Göran Sonesson
The Mirror in-between Picture and Mind

A Phenomenologically Inspired Approach to Cognitive Semiotics

Abstract: The claim of cognitive semiotics to offer something new to semiotics rests on the ambition to bring together the research traditions of semiotics and cognitive science. Our focus has been on using the empirical approach of cognitive science in investigating semiotic issues. At the same time, however, phenomenological description plays a major part in preparing the studies and integrating their results, which is what is offered here. Eco has claimed that the mirror is not a sign, but once the notion of sign is specified, the mirror image is seen to be a perfect instance of it. It is no accident that the Gallup test, which is supposed to demonstrate the emergence of the self, starts having a positive result concurrently with the picture understanding. In contrast, mental images are not images and thus not signs. They are *presentifications*, i.e., a means for making something present, in the sense characterized by Husserl, and by such followers as Marbach and Thompson. We however argue that Husserl's model of picture consciousness is incomplete, and that Thompson's study of mental images lacks clarity because of the absence of any real comparison to pictures.

Keywords: mental images; pictorial consciousness; presentification; sign

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1 Introduction

Cognitive semiotics seems to have been invented several times over in different quarters during the last few decades. It is not clear that it has always been taken to mean the same thing: in all its uses, however, cognitive semiotics seems to be concerned with integrating the stock of knowledge and theories existing in cognitive science and semiotics, often with the aim of creating an overall framework for the human and social sciences, with some grounding in biology. More specifically, however, we shall take cognitive semiotics to put the

emphasis on the experience of meaning, as in semiotics and phenomenology, while also using experimental studies and empirical observations as in the cognitive sciences (cf. Sonesson 2009). Cognitive semiotics, as it is here understood, has a distinct phenomenological slant. The reflections pursued in the tradition beginning with Edmund Husserl have important contributions to make to our understanding of consciousness and different semiotic resources including language, and thus to the nature (and culture) of humanity.

We approach the task of understanding what is commonly known as mental imagery, starting out from two phenomena which are, on the face of it, similar to it: the picture, on the one hand, and the mirror image on the other, both of which are, in our opinion, clear instances of signs. Picture signs have been discussed in visual semiotics, and so have, to some extent, mirrors. Mental images, on the other hand, have played an important part in cognitive science. Edmund Husserl, but very few of his followers, have considered both.

2 The notion of sign – beyond Peirce and Saussure

Although semiotics is often taken to be the study of signs, the notion of sign itself, strange to say, is never defined. It is true of both the main traditions of semiotics, the Saussurean and the Peircean, that they have never really offered any definition of the sign; and the same thing seemingly applies to the notion of representation in cognitive science. This goes a long way towards explaining why many semioticians (such as Greimas, Eco, etc.) have rejected the sign, without much of an argument, and why the second generation of adepts to cognitive science now seems to be doing the same thing. When Peirceans and Saussureans quarrel over the presence of two or three entities in the sign, they never pause to ask themselves what kind of objects, defined by what type of features, are involved: but, clearly, before we know what we are counting, it makes no sense to start counting at all. The whole question becomes moot, if there is no reason to analyze meaning into separate parts, as suggested by both contemporary cognitive scientists and old-time existentialists and *Lebensphilosophen*.

2.1 Criteria for the sign: Husserl

Before we even ask ourselves whether pictures, mirrors and mental images are signs, we have to be clear about what a sign is. This involves not only deciding the criteria for analyzing a phenomenon of meaning into two (or more) separate parts, but also those allowing us to posit an asymmetrical relation between these parts: not only does the expression have to be separate from the content, but the former should stand for the latter, not the reverse (cf. Sonesson 1989: 50ff; 1992; 1993; 2001a,b; forthcoming a). This can be done by combining what Edmund Husserl says about the sign (something that is *directly present* but not *thematic* refers to something that is *indirectly present* but *thematic*) and what Jean Piaget says about the semiotic function (there is a *differentiation* between the latter two instances, in the double sense, we suppose, that they *do not go over into each other in time and/or space,* and that they are perceived to be *of a different nature*).

Table 1: Appresentations and signs, as presented in Sonesson (1989)

Presence/Focus			Differentiation	
Coupling	Directly present	In focus	Continuity	Same category
Paired association	Both items	Both items	Yes	Yes
Appresented pairing	One item	Directly given item or both	Yes	Yes
Appresentation	One item	Both	Yes	Yes
Sign	One item	Indirectly given item	No	No

Let us start with the idea that there is meaning already in perception, first, because different perceptual phenomena can be combined, and second because there are alternatives to some phenomena perceived. We thus have *combination* and *selection*, also known in classical structuralist semiotics as syntagms and paradigms. Not all such relationships are signs. In Husserl's (1939: 174ff, 1950: 238ff) parlance, they form a *paired association*, or a *coupling*, when both items are directly present; they are an *appresented pairing*, or simply an appresentation, when one of the items is present and the other is not; and an appresentation becomes a *sign* when it is the absent item that is the theme (cf. Luckman 1980: 205ff, and Table 1). The most obvious case of an appresentation

is when one looks at an object, necessarily from a particular point of view, but still perceives the whole of the object. The appresentation is that which motivates the experiential positing of something else as present along with the strictly presented object.

In semiotics, we are familiar with couplings and appresented pairings, in the form of iconic relations or *iconicities*, indexical relations or *indexicalities*, and symbolic relations or *symbolicities*. These are not signs, since they only involve two items and a relation between them, thus being instances of Secondness in Peirce's sense. Peirce would say that Thirdness has to be added to obtain a sign. But the distinction of what is thematic and what is directly given offers more useful criteria.

Analogously to the sign, Sonesson (1989: 50ff) asked what might be the theme of an appresented pairing: In the case of *retention* and *protention*, the moments immediately preceding and following the present moment, it might be reasonable to say that it is the present moment that is the theme. In case of the hidden side of a perceptual object, it is less obvious that the directly perceived side must also be the sole thematic one. The appresentation of the other, the Alter as another Eco, however, would not seem to fit this scheme: we seem to be as immediately aware, as Husserl also claims, of the other's mind as of his body. Therefore, it seems that an appresentation must also allow for the two items in the relationship being equally in focus. But where then is the limit between a sign and a mere appresentation? In fact, even when there is a double asymmetry, the part that is not directly given being thematic, and the one that is directly given being non-thematic, we are not always faced with a sign. We make take a greater interest in hidden appearances than in what is directly perceived, without the result being a sign.

2.2 Criteria for the sign: Piaget

A second criterion is in order, both to define the sign exhaustively, and to pinpoint the properties that permit it to emerge in childhood and evolution. This is the notion of differentiation, characterized by Jean Piaget. According to Piaget the *semiotic function* (which, in the early writings, was still termed the symbolic function) is a capacity acquired by the child at an age of around 18 to 24 months, which enables him or her to imitate something or somebody outside the direct presence of the model, to use language, make drawings, play "symbolically", and have access to mental imagery and memory. The common factor underlying

all these phenomena, according to Piaget, is the ability to represent reality by means of a signifier that is distinct from the signified.[1] Indeed, Piaget argues that the child's experience of meaning antedates the semiotic function, but that does not then suppose a differentiation of signifier and signified in the sign (see Piaget 1945, 1967, 1970). In several of the passages in which he makes use of this notion of semiotic function, Piaget goes on to point out that "indices" and "signals" are possible long before the age of 18 months, but only because they do not suppose any differentiation between expression and content. The signifier of the index, Piaget says, is "an objective aspect of the signified"; thus, for instance, the visible extremity of an object that is almost entirely hidden from view is the signifier of the entire object for the baby, just as the tracks in the snow stand for the prey to the hunter. But when the child uses a pebble to signify candy, he is well aware of the difference between them, which implies, as Piaget tells us, "a differentiation, from the subject's own point of view, between the signifier and the signified".

Piaget is quite right in distinguishing the manifestation of the semiotic function from other ways of "connecting significations", to employ his own terms. We have already encountered those under the names of coupling and appresentations. Nevertheless, it is important to note that, while the signifier of the index is said to be an *objective* aspect of the signified, we are told that in the sign and the "symbol" (i.e. in Piaget's terminology, the conventional and the motivated variant of the semiotic function, respectively) expression and content are differentiated *from the point of view of the subject*. We can, however, imagine this same child that in Piaget's example uses a pebble to stand for a piece of candy having recourse instead to a feather in order to represent a bird, or employ a pebble to stand for a rock, without therefore confusing the part and the whole: then the child would be employing a feature, which is *objectively* a part of the bird, or the rock, while differentiating the former form the latter *from his point of view*. Nor does the hunter, who identifies the animal by means of the tracks, and then employs them to find out the direction the animal has taken, confuse the tracks with the animal itself in his construal of the sign, in which case he would be satisfied with the former. Both the child in our example and the hunter are using indices, or indexical signs, where the "real" connection is transformed into a differentiation in the sign.

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1 In the later part of this paper, it is suggested that mental images and memory are different from the other phenomena listed in not being true signs.

2.3 Signs and other things

On the other hand, the child *and the adult* fail to differentiate the perceptual adumbration in which he has access to the object from the object itself; indeed, they will identify them, at least until they change their perspective on the object by approaching it from another vantage point. And at least the adult will consider a branch jutting out behind a wall as something that is non-differentiated from the tree, to use Piaget's example, in the rather different sense of being a proper part of it. In the Peircean sense, an *index* is a sign, the relata of which are connected, independently of the sign function, by *contiguity* or by that kind of relation that obtains between a part and the whole (henceforth termed *factorality*). When these relationships a given together in perception, we have a coupling in Husserl's sense; when only one of them is present, there is appresentation. Two items present together only become a sign, however, to the extent that one of them, identified as the expression, is directly perceived but not in focus, and the other one, the content, is indirectly perceived while at the same time being the focus of the relation. An index, then, must be understood as indexicality (an *indexical* relation or *ground*, to use an old Peircean term) plus the sign function.

But we should take these observations further: since what is at stake is a thematic structuring, and this structuring itself is relative to a subject for whom it is a part of the field of consciousness, the first part of the sign is in some sense a stand that the subject may take on the other. In more familiar terms, the first part of the sign is "about" the other. Of course, this more readily applies to the relation between the content and the referent, where the latter corresponds in the world outside of the sign to that with which the sign is concerned. Husserl (1980), in fact, makes this distinction clearly only in his study of picture consciousness, where he notes that the depicted Berlin palace is here in the picture, whereas the real palace is in Berlin (cf. Sonesson 1989: 270ff, 2006, and below).[2] As I have suggested elsewhere (Sonesson 1989: 193ff), we would thus have to suppose some kind of thematic hierarchy going (in the ordinary case) from the expression through the content to the referent.[3]

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2 In a more classically empirical way, the necessity of this distinction may be borne home by studies of children interpreting pictures, according to which the identification of an object present in one picture in another is considerably easier than its retrieval in reality (Lenninger 2012).

3 In fact, in all his work, Husserl was very much concerned with the difference between what has here been called the content ("noema") and the referent ("the noematical core"), but he does not seem to discuss it elsewhere in relation to the expression.

Thus, we can minimally define the sign by the following properties:

it contains (a least) two parts (expression and content) and is as a whole relatively independent of that for which it stands (the referent);

these parts are differentiated, from the point of view of the subjects involved in the semiotic process, even though they may not be so objectively, i.e. in the common sense Lifeworld (except as signs forming part of that Lifeworld);

there is a double asymmetry between the two parts, because one part, expression, is more directly experienced than the other;

and because the other part, content, is more in focus than the other;

the sign itself is subjectively differentiated from the referent, and the referent is more indirectly known than any part of the sign.[4]

3 The picture as a particular iconic sign

A picture is of course an instance of an iconical sign. An icon must be understood as iconicity (an iconical relation or ground, as Peirce originally called it) plus the sign function. But pictoriality is not just any kind of iconicity. It is of course visual iconicity, but that is not enough to characterize its specificity (cf. Sonesson 1989; 1993; 1994; 1995; 2001a, b; 2003; 2008). The pictures are characterized by what we have elsewhere called *resemantizisation* (cf. Sonesson 1989: 255ff). The parts, which are meaningless in isolation, become carriers of particular portions of the overall meaning, once they are integrated into the whole. Like the phonemes /m/, /æ/ and /n/, forming the word /mæn/, the strokes and dots making up the picture of a man are in themselves meaningless even when considered in their particular spatial location; however after having been put together, the phonemes continue to be deprived of meaning as such, whereas the strokes and the dots begin to take on the aspects of different proper parts and attributes of the man they contribute to form. Put simply, the different parts and properties of the man are not distributed among the phonemes /m/, /æ/ and /n/, as they are among the

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4 The referent will also ordinarily be more in focus than the sign, if we suppose what in Anglo-Saxon philosophy of language is called "opaque contexts" to be the exception. Cf. Sonesson (1989: 193ff).

strokes and dots forming the corresponding picture.[5] This is possible because the picture is at the same time an object of perception and a sign.

3.1 Seeing in and pictorial consciousness

These properties of the picture are connected to a peculiarity of the picture sign that Husserl (1980) has described by the term *Bildbewusstsein*, and which was taken up for discussion again much later, no doubt independently, by Wollheim (1980), according to which we "see in" the depicted object directly into the physical object which is the pictorial expression (Sonesson 1989: 262ff; cf. Sonesson 2006, 2008). Two similar things assume the character of a picture only when pictorial consciousness is attached to them, Husserl (1980: 16, 17, 138f) contends (and, in addition, the similarity must be "anschaulich"; p 135). Pictorial consciousness puts three instances into relation: the *picture thing* (originally the "physical picture"), the *picture object*, and the *picture subject* ("Bildding", "Bildobjekt" and "Bildsujet", respectively). When the picture is said to be lopsided, this concerns the picture thing; but when we complain about the failure of the photograph to resemble the person photographed, it is the picture object that is incriminated (cf. Figure 1). However, it might seem less clear what constitutes the difference between the picture object and the picture subject.

In the photograph of a child, a figure can be seen that is in some respects similar to the child, but differs from it in size, color, etc. The miniature child in a greyish violet is of course not the child that is "intended", i.e. conceived ("vorgestellt"). The real child, the picture subject, is red-cheeked, has blond hair, and so on, but the picture object can only show up "photographic colors". The first, then, which is what is "seen-in", in Wollheim's sense, is the *picture object*. The second is the *picture subject*. It should be noted immediately that, although "photographic colors" do not mean the same thing to us as to Husserl, the distinction is still valid, because even high-quality color photographs, as well as paintings, are incapable of rendering the full scale of colors present in the real world of perception. According to Husserl (1980: 18), however, there is also a different kind of difference between the picture object and the picture

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[5] It should be noted, then, that pictures do not have double articulation, as was once argued by Eco and Lindekens, nor do they lack elements without their own signification, as has been widely argued since; their case is different again. This argument is given more fully in Sonesson (1989: 282ff).

subject, for while that Berlin castle that we see is here, where the picture is, the Berlin castle itself, as a thing, remains in Berlin.
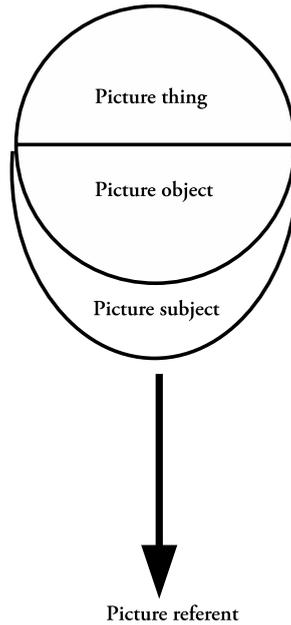
Picture thing

Picture object

Picture subject

Picture referent

Figure 1: Picture consciousness
as conceived in Husserl (1980) and revised in Sonesson (2008)

3.2 The double function of the picture subject

It seems to me that the picture subject is made to accomplish a double task, which it cannot really sustain, that of content type and referent. It is in the relation between the picture object and the picture subject that pictoriality, according to Husserl, may be more or less extensive, and more or less intensive, i.e. concern a greater or lesser number of properties, and realize them to a greater or lesser degree ("Extensität" and "Intensität der Bildlichkeit", Husserl 1980: 56f.). Husserl maintains that there must always be a difference, however small, between picture object and picture subject, in terms of the "extensivity" and the "intensivity" of their respective properties. If so, it should be sufficient to attenuate the "intensive" and "extensive" differences between them, in order to have them approach gradually, and then in the end coincide, at least as a

thought experiment. But this could never happen, not even in thought, because the picture object is here, where the picture thing is, but the picture subject is somewhere else, in the place assigned to it in the Lifeworld (cf. Husserl 1980: 18, 79): indeed, as we have heard, the Berlin castle, no matter where the picture is moved, remains in Berlin. Moreover, the picture object is perceived, but the picture subject is only something about which information is conveyed (see Sonesson 1989: 276ff). But this makes nonsense of the idea, suggested by Husserl himself, to compare the picture object and picture subject, as to "extensivity" and the "intensivity" of their respective properties.

It would of course be an error to identify the triad picture thing, picture object and picture subject, with expression, content and referent. The picture object is perceived, which the content of, for example a verbal sign, is not; and there is a real sense in which the picture object is present here and now, together with the picture thing, which the verbal content can hardly be said to be. Nor is it feasible to assume that the picture subject is identical to the referent, in the sense of a concrete object of the world, or even in the sense of being a type standing for a number of such instances. Many pictures may not have referents, in any of the latter senses, but they clearly have picture subjects: such is the case not only of the notorious unicorn, but of all the creatures emerging out of Escher's and Reutersvärd's pictures. Indeed, there may be a difference between the picture object and the picture subject of a unicorn picture, for instance if the unicorn looks grey or even blue, but we know that unicorns are white – although unicorns do not exist.

Thus, in Husserl's work, the picture subject has been made to mean two things that do not need to coincide: a) the picture object as it is really, that is, without its "photographic colors"; b) the picture object in its right place (cf. Figure 1). As Husserl observers, the painting of the palace is here, but the real palace is in Berlin. Indeed, it was, at the time Husserl was writing. After 1946 and until recently, however, the Berlin Castle ceased to exist.[6] This does not mean that the difference between the picture object and the picture subjects disappears from a photograph taken in 1989 and observed at the present. The "photographic colors" are certainly not those we expect the real castle to have had. The picture object corrected according to our expectations is henceforth called the *picture subject*. That which may exist elsewhere may be called the *picture referent*.

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6 It is now being rebuilt, but according to a new model by Frank Stella, so it is hardly a question of the same referent being re-established.

3.3 Picture subject and picture referent

The whole point of the "impossible pictures" is that they point beyond themselves to something that cannot exist, their equivalents in the three-dimensional world (cf. Sonesson 1989a: 266ff). Indeed, their picture things are quite possible, as are in this sense their picture objects (consider the importance of "recognizability" to Escher). This is, I submit, the most interesting interpretation of the notion of picture subject: *as the potential real-world equivalent of that which is "seen in" the picture thing, that is, of the picture object.* Husserl (1980: 490) could be taken to suggest just this, when he claims that what is seen in the picture is corrected for its deviations from the idea we have of the corresponding type, which imposes constraints on the possibilities of perception: being made of plaster contradicts our idea of a human being, so we withdraw it from the picture object.

The description of this phenomenological analysis, and some corrections proposed to it, occupy an appreciable part of *Pictorial Concepts* (Sonesson 1989: 262ff, cf. Sonesson 2008, forthcoming a). More recently, Husserl's analysis was taken up in a similar way by Blanke (2003) and Stjernfelt (2007: 289ff), without adding anything new to Husserl's analysis, nor taking my reworking of it into account (which is somewhat curious, since both quote Sonesson 1989 in their references). Stjernfelt (2007: 299) observes that Husserl's notion of picture is much more restricted than Peirce's notion of iconicity, notably as far as sense modalities are concerned, but this precisely misses the point that pictoriality, in the Husserlean sense, is something more specific than iconicity. As we shall see, Thompson (2007: 267ff) returns to the same Husserlean texts in the context of a discussion of mental images, without, however, having much to say about real pictures.

4 The mirror image as sign

The mirror and the picture, just like verbal language, are founded on a differentiation between two units that are asymmetrical in a double sense, first because one of the units is more immediately accessible to consciousness than the other, and second because the second unit is more in focus than the first. Umberto Eco (1984: 216f) has repeatedly denied that the mirror is a sign: instead of standing for something it stands before something: the mirror image is not

present in the absence of its referent, it is causally produced by its object, and is not independent of the medium or channel by which it is conveyed.[7] Indeed, in his most recent work, Eco (1998: 22ff, 1999: 371ff) extends this description to some phenomena, notably television, which most people would naturally consider to be pictorial signs. With reference to our more precise concept of sign, I see really no reason to deny the sign character of the mirror: something which is comparatively more direct and less thematic, the mirror image, stands for something that is less direct and more thematic, the object in front of the mirror; and the person or thing in front of the mirror is clearly differentiated from the image in the mirror.

4.1 Refutation of Eco's conjecture

The fact that the person represented by the mirror sign is present contiguously to the sign is in no way an embarrassment to this conception: in principle, this case is equivalent to the label with the names and the pictures of the different species habitually appearing on the bird cage. Of course, animals and small children may have difficulty making the required differentiation, but that is exactly what happens in the case of signs, as Piaget has indicated. The kind of differentiation that does not obtain for animals and children is apparently not the one involving a discontinuity in time and/or space (i.e., they do not think the mirror image is part of themselves) but rather that concerned with the different nature of the two correlates (i.e., the cat takes its own image to be another cat).

Pronouns like "I" change their meaning each time they are used, yet retain the meaning once they are written down (or, one might add, when the speech is recorded on tape). The mirror, Eco contends, continues to change its meaning for ever. However, the weathercock, one of Peirce's favorite examples of an index, behaves in all these respects more like the mirror than like the pronoun: if sent as a message from the seasonal resort, it indicates the direction of the wind at the place where the receiver lives, not that which the sender observed before putting the device into the parcel. This is not to say that the weathercock functions exactly as the mirror. The difference between the mirror, the pronoun and the weathercock has to do with the relative importance of the constant and variable element in the meaning, that is, with Eco's "content". The problem

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7 Eco (1984, 1998, 1999) gives several other arguments for this claim, which I have shown to be invalid in Sonesson (2003) and (forthcoming a).

seems to be that Eco thinks something that once is a sign must then always be one. If we exclude all signs that are only momentarily signs of something, most of the examples given by Peirce and others are not eligible as signs. In fact, weathercocks, pointing fingers and pronouns, seem to have functioned (and functioned as signs) much like the mirror, before different techniques for preserving tokens (as opposed to types) of signs were invented, a process which perhaps begun with writing and now has reached the state of computer memory.

Eco even claims that mirrors cannot lie. The fun house mirrors appear to him to be marginal cases. Actually all mirrors lie, or, more precisely, they interpret: they are adapted to different professional uses, the "channel" having a particular fraction in the case of the dentist, a particular tint for the dressmakers, etc. There are no zero-degree mirrors: talking with people who use mirrors professionally, from dentists to sales clerks at the dressmakers, you realize that all mirrors are adapted to particular uses. Mirrors have their "rules of interpretation", like all pictures, including photographs (my critique of the semiotics of photography). So the mirror image is also conveyed to us with the fidelity permitted by its particular channel. This all amounts to saying that, like the picture, the mirror has its "ground", its principle of relevance.

Husserl makes a more subtle observation about the difference between pictures and mirrors. In both mirrors and pictures we are faced with two simultaneous percepts, one of which is cancelled out. In the mirror, one percept is cancelled out by the environment. In the picture, it is cancelled out by internal contradictions, i.e. between picture thing and picture object. In fact, as Husserl also notes, the picture is also somewhat contradicted by its environment, viz. the wall on which it is placed. On the other, it could be added that there is also a flat surface (a picture thing) in the mirror.

More importantly, however, the mirror corresponds to both Husserl's criteria: The expression is *directly experienced* but not *thematic*, and the content is *indirectly experienced* but *thematic*. The surface is most directly given, then the virtual image, and finally the referent. The theme is the person or thing in the mirror. It also corresponds to Piaget's criterion: expression and content are differentiated *from the point of view of the subject*. There is no risk of confusing the mirror and what it mirrors, if you are not a small child or some non-human animal. The expression *does not continuously go over into the content in time or space,* so you don't look behind the mirror; and that expression and content are conceived as *being of different nature,* so you don't try to interact with it as with another person. A cat, on the other hand, may well do both.

4.2 Beyond Gallup in mirror studies

Mirrors have mostly attracted the attention of psychologists in connection with the so-called 'mirror recognition test', often simply called the Gallup test, which consists of surreptitiously applying to a child or an animal an odorless color spot on a part of the body that would not be visible without a mirror, and then observing whether it tires to delete the spot when confronted with its own mirror image (Gallup 1970). Amsterdam (1972) used the same kind of test with children. Animals have been claimed to possess self-awareness or not depending on their ability to recognize themselves, or more precisely their body, in a mirror. Since children only pass the mirror test around 18 months, is has been argued that they do not have any self-awareness before that. In particular, in terms of the Theory Theory, it might be suggested that children do not have any theory of mind, whether applied to themselves or others, before the time when they succeed at the mirror test. According to proponents of Theory Theory, however, children only pass the ordinary tests of the theory of mind (understanding false beliefs, the difference between appearance and reality, etc.) around four years of age (cf. Mitchell 1997). Nonetheless, Rochat and Zahavi (2010) plausibly sustain that at least some rudimentary type of self-awareness must exist long before that moment – and thus, by implication, can also exist in animals not passing the Gallup test.

The time when children pass this task is well within the period in which they start to understand signs. Whatever the relation of mirror recognition to self-awareness, the mirror is first of all an artifact, the effect of which is to produce a sign, and more precisely, an iconical sign, i.e. the mirror image. Psychologists, it seems, have never attended to the fact that the mirror is a particular cultural object (whatever may have been its precursors such as water surfaces or polished metal pieces), which accomplishes a particular semiotic function. Curiously, semioticians have shown very little interest in the mirror, with the exception of Maldorado (1977), who simply lists it with other signs having both indexical and iconical features, and Umberto Eco (1984, 1999), who argues with a certain tenacity that mirrors are not signs, and certainly not iconic and/or indexical ones, and this author (Sonesson 2003, 2011) who, on the contrary, maintains that, once a definition of the sign has been spelled out, the mirror image can be seen to comply with all its parts: notably, the mirror image is differentiated, in the double sense of expression and content not going over into each other and not being two members of the same category, and it is asymmetrical, in sense of the expression being directly given but not in focus while the content is indirectly given but in focus.

Mirrors, however, have other uses than simply looking at the self. Primatologists often suggest that animals are well able to use mirrors for discovering hidden parts of the world, well before passing the mirror test – but the evidence seems to be only anecdotal (one exception being Broom et al. 2009). Interestingly, Kim Bard who referred me to this kind of mirror use not involving self-recognition in animals in answer to a reflection I made after her lecture at Lund University, suggests, in the printed version of the lecture (Bard et al. 2006), that mirror self- recognition may really be a function of sign understanding. It may be worthwhile investigating whether mirrors are difficult for other reasons than the recognition of the self. In fact, like pictures, mirrors may be easy to use, to the extent that they are not understood as mirrors, but simply a continuity of the world, but difficult, when they are understood as mirror images per se.

There do not seem to be any experimental studies comparing mirror images and pictures. Menzel et al. (1985), however, compared the ability of chimpanzees to retrieve fruit using either direct video or mirrors. It is more common to compare video images and real perception: Menzel et al. (1978) allowed chimpanzees to follow a keeper earlier seen from a window or on direct video with similar results, although a little better from the window. Poss et al (2003) had chimpanzees, orangutans, and 2–3 year old children retrieve an object that they either saw being hidden directly or on a video. The apes were successful in both conditions, but the children, strangely, were only above chance with direct perception, except when language was added. Potì et al. (2010) found that Capuchin monkeys could retrieve food when they directly saw it being hidden, but not when they were shown pre-recorded videos, except when the shapes of the objects were enhanced by drawings. Troseth and Deloache (1998) demonstrated that telling the children the TV monitor was really a window boosted performance. Our own present on-going experiment (Sonesson et al. in preparation), which investigates the ability of 2-year-old children and apes to resolve an object choice task, when presented either in a peep-hole, in direct video, in pre-recorded video or in a mirror, did not give any clear results in the case of apes, but showed that the children did not resolve the issue better than chance in the last two conditions, but obtained similar results for the peep-hole and the direct video.

Even if mirror understanding (including mirror self understanding) has more to do with grasping the semiotic nature of the mirror image than understanding the self, there clearly are differences between the ordinary picture and the mirror image. Repeating in somewhat different conditions the classical picture studies of DeLoache, Lenninger (2009, 2012) discovered that children understand much earlier the identity of a thing depicted in one

pictures to that in another than the identity of a thing depicted and a thing in the world. It seems to be possible to live in a picture world, without being connected in, at least in a systematic way, to the world of perception. In our culture at least, as Lenninger (2012), suggests, first experiences of pictures may well stay within the picture world, because it derives from the "reading" of picture books. But it is difficult to imagine mirror understanding to stay in the same sense within the mirror world. The story of Alice is there to show what that would mean.[8] The mirror image is different from the picture in its specific referentiality (or embedded intentionality). The mirror points to that which is in front of it (but this is not more exceptional than the weather-cock indicating the wind around it). This should be compared with the window, whose embedded intentionality points to that which is behind the windowpane. Both mirrors and windows have important differences in the direction of their intentionality as compared to pictures, videos and many other signs.

5 Mental images as presentifications

Evan Thompson (2007: 267ff) starts out from the Husserlean texts on *Bildbewusstsein* when taking on the discussion of the nature of mental images, in order to emphasize something Husserl points out, at least in some of his analyses, viz. that mental images are not images in a phenomenal sense: like memory, they are just perceptions having a different act character. This observation is convincing: it is difficult to see how mental images and memory could be on a par with pictures, language and symbolic play, as Piaget claims (see above). However, our own analysis (in Sonesson 1989: 275), which did consider the differences among pictures, illusions, doubtful identifications, ambiguities, dummies, and theatrical performances, and many other picture-like phenomena mentioned by Husserl, completely excluded the discussion of mental images.

5.1 Pictorialism and descriptivism

Within cognitive science, on the contrary, this discussion has played a central part. A distinction is traditionally made between *pictorialism* (represented by

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8 *Through the Looking-Glass, and What Alice Found there* (1871), a novel by the English writer Lewis Carroll.

Kosslyn), which holds that mental pictures really are (or resemble) pictures; and *descriptivism* (represented by Pylyshyn), which claims that mental images are in fact propositions (i.e. language-like structures). As Thompson (2007) points out, however, this distinction concerns the way mental images are instantiated in the brain ("subpersonally"). According to Thompson, nevertheless, both conceptions agree that mental images are experienced as pictures. Husserl and Thompson, however, claim that mental images are not experienced as pictures. Indeed, among other things, mental images are not located on a surface; they are not flat; and you cannot turn them over to inspect them (cf. Thomas 2010).

In his exploration of pictorial consciousness, Husserl in 1898 begins treating pictures – as opposed to signs – as being similar to remembering, anticipation and fantasy – or rather, he uses his idea of the picture as a model for understanding remembering, anticipation and fantasy. He denies, however, that pictures are signs. Sonesson (1989: 276ff), who, on the contrary, thinks pictures are signs, believed the reason for Husserl's denying the status of signs to pictures is that he sees signs as necessarily being symbols, that is, as conventional signs. This interpretation is born out by Husserl's claim that convention is needed to determine the upright position of the picture that makes it possible to interpret.[9] This is, however, certainly not the main reason for Husserl's contention. It all depends on fulfillment (cf. Willard 1995). Only perception is really in presence of its object.[10] "Signitive intentions" are to Husserl inauthentic, the opposite of intuitive, that is, they have to be fulfilled – if not by perception, then by presentifications ("Vergegenwärtigungen"). But, at the time Husserl began to reflect on these issues, he clearly thought that pictures were more capable of serving fulfillment than (conventional) signs, thus being comparable to remembering and anticipation. At a later stage, nevertheless, Husserl (1980: 139) established a basic division into proper ("eigentlich") and non-proper ("nicht-eigentlich") phenomena – also "symbolic" and elsewhere "signitive" intentions. In this division, presentifications such as anticipation, remembering and fantasy appear together with perceptions, whereas signs and pictures are put in the opposite general category (as

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9 As we have shown long ago, however, convention is certainly not needed for this, since it is sufficient to move a picture around until it offers itself to interpretation – something that is in particular illustrated by the classical comic strip "The upside-downs". See Sonesson (1989: 276ff).

10 We are at the heart of what made Jacques Derrida criticize Husserl. But, as Paul Ricœur said to me at the 1984 meeting in Toronto, where both were present: he could not understand what was wrong with presence.

illustrated very well in the diagram constructed by Stjernfelt from Husserl's text (see Figure 3).
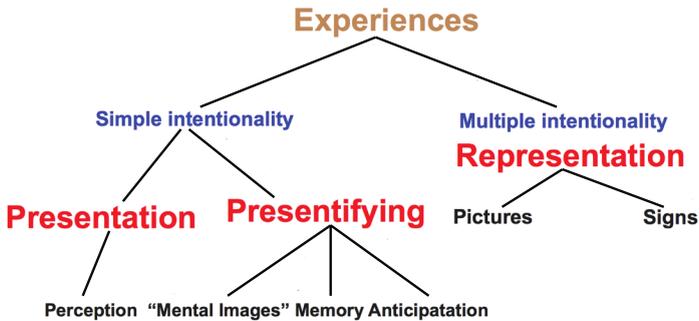

Figure 2: Different kinds of "Vorstellungen" (experiences) according to Husserl (1980), as simplified and reconstructed in Sonesson (forthcoming b).

5.2 Pictures and mental images

Thus, in Husserl's mature conception the remembered object stands before our eyes itself, whereas in the picture, there is something else there in person of which we are conscious as the representation of something resembling it. In the case of rememberings, anticipations and fantasy, there is nothing "in-between" the subject and the object, only a modification of the act directed at the same object (cf. Figure 2). Husserl rejects the "image theory" of remembering, anticipation and fantasy, as he had early on done in the case of perception. The editor of Husserl's posthumous texts on pictorial consciousness, Eduard Marbach (1993), rephrases this distinction as being between being in one environment and experience that has happened before, what will happen later, and what is merely possible in another environment, on one hand, and being in the presence of something that indirectly gives access to something being somewhere else in time and space. Thompson, on the other hand, describes anticipation, memory and fantasy more resolutely as being some kind of vicarious perception, some kind of "off-line" perceptual processes that are so close to real perception as to be facilitated by movements in the same sense and hindered by movements in the opposite sense.

Before we can even discuss Marbach's and Thompson's interpretation, it would be useful to establish a distinction between *presentifications* and *representations*. Representation is the same as sign: there should be

differentiation and double asymmetry. Presentification means that something is present in a modified mode: as imagined, as past, etc. Presentify means making something present. Unfortunately, Marbach uses "representations" for both (as did Husserl at first), and Thompson talks clumsily about "re-presentation" (with a hyphen) with special reference to anticipation, memory and fantasy. What is worse, Thompson has no theory of signs. He mentions Husserl's phenomenology of the picture sign in passing but does not commit himself to it. He never discusses signs at all. But without a contrast to pictures and other signs, Thompson's otherwise excellent analysis of mental imagery and memory is not very informative.

In sum, cognitive semiotics has to account for both signs and enactments – in other words, for both representations and presentifications.

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