second- and third-person arguments – monkeys, dogs, cats, rats as possible sentient creatures. My argumentation concerns primarily human beings.

Both aspects of conscious phenomena: sentience and sapience have been stressed in the philosophy of mind: the first one has been elaborated and discussed in the phenomenological approaches as well as in the "subjectivist" theories (Nagel, 1974, Searle, 1992); the second one can be traced back to the behaviorist descriptions of cognitive systems[12] and is present in contemporary materialist and functionalist theories (e.g. Kim, 2000). Accordingly, one can associate, as Chalmers does, the above-mentioned two kinds of mental phenomena with the following types of consciousness.

Psychological consciousness (awareness) is a state in which a cognitive system has access to information which he or she uses in controling and directing their cognition. Most typical examples include reportability of mental states, belief formation and revision, discrimination and categorization as well as decision-making, problem solving, planning, etc. One is conscious psychologically when one is aware of the environment and its pariticular state ("There is red light") as well as of his/her own bodily state ("I am cold") or mental state ("I am too stressed"). In addition, the agent is able to report these states, draw conclusions and use the knowledge in directing his/her behavior. To apply the above characteristics to semiotic activity such as the detection or recognition of a red light (as distinguished from a green light) may result in awareness of an obligation to stop, to stop at an intersection (i.e. the sign here influences one's behavior) or break the law (with an awareness of the consequences of such behavior). All these mental activities: distinguishing, reacting, reasoning about consequences are examples of awareness. As Chalmers notices (1996, p. 28), in everyday settings we use the word "consciousness" in reference to such a situation[13].

Phenomenal consciousness is, in turn, a state in which a cognitive agent experiences subjectively the perceptual stimuli. In other words, there is something it is like to be a cognitive agent; in particular, there is something it is like to be a conscious creature. (Nagel, 1974, , p. 619) When an agent is suffering pain, if he or she is enjoying experienced sounds of someone's speech, if a cognitive system is experiencing redness (or roundness) of a signal on a traffic light or coldness of the day, all this is a manifestation of phenomenal consciousness[14]. The reader may have noticed some correlations

[12]I do not mean here eliminativist behaviorism.

[13]From the functional point of view, it is the only aspect of consciousness that is explainable. As Putnam notices (1981) even if there is something more, it cannot be explained in a functionalist framework.

[14]The reference to Nagel is somehow misleading: subjectivity – according to his approach – consists of two aspects: phenomenal content and particular individual point of view (perspective).

between both psychological and phenomenal examples. On the one hand, I am aware of a red light: I can report it, I can react in the presence of it; on the other hand, I experience subjectively redness. This is no coincidence: it may be the case that the two types of consciousness are closely related[15].

I would like to stress that the difference between phenomenal and psychological consciousness presented above is not only terminological ("two senses of the word") or conceptual ("two concepts of consciousness". The distinction may reflect the ontology of the world containing cognitive agents.

3.2 Damasio's approach

The second distinction has been suggested by Antonio Damasio, who has drawn a distinction between core and extended consciousness, based on the results reported in neuroscience. According to Damasio, core consciousness is a very basic process which enables a sense of self: a sense of the here and now. That is, an agent is aware of feelings occuring at the moment when his or her internal state changes. Core consciousness is a result of the interaction between a mind and an external entity (Damasio uses the term "object"). To quote Damasio: "the brain of the organism creates an image of its internal state, an image of the object, and an image of the internal state as it is modified by its interaction with the object. In addition, it creates a second-order image that includes all of these and may result in the feeling of the core self experiencing the resulting qualia" (Damasio, 1999; my emphasis).

To highlight the basic features of core consciousness: it is a simple, biological phenomenon and it is stable across an agent's lifetime. Damasio claims that we, human beings, share this type of consciousness with some other species.

Such a characterization suggests that core consiousness may be closely correlated with phenomenal consciousness (in Chalmers' sense). I would say that the philosophical notion of phenomenal consciousness is implemented at the neural level in the form of core consciousness[16]. I would like to stress that, according to Damasio, core consciousness does not depend on higher cognitive processes like planning, reasoning or language (Damasio, 1999, p. 16).

[15] Chalmers claims that it is a fact about our world (Chalmers, 1997, p. 18) that psychological processes of awareness are accompanied by experiences.

[16] However, I do not suggest that core consciousness is limited to phenomenal consciousness; the experiential aspect of consicousnes goes beyond core consciousness.

On the other hand, Damasio distinguishes extended consciousness, which goes beyond an agent's "here and now" and beyond his or her basic feelings. It enables "an elaborate sense of self" (Damasio, 1999, p. 16), i.e. an agent's awarenes of location in space and time (including memories and predictions of the future), an explicit distintion between "me and other" and between a subject and his or her environment. It enables deliberations on possible causes and results of actions as well as on failures and successes. Finally, it provides explicit metaknowledge in that it allows one to access consciousness. According to Damasio (1999, p. 16), extended consciousness is a complex biological phenomenon; it requires both long-term memory and working memory and it evolves during the lifetime of an agent. Because extended consciousness in its highest form is partially a result of language, it is supposedly present only in human beings. Characterized in such a way, extended consciousness may be treated as a neural realization of psychological consciousness. As stated by Damasio (1999, p. 201), "Extended consciousness is a bigger subject than core consciousness, and yet it is easier to address scientifically. We understand fairly well what it consists of cognitively and we also understand the corresponding behavioral features". The quotation matches Chalmers' characteristics of awareness.

4. Perception of a sign

With the above distinctions and clarifications made, I can now present putative roles of consciousness in the semiotic activity of a cognitive agent.

One of the basic methods used within cognitive science is cognitive modeling. This method focuses on computational – either symbolic, connectionist or hybrid – simulation of cognition. Cognitive models are based on the initial set of facts (initial knowledge) and certain control structures specifying how to cope with the data. Cognitive models are supposed not only to produce the same or similar behavior as human beings; they should also predict behavior as well as learn task-specific knowledge (cf. Taatgen & Anderson, 2008). As I have argued elsewhere (Konderak, 2015), it is possible and fruitful to model in this way a process of semiosis and, in particular, language comprehension, interpretation and production (cf. Konderak, 2007). To create a model of cognitive ability one usually analyses the processes modeled into a number of stages or steps. In the present chapter I will follow the procedure, indicating steps in cognitive processing important from the point of view of semiosis. In my opinion, there are at least three areas of

activity involving a semiotic (sign-using, meaning-making) mind in which the role of consciousness is indispensable, namely:

– an initial step: perception (proprioception) of an object as possibly meaningful (e.g. I see someone waving her or his hands; it may be the case that I do not understand what that waving is supposed to mean; I may even wrongly treat it as meaningful);

– establishment or recognition of the relationship between that perceived phenomenon (*representamen* in Peircean terms) and its Object (once again, understood in the framework of Peircean theory of signs) (e.g. I interpret such waving as a sign of a windy area);

– metasemiotic processes (explicit analysis of a sign as a sign), including recognition of a ground of the relationship (indexical, iconic or symbolic), discovery of an an error and ability to re-interpret a sign (e.g. I try to justify my interpretation on the basis of iconicity; I may also realize that I misinterpreted the gesture – the person observed just wanted to get rid of a fly).

All these three areas require some kind of consciousness[17]. In the sections to follow I analyse two stages of semiotic processing: the initial stage involves the perception of a sign as a meaningful entity and the metasemiotic processes, i.e. awareness of the semiotic activity of an agent.

4.1 Experiencing a sign as a meaningful entity

We are surrounded by signs. At first blush, the statement seems to be false: we are surrounded by objects with certain properties, processes or events. If Peirce is right, anything from our environment may be considered as a sign (once again: a red light at an intersection as a sign to stop, someone's statement: "It's red", a person stopping before a pedestrian crossing as signs of the same; pain in my stomach as a sign of e.g. stomach ulcer; doctor's words being a sign of the same disease, etc.). Everything may be a sign, but, certainly, it is not the case that everything is a sign. What is important here is the subject's perspective: stomach pain can be taken as a sign (an index)

[17] As Zlatev noticed, the argument may be related to the one from phenonology (Zlatev, 2010): consciousness is needed to have a world (of reference); the differentiation between the expression and the referent is based on consciousness, as well as the asymmetrical relation between the two.

of – let us say – an ulcer, but one need not take this viewpoint on the pain in question. We, as cognitive agents, have the ability to pick up some elements of our environment and treat them as signs (meaning-inducing entities). In other words, it is a fact about our cognitive activity, that we perceive only selected subsets of surrounding objects, situations and processes, first as meaningful entities, then as signs[18].

The process is often very fast and does not require much reflection. It is often the case that we perceive signs without explicit consideration or awareness of them as entities standing for something else. To illustrate, a perception of a preceeding car slowing down suddenly may evoke a relevant behavior of a person driving behind (applying the brakes) or induce some emotions (fear) or beliefs ("Something happened"). That is, slowing down may function as a sign of a danger or as an unexpected event for another driver. In a similar way, the utterance "Stop!" may catch the driver's attention and cause him or her to stop the car or at least make them pay more attention to the surroundings. In both cases the reaction is immediate and neither reflection nor consideration is involved; if an analysis takes place, it follows the initial phase of the perception process.

I suggest that the initial moment of the semiotic activity of a cognitive agent is an experience of meaningfulness, a feeling that some perceived entity or event is meaningful. In other words, to paraphrase Jackendoff (2007, p. 81), a meaningful entity has a distinguished experiential character. Such a feeling may cause an immediate decision as to whether the entity mentioned is meaningful or not (cf. the discussion of a somatic marker below) and then may trigger further analysis of the experienced phenomenon.

4.2 An experiential basis: qualia

The above stipulation about the experience of meaningfulness requires special features of our perceptual experience – features allowing for distinguishing potentially meaningful entities from meaningless ones. "Traditional" approaches to qualia (e.g. Lewis, 1929, Jackson, 1982) are not sufficient to explain a special mechanism detecting "meaningfulness". It means that – contrary to some of the researchers treating qualia as basic, unanalysable elements of our, human conscious experience – one should take a closer look at subjective experience and its features. It is possible (and probably necessary) to study the structure of qualia.

[18] A clarification is necessary here: experience of a phenomenon as meaningful does not make it a sign. It is the initial step in the process of semiosis. In other words, it might be necessary for a sign to be experienced as meaningful, but not sufficient.

Jackendoff (2007, chapter 3) analyses phenomenal experience (in reference to perception of natural-language utterances). According to his approach, consciousness has at least two dimensions: phenomenal content (or in Jackendoffian terms, content features which are traditionally discussed in philosophy of mind) and valuation features (Jackendoff, 2007, p. 87). Jackendoff enumerates a number of candidate pairs of the latter, e.g.: external (or not), self-initiated (or not), familiar (or not), affective (or not) meaningful (or meaningless), among others. Two valuations are of particular importance in the context of sign perception: the feeling that the perceived object, state or situation is meaningful and the feeling of familiarity. The idea of the two distinctions is that familiar objects (in particular utterances) – in contradistinction to unfamiliar ones – do indeed have a different experiential character (Jackendoff, 2007, p. 81). Similarly, we experience differently meaningful entities (in particular utterances) and meaningless ones. According to Jackendoff, if it is true that we experience language in the form of phonological images or, in the case of signed languages, in the form of visual or proprioceptive experiences (Jackendoff, 2007, p. 83), then these images (or other experiences) have an additional "felt" character: we experience them as meaningful.

I would like to push the hypothesis one step further: just as in the case of language, we tend to experience signs (including non-linguistic ones) as meaningful entities as well. Indeed, sometimes one "feels" that their experience (of object, sound or reminiscence) is meaningful despite one's inability to grasp the meaning itself. I suppose that such a feeling of meaningfulness is based on one's past experiences. In such cases the feeling of familiarity has some priority: if we are familiar with some stimuli (e.g. a special pattern of sounds, typical for a given language), my previous experiences (e.g. phonological images) would be responsible for the feeling of meaningfulness and later would trigger mechanisms of interpretation.

The following two properties of valuation features seem to be relevant in the context of semiotic processing. First, these features may be subject to error: it may be the case that one has a feeling of familiarity [when] perceiving completely new objects or situations (*déjà vu*); it may also be the case that one has a feeling of meaningfulness of an utterance while the utterance is meaningless. Second, valution features are, in a sense, independent of perceptual modality. As Jackendoff says (2007, p. 88) they cut across the "vertical" domains of language, vision and so on.

To sum up, when one is experiencing a sign, phenomenal consciousness appears to play the first and main role, i.e. we start with qualia and their

features, and to be precise – with valuation features. Such aspects of phenomenal experience bias (or guide) an agent's behavior or direct further cognitive processing, the process of interpretation included. The phenomenal valuation (e.g. the feeling of being external and meaningful) should form the basis for the initial distinction to be drawn between signs and non-signs. The above suggestion can be supported by the Damasian idea of a somatic marker, elaborated in the next section.

4.3 A hypothetical mechanism: (semiotic) markers

Damasio (1994) suggests the existence of a neural mechanism known as "somatic marker" which, according to him, provides an explanantion for the fast (in fact immediate) decision-making process, a mechanism allowing for quick choices between available alternatives. The mechanism is based on core consciousness and in particular – on emotions. A somatic marker works as an automatic alarm, it warns against possible negative consequences of the choice made. The warning is based on our previous experiences, encoding associations between objects or events and some states of a body. One can think also about somatic markers as directing mechanisms where some alternatives are immediately rejected, leaving a much smaller number of alternatives to be considered.

According to Damasio, "somatic markers [...] assist the deliberation by highlighting some options (either dangerous or favorable), and eliminating them rapidly from subsequent consideration. You may think of it as a system for automated qualification of predictions, which acts, whether you want it or not, to evaluate the extremely diverse scenarios of the anticipated future before you. Think of it as a biasing device" (Damasio, 1994, p. 174).

It is worth noting that a somatic marker is a mechanism shaped by experience; sometimes it is created during processes of socialization.

The idea of a somatic marker was a motivation to stipulate an analogical mechanism responsible for a detection of (at least some) meaningful signals. An initial observation is that human beings, in their everyday functioning, decide quite quickly whether certain objects or events are meaningful entities. Without a mechanism allowing for a quick choice we would be "drowned" in the multiplicity of potential signs (not to mention a number of possible interpretations of each of them). I am convinced that, in some cases an efficient semiotic activity requires some "fast-track" decision mechanism. Such a mechanism, called the "semiotic marker" would be enabled by consciousness. According to this suggestion it is phenomenal consciousness (and its valuation features in particular) that could be responsible for detecting

meaningful entities in an environment. The above proposition should be treated, at least at the moment, as a kind of speculation which calls for detailed empirical examination[19]. To reiterate, this is just an initial step in semiotic activity: experience of meaningfulness is not a sufficient reason for a sign to be recognized.

5. Using a sign as a sign

Although the role of experience and phenomenal consciousness is unquestionable, I am convinced that we cannot explain semiotic activity of a cognitive agent independently of psychological consciousness (awareness). The essence of the claim is particularly clear in the case of metasemiosis (and metacognition in general).

5.1 Metacognition and metasemiosis

Moses and Baird (1999) define metacognition as "any cognitive process that controls or monitors any aspect of cognition". Metaknowledge, in turn, can be defined as "knowledge about knowledge", which embraces, among other things, beliefs about beliefs (metabeliefs). I treat metasemiosis as a metacognitive process that utilizes metaknowledge. Consequently, metasemiosis is understood as a human capacity to reflect on signs and their usage, to analyse and control processes of recognition and interpretation of signs, to detect and correct errors in semiotic activity, etc. There are at least three reasons to discuss metasemiosis in the context of cognitive-semiotic systems.

First, as Petrilli (2014, p. xviii) points out, "human being is [...] an animal capable not only of semiosis, but also of semiotics, that is, of using signs to reflect on signs". In other words, a cognitive semiotic system is able not only to use signs but also to discuss them: define, classify them, reflect on their properties. In general, a semiotic system is able to theorize about signs[20].

Second, metasemiotic activity as characterized above is a semiotic activity *per se*. A theory of signs can be analyzed as an example of (meta-)sign-

[19]The results of the so-called P300 experiment (Chapman & Bragdon 1964) may be interesting in this context. The researchers presented subjects two kinds of (visual) stimuli: numbers and flashes of light. Chapman and Bragdon concluded that ERP responses to visual stimuli differed depending on whether the stimuli had meaning or not for subjects.

[20]It could be a kind of implicit, commonsense (or folk) semiotics.

usage. For instance, a review of this chapter may be analysed as the right (or wrong) interpretation of natural language signs.

The third and main motivation for considering metaknowledge in context is the danger of a behavioristic interpretation of semiotic activity. According to such an interpretation, a cognitive agent is a semiotic system if it reacts in some way to special kinds of stimuli (called signs). I wish to claim that mere reaction is not enough as the systems displaying such ability are just "as-if" semiotic systems, i.e. systems that behave as if they use signs. The danger of such an interpretation emerges from discussions on the possibility of artificial semiotic systems: "For a causal system to be a semiotic system, of course, it has to be a system for which something can stand for something (else) in some respect or other, where such a something (sign) can affect the (actual or potential) behavior of that system" (Fetzer, 1988, p. 139)[21].

As stated above in line with Peircean approach, a cognitive semiotic system must be aware that it uses signs as entities standing for something else (in some respect), i.e. the system needs to have some metaknowledge embracing the usage of signs as well as be able to specify some metaprocesses that control the interpretation and usage of signs. The role of such a metalevel is implied in Fetzer's discussion on the possibility of artificial semiotic systems. Fetzer suggests a test checking whether a cognitive system is a semiotic system as well. The criterion is the capacity to make a mistake. As he indicates, to be a real sign-user, a cognitive agent "has to take something to stand for something other than that for which it stands" (Fetzer, 1988, p. 141, my emphasis)[22]. I would modify the statement: the agent has to be able to make a mistake and to realize the mistake as well. In consequence, a real cognitive and semiotic system should be able to realize (among others) that:

– there are possible alternative interpretations of a sign;

– he or she made a mistake in interpreting a sign;

– the sign used is an inappropriate one (taking into account norms of a community);

[21] As Johan Blomberg noticed (personal communication), some semioticians would reject here the applicability of the notion of sign in the context – they would treat such behavior-evoking phenomena as mere signals.

[22] Taking something to stand for something other than what it stands for (for instance, taking the green light to stand for the obligation to stop at the intersection) implies – according to Fetzer – the capacity to take something to stand for something else (in some respect) in general.

– a sign is unexpected in particular contexts etc.

5.2 Metasemiosis and awareness

Following Chalmers' distinction, metasemiotic processes are examples of conscious processes in psychological sense. The processes seem to be specific in that they require explicit deliberation on semiotic acitivties and they distinguish a special class of semiotic systems. As mentioned above (section 3.1), of particular interest are: the ability to access and report own interpretations of signs; ability to discriminate and categorize kinds of signs, ability to revise interpretations and modify behavior, ability to make deliberate choices, plan usage of signs, etc. To justify the claim I would like to consider the typical mental capacities treated usually as instances of awareness (conscious in psychological sense) in connection with metasemiotic activities. One is aware when one is able to:

– access own mental states – one is not only stopping at a red light, but one knows the reasons for stopping;

– report mental states (the ability assumes introspection and a language faculty) – one justifies crossing the junction despite the red light – "I noticed the red light, but I am in a hurry so I decided. . . ";

– discriminate kinds of signs – when one wonders whether a road sign "dangerous bend to left" is an icon or a symbol, and why;

– integrate information (and is able to solve inconsistencies) – when one sees a red light at an intersection and simultaneously one observes a police officer signaling "go".

All the above examples of metasemiotic activity are clearly dependent on psychological consciousness.

As argued above, Chalmers' awareness seems to be neurally realized in the form of the Damasian extended consciousness. Damasio (1999, p. 195) states: "Extended consciousness goes beyond the here and now of core consciousness, both backward and forward". What happens when a cognitive-semiotic mind perceives a sign, say, a red light? Rather than just access the fact that one experiences redness of a red light at a intersection, one can also survey the facts concerning the situation: where it is located (in front of you), what caused it (an electronic system for managing traffic), when has one experienced it before (ten minutes ago), who has also experienced

it recently (one's mother), who discussed it (one's boss), the fact that one should perceive a green light soon. As can be seen from these examples, the functioning of extended consciousness requires several abilities, including the ability to learn and memorize numerous and various past experiences, the ability to reactivate those memories in connection with "a sense of self knowing", the ability to direct attention to the content of mental states and the ability to predict and plan behaviors. Consequently, it seems that, seen from the context of semiotic activity, the characteristics of extended consciousness and the description of psychological consciousness converge. Both are connected with so-called higher-level cognitive processes; both assume a kind of self-awareness and existence of a self-model.

Simultaneously the two approaches are formulated at different levels[23]. Psychological consciousness is characterized by a role of conscious mental states in the functioning of a cognitive system. To explain a cognitive function like the interpretation of an ambiguous sign, we need only to specify a mechanism that performs the function (Chalmers, 2004, p. 620). It seems that extended consciousness is perfect for this task.

6. Conclusions: towards phenomenal consciousness

Cognitive semiotics is by stipulation closely connected with research on consciousness and priority is given to first-person methods (Zlatev, 2012). In this paper, I have argued that the first step in the course of semiotic activity has such character: it is phenomenal consciousness in general and valuation features in particular that allow us to pre-select meaningful entities. As a result, a cognitive system treats certain entities as meaningful without grasping the meanings of such entities. The putative mechanism explaining the phenomenon (a semiotic marker) is based on past experiences of a system. As a consequence, the mechanism works only in reference to a subset of all possible signs. The "feeling of meaningfulness" becomes now an impulse to recall information e.g. from long-term memory and to further processing. In situations involving phenomenal consciousness, subjective experience could be (and usually is) followed by psychological consciousness (awareness): the feeling that something is meaningful may be followed by an analysis of ground of meaningfulness (similarity, convention) or attempts to elicite a meaning (cf. also Chalmers, 1996, pp. 218–222). The higher-level metasemiotic processes require, it seems to me, psychological consciousness.

[23]In the sense of the Oppenheim-Putnam hierarchy (Oppenheim & Putnam 1958, p. 9).

To appreciate fully the role of consciousness in cognitive and semiotic activities one has to include in the theory one more aspect of a sign relation. Consciousness and awareness have their role in apprehending the relation between a sign and its object (CP 2.247–249). I thus stipulate that different kinds of signs (indexes, icons, symbols) require different types of consciousness. Icons appear to be more closely connected with phenomenal consciousness, whereas the use of symbols seems to primarily depend on psychological consciousness. This initial suggestion, however, can only be confirmed (or not) by further analysis.

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