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Semiosis & sign exchange : design for a subjective situationism, including conceptual grounds of business information modeling

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part i

INDIVIDUAL
SIGN USER
Designing an ontology for conceptual information modeling, what is a promising start? Does a science of information exist? If so, (al)ready-made building blocks for constructing my particular grounds might be discovered. There are even several disciplines referring to information as their core concept, ranging from signal transmission to library services. Upon cursory inspection it already perspires that such concepts of information are usually each quite limited. There certainly are no common grounds underlying them relevant for directing attention during conceptual information modeling.

One discipline claims a general orientation. It is semiotics. Since modern semioticians without exception mention PEIRCE as a primary source of inspiration, it is with his work that I make a start.

Frankly, I did not study all that much of the mass of texts that PEIRCE has written. Chapter 2 can even be seen as the result of my reflection upon a single sentence by PEIRCE. His targeted sentence establishes that information taken separately is not the core concept. Of course PEIRCE does not use information in his terminology. Sign is the label for one of his general concepts. In other words, a sign in isolation is not fundamental. Of key significance is the dynamic relationship holding between sign, object and interpretant. PEIRCE emphasizes that their relationship is irreducible. As three elements are involved, the core concept of Peircean semiotics is the triad.

The semiotic triad, however, does not exhaustively explain the sentence I have been studying so intensely. Indirectly, it also refers to a ground. How I handle the ambiguity PEIRCE leaves with respect to his concept of ground is where I definitely part company with established Peircean scholarship. I may add, probably before even joining it. For I am not pursuing interpretations of what PEIRCE himself, supposing that he did, might have meant by ground. Anyone who believes I make valuable suggestions on interpreting PEIRCE is of
course most welcome to do so. However, my express aim for studying PEIRCE is to collect and develop valuable materials for an ontology for conceptual information modeling.

My development beyond – or astray from, it does not matter – PEIRCE leads from his triad to a semiotic hexad. Guided by his original three elements I propose a characteristic ground for each of them. It is definitely not yet a finished ontology, but already shows promise for further development. I like to compare it with analytical geometry. With six non-overlapping formal axes, rather than three, an ontology offers opportunities for a proportionally higher resolution in perception and interpretation.

In Chapter 3, the hexadic elements are applied for a description of reality’s assumed structure in objectified terms while attempting to honor the hexad’s irreducibility.
The label of semiosis should immediately draw attention to the dynamic and systemic nature of sign use. Semiosis, or sign use, is always a process. It is, as CHARLES S. PEIRCE (1839-1914) describes it, “the action of the sign.” And in addition to signs, use processes involve other constituents into a characteristic irreducibility of semiosis. It is (1906, 282)\(^1\) an action, or influence, which is, or involves, a cooperation of three subjects, such as a sign, its object, and its interpretant, this tri-relative influence not being in any way resolvable into actions between pairs.

PEIRCE explains his theory of signs in *Logic as semiotic*.\(^2\) It has been especially

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1. This quotation is taken from *Philosophical writings of Peirce* (1955, selected and edited by J. Buchler), in particular from PEIRCE’s essay *Pragmatism in retrospect: a last formulation* (pp 269-289). The reference in the main text consists of the year at which the original manuscript is dated, which is 1906, together with the page number from Buchler’s collection of Peirce’s essays.

2. In: *Philosophical writings of Peirce* (1955, pp 98-119, selected and edited by Buchler). Quotations are taken here from Part I of *Logic as semiotic*, which part was compiled by Buchler as consisting of three selections. The first selection is dated at Peirce’s manuscripts of 1897, the second – mainly – at 1902, and the third at 1910. Again (see note 1, above), it is these latter dates, rather than the publication date of Buchler’s collection, that I mention for quotations. Page numbers, though, are from the collection of 1955.

Peirce’s preferred terminology was “semiotic” rather than semiotics. I therefore use his singular form wherever I refer directly to his work. In all other cases, I resort to the nowadays common plural form, i.e., semiotics.

That semiotic is called a *logic* should be understood in its proper historical perspective. It is only later, through the work of especially Gottlob Frege (1848-1925) and Bertrand Russell (1872-1970), that logic acquires a more restricted, modern, mathe-
matical meaning. Earlier logicians study, and try to formalize, the procedures of human thinking. It is in this sense, too, that HANS VAIHINGER’s *Die Philosophie des Als-Ob* (1911) may be read as a compendium of such traditional logic. However, such deeply human (also read: individual) logic is not only traditional for it is a prime characteristic of post-modernism.

I find the modern idea of scientific logic exemplified by *Handbook of Logic & Language* (1997) edited by J. VAN BENTHEM and A. TER MEULEN. It aims to provide an overview of mathematical treatments of language. As such, it certainly is a rich and valuable source-book. It clearly shows the increase in formalization, often undertaken under the heading of cognitive science in pursuit of so-called artificial intelligence. As a modern discipline, logic is now inaccessible for any nonspecialist (as I am, for sure). What I do recognize from – and please note the order in which logic and language appear in its title – *Handbook of Logic & Language* is that a formidable apparatus is developed by its contributors from, and subsequently applied at, sentences of a strictly propositional nature. See also *Vagueness: A Reader* (1996) edited by R. KEFFE and P. SMITH.

Especially from my experience of raising children I wish to remark that language is really never practically used for expressions as those theoretical examples suggest. I therefore have the strong impression that ‘as a rule’ unproductive (research) questions are addressed in logic in its highly specialized, modern form. As ROMMETVEIT remarks (1974, p 5): “[A] rapidly increasing number of scholars have become engaged in an increasingly complicated and formalistic exegis of sentences *in vacuo*. A major proportion of the latter are made up by the linguist or the psycholinguist in his armchair, the most queer ones very often for the purpose of settling some internal controversy with respect to parsimony of formal representation and/or options of axiomatization.” E. GELLNER concludes his *Words and Things: An Examination of, and an Attack on, Linguistic Philosophy* (1959) by stating (p 285): “The heaven of the linguistic philosopher, the ideographic study of particular expressions, where conceptual issues are said to arise in isolation from substantive ones, and where the analysis is claimed to be wholly neutral, is an utterly unreal realm.” Applying a Marxist perspective, A. NEUBERT points to the fallacy of semantics in *Semantischer Positivismus in den USA* (1962). Criticizing what he calls the Fregean orthodoxy, in *Has Semantics rested on a Mistake?* (1991) H. WETTSTEIN argues for dissolution, rather than solution, of puzzles arising from narrowly logical analysis. I agree with R.L. ACKOFF that (1978, p 9) “[a] puzzle is a problem that one cannot solve because of a self-imposed constraint.” My emphasis in this treatise lies on ontological design as (ACKOFF, 1978, p 10) “[I]t often takes a bigger push than a [logical] principle can provide to get over the hump of a self-imposed constraint.”

A both level-headed opinion of and ambitious aim for logic is presented by GENDLIN (1997, pp 10-11): “Logic does not begin until after the terms (the units, the variables) have been generated, and this involves most of the assumptions we would need to examine. [...] The power of logical implications can be employed more knowingly, if [...] we also articulate [...] its situated context. To know how to do this would open avenues for thought and reevaluation in every scientific
influential in linguistic developments during the twentieth century. This might have occurred for the wrong reasons, though. Peirce himself is considered here as being, at least partly, the source of directing attention away from his original idea. For already early in his essay, he loses sight of the concept of ground that he lays out at its very start. A reconstruction helps to understand the all-importance of ground, and develop it for a(n even) richer explanation of semiosis.

2.1 the perspective of the user

The prose of Peirce is often dense and difficult. Some reorganization of his arguments will make it easier to follow his theory in outline. From the outset it should be recognized that he does not treat signs in their own right, at all, but considers sign use. The user is an abstraction which Peirce calls (1897, p 98) a “scientific” intelligence, that is to say, […] an intelligence capable of learning by experience. Actually, his theory is about the dynamics of sign use so that it may explain learning and, through the results of learning, conduct. K.E. Boulding writes that (1956, p 6) behavior depends on the image[,]

context, ways which do not now exist.” In this treatise, I offer some contributions to the design of just such an opening for further inquiry.

3. It is important to know that the essays published as Philosophical writings of Peirce (see note 2 in this chapter) already are the result of some interpretation. For Buchler assembles textual passages from several of Peirce’s writings. Though Buchler accounts for the sources, selection nonetheless entails interpretation on his part.

4. Peirce goes to some length to describe what he considers (1897, p 98) “the faculty of abstractive observation.” An abstraction is “a sort of skeleton diagram, or outline sketch,” that is next examined or observed. “By such a process, which is at bottom very much like mathematical reasoning, we can reach conclusions as to what would be true of [the phenomenon in question] in all cases, so long as the intelligence using [the abstraction] was scientific.” The additional complexity here is that Peirce is explaining the abstraction of a scientific intelligence by referring to … a scientific intelligence. Another complication is that he refers to truth which is a category he abstains from in his pragmatism.

5. Apparently unaware of semiotics, but with knowledge of social psychology and specifically referring to the work of G.H. Mead (see Chapter 11 of this treatise), Boulding puts
To facilitate understanding of Peirce’s essentially behaviorist model of sign use annex learning, a particular sign should first of all be assumed to preexist externally to the user (also read: learner). Figure 2.1.1 introduces the first two concepts in Peirce’s argument: sign and user. The basic shapes of their schematic symbols have been purposefully chosen for convenience in composing the more elaborate figures shown later.

Figure 2.1.1.
Introduction of the concepts of sign and user.

An example of a sign is Figure 2.1.1 itself, of course. And the reader is an example of a sign user. However, a dyadic relationship between sign and user does not yet supply the requisite variety to account for the dynamics of the use-as-process. So, Peirce introduces object and interpretant (1897, p 99):

The sign stands for something, its object.

And

[the sign] addresses somebody, that is, creates in the mind of that person an equivalent sign, or perhaps a more developed sign. That sign which it creates I call the interpretant of the first sign.

This quotation immediately highlights that semiosis according to Peirce starts from a given outer sign. The question of who produced it in the first place, and why, falls outside the scope of his concept of semiosis. This bias is confirmed by his choice of terminology, i.e., especially of interpretant. It is the inner sign as an explanation, as a translation, of the outer sign.6

forward a suggestion (1956, p 148): “I want to raise the question partly in jest but partly also in seriousness whether the concept of the image cannot become the abstract foundation of a new science, or at least a cross-disciplinary specialization.” The name he coins for this science is “eiconics.”

6. This interpretation bias is consistent with early hermeneutics. It has become characteristic of academically mainstream semiotics. See for example Introducing Semiotic: Its History and Doctrine (1982) by J. Deely in which a distinctively behaviorist perspective – and references to authors promoting it – is lacking. See also Deely’s Basics of Semiotics (1990) where he argues that semiotics is not a method but a point of view (p 13): “The semiotic point of view is the perspective that results from the sustained attempt to live reflectively with and follow out the consequences of one simple realization: the whole of our experience, from its most primitive origins in sensation to its most refined
From the wider perspective of communication, or sign exchange, an outer sign can only be considered given to a particular sign observer after it has been produced by a particular sign engineer (where engineer and observer may of course be the same person; sign engineering is explained in the next chapter). **VOLOSHINOV** can be seen to apply this communication perspective right from the start of his theoretical development. He states that (1929, p 10)

> signs also are particular, material things.

Their representational nature **VOLOSHINOV** explains as follows (p 10):

> A sign does not simply exist as a part of a reality—it reflects and refracts another reality.

**VOLOSHINOV** also expresses his communication perspective succinctly (p 12):

> Signs can arise only on interindividual territory.

Especially the Peircean outlook offers a powerful set of basic concepts for developing a more encompassing theory. Further on in his essay, **PEIRCE** makes it clear that his idea of an object7 has a wide scope.

At this early point in my treatise, several of his terms need to be sorted out first. He mentions “somebody,” a “person” and his8 “mind” to provide examples of the more general concept of a scientific intelligence. I call ‘it’ a sign user. Now anything relatively concrete may promote understanding of some-
thing equally relatively abstract. Ultimately, though, no abstraction in its Peircean sense, that is, no opportunity for arriving at generally valid conclusions, should be lost in the process. And for the purposes of theory these additional terms are not required. Peirce’s original abstraction should be maintained. It reads that in principle the interpretant is created within the sign user, regardless of whether the user needs a mind for it to occur. Figure 2.1.2 presents the concepts identified so far for semiosis.

![Figure 2.1.2. A user and the concepts of semiosis.](image)

Peirce considers the relationship between sign, object and interpretant triadic, even genuinely triadic, for (1902, p 100) its three members are bound together by [their relationship] in a way that does not consist in any complexus of dyadic relations.

A modern way to express this would be that sign, object, interpretant, and their interrelations constitute a system with properties not reducible to any of its subsystems. This triadic system is emphasized in Figure 2.1.3.

![Figure 2.1.3. The triad of sign, object and interpretant.](image)

### 2.2 Dynamics of Triads

What drives the process of sign use is that the interpretant can, so to speak, change into another role. By acting as a sign in its own right, subsequently another triadic relationship is formed. The object of the first triad ‘returns’ in

9. See note 4 in this chapter.
the same capacity, and an interpretant is added. The interpretants of the first and second triad are different. Figure 2.2.1 shows how the first and second steps in semiosis are related.

![Figure 2.2.1. Consecutive steps in semiosis revolve around interpretant becoming sign.](image)

**Peirce** is actually not clear on whether it is the original object which is included in the second triad or not. He starts by stating that the interpretant, as sign, will assume (1902, p 100)

the same triadic relation to [the object] in which [the original sign] stands itself to the same [object].

A few sentences on it reads that the object of the second triad consists not of the original sign but of rather the relation thereof to its [object].

I take it here that, whichever way, the original object continues to ‘act’ in the second triad:10

Every additional interpretant may assume the role of sign. In that capacity, it gives rise to yet another triad (1902, p 100):

All this must be equally true of the interpretant’s interpretants and so on endlessly.

10. An interpretation that can often be inferred is that triadic dynamics are a process of association. Then, thinking one object leads to thinking another object, and so on. See, for example, *Introducing Semiotics* (1997, p 25) by P. COBLEY and L. JANSZ. Of course, I readily agree with the possibility of interpretive association. GENDLIN, writing about experiencing, remarks that (1997, p 7) “its articulation is itself a further experiencing” which amounts to interpretive dynamics, too. However, I believe that Peirce intends triadic dynamics as converging on a, be it temporary, stable interpretation, i.e., on a conception of a single object.
The correspondence with VOLOSHINOV’s conceptual development is striking (1929, p 11):

The understanding of a sign is, after all, an act of reference between the sign apprehended and other, already known signs; in other words, understanding is a response to a sign with signs. And this chain of ideological creativity and understanding, moving from sign to sign and then to a new sign, is perfectly consistent and continuous: from one link of a semiotic nature (hence, also of a material nature) we proceed uninterruptedly to another link of exactly the same nature. And nowhere is there a break in the chain, nowhere does the chain plunge into inner being, nonmaterial in nature and unembodied in signs.

Further on in *Marxism and the Philosophy of Language* VOLOSHINOV specifies that (1929, p 38)

the units of which inner speech is constituted [...] most of all [...] resemble the alternating lines of a dialogue.

As I will make clear in Chapter 6 with reference to SCHOPENHAUER, my own position is that the beginning (interest) and the end (behavior) of the “chain” of “inner speech” are more productively conceived of as being of a different “nature.” I agree that such beginnings and endings are relative, i.e., intermediate with respect to the overall process of living.

![Diagram of triadic step mechanism for dynamics of sign use.](image-url)

Figure 2.2.2.

Generalization of triadic step mechanism for dynamics of sign use.
The Peircean progression of interpretants, shown in Figure 2.2.2, can easily be formalized as follows. Let $T_1$ denote the first triad in semiosis. Then

$$T_1 = \{O, S, I_1\}.$$  

And for all $n > 1$,

$$T_n = \{O, I_{n-1}, I_n\}.$$  

This interpretive development, never touching the object it assumes, closely resembles the “trace” of DERRIDA (1967).

2.3 from start to finish

In Logic as semiotic, PEIRCE defines a sign as the trigger of a process of sign use. But he does not give any indication of the user’s state before the start of such a process. Nor does he point out when a particular process of sign use is exhausted. In principle, he says, triadic development of a single process may continue indefinitely. So, how is an actual finish accomplished?

Clues as to how PEIRCE conceives of start and finish of sign use appear in The essentials of pragmatism.\(^{11}\) As a preliminary proposition to pragmatism he states that (1905, p 256)

there is but one state of mind from which you can “set out,” namely, the very state of mind in which you actually find yourself at the time you do “set out” — a state in which you are laden with an immense mass of cognition already formed.

Again, the user, appealed to by PEIRCE as “you,” is presumed. This includes the user’s “mind.”

Then, a user’s interpretant $I_1$ may be considered the result of a meeting between a sign $S$ and his cognitive mass, or mind, $M$. The user’s mind is of course changed by the additional interpretant. As BOULDING indicates (1956, p 7):  

The meaning of a message is the change which it produces in the image.  

By indexing the state of mind, $M_0$ can be assumed to exist before the sign use starts. And $M_1$ then indicates the state of mind which includes $I_1$. Now the user, with his corresponding changes of mind, continues to influence the dynamics of triads. For $n > 1$ it can therefore be summarized that $T_n$ marks

\(^{11}\) In: Philosophical writings of Peirce (1955, pp 251-268, selected and edited by J. BUCHLER). All quotations from this essay are from manuscripts of 1905. Page numbers, though, are from the collection of 1955.
the transition from $M_{n-1}$ to $M_n$. Such a generalized transition, that is, a process, from one state of mind to another is shown in Figure 2.3.1.

![Figure 2.3.1](image)

A sign user's consecutive states of mind.

A reconstruction of Peirce's ideas at the level of a single semiosis leaves an essential question unanswered. What is the user state - which is equivalent, here, to the user's state of mind – at the ultimate start of sign processes? His concept of semiosis explains how "an immense mass of cognition" might evolve from just a beginning of cognition.

So what is left, is the familiar question for the absolute origin. With what state of mind does a user start his very first process of sign use? The answer that makes it possible to proceed an inquiry or a design is equally familiar, of course. As a precondition, or boundary condition, the user must "set out" equipped with a given cognition content, however minimal. It should be clear that, as boundary conditions are axiomatic in nature, they cannot be proven. Rather, they make other proofs, conclusions, etcetera, rest on them. With such an assumption made explicit, Peirce's arguments are recognized as being relative, too. This does not detract from them at all. There is fundamentally no escape from assumptions. Especially the next chapter will establish dependence on assumptions in more detail and with more force.

An issue that Peirce does not deal with is that several processes of triadic dynamics may run simultaneously. At least I do not observe a 'sign' from which to conclude that he accounts for any interference.

Suppose a user has earlier observed sign $S_1$ and now, at time $t_1$, triadic progression has reached interpretant $I_p$. Suppose, too, that the same user observes another sign, $S_2$, at time $t_2$, with $t_2 > t_1$. What happens to the user? Does the use of sign $S_1$ stop, i.e., is that particular process now suddenly finished at $t_2$? Or do both processes run, but completely in parallel, that is, isolated from each other?

Or, indeed, does interference occur? But then, any sequence of states of mind can no longer be attributed to a single process of sign use. In Figure 2.3.2, $M_p$ is followed by $M_q$ but it results from triadic dynamics originating from a different sign. How $M$ as a whole develops is therefore to a large extent determined by the order in which signs are observed and subsequently processed.¹²
I favor the possibility of interference. As Voloshinov states (1929, p 34):
These units of inner speech [...] are joined with one another and alternate with one another [...] according to the laws of evaluative (emotive) correspondence, dialogical deployment, etc., in close dependence on the historical conditions of the social situation and the whole pragmatic run of life.

![Diagram](image)

Figure 2.3.2.
A user's mind development from interference of sign processes.

Returning to the Peircean perspective predominant in this chapter, a sign user or scientific intelligence as mind both shapes its interpretants, and is shaped by them. Interpretants are both integral elements (mind as set) and integrative elements (mind as function). This significantly complicates the matter of when a particular process of sign use reaches a finish. For, with M being the collection of all interpretants, how are different processes kept track of? Are they indexed, after all, each by its first interpretant, for example?

For the sake of following Peirce’s argument, I assume that [a] multiple processes of sign use may be simultaneously active, [b] every interpretant contributes to the whole of the – mind/scientific intelligence of the – user, and [c] every process of sign use is allowed its own finish. These assumptions allow for a straightforward explanation of Peirce’s concept of pragmatism.13

12. The importance of sequential order is also stressed by E. De Bono in his excellent popular account *The Mechanism of Mind* (1969).

13. In response to how other people apply the term pragmatism he later favors pragmatisms as the label. As it is clear that I treat Peirce’s ideas throughout, I maintain the term pragmatism, anyway. An introduction is given by A.F. Stewart in *Elements of Knowledge: Pragmatism, Logic, and Inquiry* (1993). My impression is that Stewart overemphasizes the grounds of realism in Peirce’s thought.

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As for formal notation, interpretants are doubly suffixed: $I_{s,n}$. The first suffix designates the process instance of sign use. The second numbers the interpretants for every process instance. This convention has already been applied in Figure 2.3.2, above.

In *The essentials of pragmatism*, PEIRCE characteristically focuses on — what I call in this reconstruction — the sign user. He argues a sign user would only (1905, p 257)

puzzle [himself] by talking of […] metaphysical “truth” and metaphysical “falsity.” […] All you have any dealings with are your doubts and beliefs, with the course of life that forces new beliefs upon you and gives you power to doubt old beliefs.

He continues by saying that people should not strive after illusive truth but, instead, should try
to attain a state of belief unassailable by doubt.

In this text passage the key is available for determining the finish of a particular process of sign use. Regretfully, PEIRCE does not make interpretation easy by shifting terms where he seeks for new emphasis. With his choice for the term “belief” he suggests that its content guides a user’s activities. Conversely, what a user doubts, he should not act upon. Earlier in the same essay, PEIRCE states as the core of his theory of pragmatism (1905, p 252)

that a conception, that is, the rational purport of a word or other expression, lies exclusively in its conceivable bearing upon the conduct of life.

There, of course, “word” and “expression” are examples of signs. What PEIRCE argues is that, given a particular state of mind, a belief is the ultimate content a conception may acquire. And a conception is rational when the user is a “scientific intelligence.”

From *Logic of semiotic* it may also be concluded that the interpretant which finishes a process of sign use is a belief. What a conception-as-belief entails, can be harvested from *The essentials of pragmatism*. The advantages of such explicit integration of the semiotic of PEIRCE into his pragmatism become apparent later in this treatise. What follows next, is still developed in preparation. PEIRCE remarks that in (1905, p 258)

rational life […] an experimentation shall be an operation of thought.

Apparently, such experiments are required to establish — belief in — a concep-

14. In his introduction Charles S. Peirce. *Semiotisch pragmatist* to the collection of essays titled *Het semiotisch pragmatische van Charles S. Peirce* (1991), editor H. VAN DRIEL remarks (p 12) that most secondary literature on PEIRCE is devoted to his pragmatism. And whenever his semiotic does get treated, VAN DRIEL con-
tion. An additional interpretant, then, would correspond to a changed concept. And every interpretant is the result of an experiment, conducted by and inside the user. Thus, the process of sign use is in important aspects a process of experimentation, too. It ends when the user (1905, p 252)

can define accurately all the conceivable experimental phenomena which the affirmation or denial of a concept could imply [and only then] one will have therein a complete definition of the concept, and there is absolutely nothing more in it.

That is, “nothing more” by and inside that particular user’s “mass of cognition” at that particular point in time. Another user, or the same user at a different point in time, i.e., most probably with a different “mass of cognition,” entertains a concept (also read: belief) that is somewhere between completely similar and completely different. Interestingly, VOLOSHINOV is theorizing along similar lines (1929, p 33):

[Every outer ideological sign, of whatever kind, is engulfed in and washed over by inner signs — by the consciousness. The outer sign originates from this sea of inner signs and continues to abide there, since its life is a process of renewal as something to be understood, experienced, and assimilated, i.e., its life consists in its being engaged ever anew into the inner context.]

The Peircean emphasis on the processes of experimentation within the user suggests how conceptual changes can occur by chain reaction. A single observation of an external sign may lead to a changed concept. Whatever has changed in M could act as ‘original sign,’ too, setting one or more additional processes of sign use in motion.

PEIRCE’s insistence on comprehensive experimentation might very well be too strict. It should be remembered, though he does not explicitly say so, that a concept is supposed to refer to an object. When does — a particular stroke of — learning about an object O, based on the observation of a particular sign S, come to an end? It seems obvious to suggest, in modern cybernetic terms, that scientific intelligence, i.e., the sign user, includes a feedback mechanism. Using whatever criteria, the difference between consecutive interpretants may be measured. Roughly, suppose a lower threshold value exists, a limit dependent on the user (Lu). A process instance of sign use then comes to an end whenever such a difference reaches a value below the threshold. Its formally symbolic expression reads

\[ I_n - I_{n-1} < I_u \]
2.4 pragmatics’ poor cousin

So far, reconstruction of PEIRCE’s semiotic has still not covered or, rather, uncovered the *ground* which I announced lost at the outset of this chapter. However, a lot of other ground has already been prepared. One result, among others, is a clearer, more formalized approach to, and extension of, PEIRCE’s triadic dynamics. Some more groundwork needs to be done before PEIRCE’s *ground* is reached.

I present PEIRCE’s theory of signs in a way which makes it easily possible to appreciate the difference between pragmatics and semantics. PEIRCE evidently is a pragmatist. In fact, he all but invents the category in a philosophical sense.15 He starts out with the bearer of conduct. That is, with “you.” His “you” is a sign user who arrives at beliefs and doubts that are applied in conduct. It makes his emphasis on the use of signs perfectly understandable.

Semantics aims at explaining the meaning proper of signs. It tries to establish meaning as an independent precondition for use. However, this departure from actual use often is problematic, requiring complex but ill-fated repairs. Such problems actually led me to design subjective situationism as an ontology annex epistemology annex semiotics. This treatise therefore proposes a concept of meaning that differs from the mainly dyadic approach of tradi-

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15. His pragmatic philosophy makes his biography especially relevant. From the excellent *Charles Sanders Peirce, A Life* (1993) by J. BRENT may be learned the individualistic origins of his conceptual scheme. As BRENT reports, PEIRCE fails with many of his ambitions and plans. For example, he never receives an appointment to a permanent academic position. Grounded in his upbringing, (p 340) “the builder, almost the creator, of his character was […] his father,” a major problem was that (p 239) “[he] seems to have had no understanding of the part he played in his own destruction; he could find no reason for his failure except the faults or ill-will of others.” Another, related, problem is that his extravagant life style, causing structural debts he cannot repay. Both the accomplishments and tragedy of PEIRCE I find credibly summarized as follows (p 203): “At the end, he stands there in tatters, surrounded by the melancholy debris of his life, contrite and apologetic, asking our […] indulgence. But all the while, this poor fool, behind the scenes and between the acts, has been building piece by piece the armature of a most marvelously intricate universe, so beautiful it transfigures him amidst the wreck of his afflictions, and we gratefully see the signs around us with new eyes.” BRENT concludes that (p 347) PEIRCE “was the first to chart, with surprising rightness, the elements and form of a single, seamless world of thought, the infinite universe of signs and its mysterious and commonplace power to represent the Real.” As I begin to illustrate in Chapter 6, my own candidate for deserving such philosophical credits is SCHOPENHAUER who precedes PEIRCE by about half a century.
tional semantics. As far as my concept of meaning is concerned, Part i merely prepares the ground. Part ii of this treatise is titled Anatomy of meaning. There, Chapters 7 and 8 put meaning forward as sign exchange. The sign engineer and the sign observer act as different individuals in a particular exchange. They apply correspondingly characteristic sign structures to create, respectively interpret a sign.

At this point it is relevant to show briefly that the semantic perspective entails a reduction. It is a shift from dynamic sign use to static meaning. Semantic meanings are taken as something like external, fixed resources. They are generally available to a community of users. The semantic perspective leads to an impoverished semiotics. Dynamics in engineering and observation disappear from view, and so does the emphasis on the individuality of the sign user.

Center stage of the semantic paradigm is, indeed, occupied by the concept of meaning. Definitions of meaning are plentiful. As I said, semantic definitions all rest on a reduction. For without regard for the developmental nature of reaching a satisfactory interpretant through a unique instance of semiosis, meaning is taken to exist a priori to sign use. That is, meaning occurs in an almost absolute sense, rather than as a construction on the part of the sign user.

It should be absolutely clear that the term meaning is introduced here on purpose. With an active interpreter all but removed from its perspective, I prefer to abstain from the use of interpretant when discussing semantics. Meaning, however, is also problematic. Much of this treatise, in fact, is devoted to support a quite fundamental change beyond semantics. In a pragmatic sense, I argue for a change of interpretant, that is, from the meaning of meaning to the interpretant of interpretant.

For now especially the overall contrast between PEIRCE’s dynamics of triads on the one hand, and the static of the so-called semantic triangle on the other hand, is highlighted. This triangle appears with many different terms. Figure 2.4.1 presents it with object, sign and meaning as its constituting elements in a single triadic relationship.

16. Any textbook on semantics will present the semantic triangle, for example Semantics: 1 (1977, p 96) by J. LYONS who refers to it as “the triangle of signification.”

A name often encountered is “semiotic triangle,” as in The Cambridge Encyclopedia of Language (1987) by D. CRYSTAL. Because CRYSTAL does not mention PEIRCE, at all, he cannot warn against the confusion that may occur from the adjective “semiotic.” Here, semiotic is reserved for sign use in, and integrated into, the pragmatic sense. Then, the perspective in which meaning, not sign use, appears as starting point yields, not a semiotic, but a semantic triangle.

It is remarkable, to say the least, that the
The classical semantic triangle does not go back to Peirce’s theory of signs. Actually, his variety stripped of dynamics would look as shown in Figure 2.4.2.

![Classical semantic triangle](image1)

**Figure 2.4.1.**
Classical semantic triangle.

![Triad according to Peirce](image2)

**Figure 2.4.2.**
Triad according to Peirce.

The main reason for drawing a dotted line between object and meaning in the Peircean view is that he writes that (1910, p 100)

> the sign can only represent the object and tell about it. It cannot furnish acquaintance with or recognition of that object.

In other words, it is in his nature that a sign user never directly knows an object. All that the sign user pragmatically – which seems Peirce’s equivalent for: rationally – knows are his very own interpretants. A (more) direct ‘contact’ is supposed to exist between sign and interpretant, and between object and sign, respectively.

Semantics is not concerned with the impossibility of direct knowledge. Its axiom is to look at phenomena in their capacity to ‘stand for’ other phenome-

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Semiotic of Peirce is completely overlooked by Crystal, and that in a work of encyclopedic ambition. It confirms Van Driel’s observation as to the lack of attention attributed to that semiotic work (see note 14 in this chapter). So, how influential has Peirce really been in linguistic development? The answer to this question lies beyond the scope of this treatise. See note 13 in Chapter 7 for a clue.

Unknown to Peirce, but already containing core concepts of later semiotics, was *Tractatus de Signis* by John of St. Thomas (1589-1644), or John Poinsot, originally published in 1932. It was only rediscovered and brought into relationship with modern thought in 1938 by J. Maritain. This observation is made by J.N. Deely who arranged an English translation from the Latin (1985).
na. As the sign is not the object – and this by definition of what semantics is – the classical semantic triangle shows a dotted line between precisely those two concepts. Now it is meaning acting as go-between. With meaning given, on the one side there is a direct relationship with the sign carrying the presupposed meaning. And on the other side exists a direct relationship with the object appearing as meaning.

Figure 2.4.1 yields a simple but effective frame of reference for recognizing some major problems with the program of semantics. They revolve around multiple meanings of one sign, and a single meaning of a multitude of signs. The second category, synonyms, is actually easily solved through references between signs, whenever needed. However, problems of the first category, that of homonyms, cannot be solved inside the boundaries of the semantic triangle.

According to the classical semantic triangle, a homonym does not pose a problem to the link between meaning and object. For once the right meaning has been sorted out, it automatically ‘means’ that the corresponding object is unambiguously assigned. See Figure 2.4.3.

![Figure 2.4.3. Localization of ambiguity from homonym.](image)

For homonyms to be resolved, semantics has to look outside its program. Pragmatics is the rich relative who can help out. This is where Peirce’s ground is needed for gaining a firm stand regarding multiple meanings.

### 2.5 the reappearance of an idea

Early on in *Logic as semiotic*, Peirce attempts to describe a sign (1897, p 99):

> [It] is something which stands to somebody for something in some respect or capacity.

Figure 2.4.2 of a single triadic, semiotic relationship may be augmented with the first part of this quotation. This is shown in Figure 2.5.1.

What is missing, in Figure 2.5.1, are the last words from the description. Again, they read:

in some respect or capacity.

I can hardly overstate the importance of these few words. Peirce himself
elaborates where he says that a sign (1897, p 99)
stands for that object, not in all respects, but in reference to a sort of idea, which I have
sometimes called the ground of the [sign].
So there it finally is, the ground that I announced at the outset of this chap-
ter. A sign is (1897, p 99)
connected with three things, the ground, the object, and the interpretant.
It is obvious that one plus three make four. Yet on the very same page of his
essay, Peirce continues to explain his semiotic as a dynamic process of just tri-
adic relationships. Without any comment, he altogether leaves his ground out
of the subsequent equation. It has simply disappeared completely.

Figure 2.5.1.
Projection of Peirce’s description onto triad model.

From the perspective of the rigor that Peirce wants to establish through his
pragmatist logic, it looks like an astonishing omission. I assume he does it on
purpose. Or? As evidenced by his own words, he definitely first takes the trouble of conditioning the object being interpreted through the sign. Why? Is he
thinking of different appearances that an object can make? This is likely
because, in fact, he does comment on how the ground may be interpreted as
an idea, i.e. (1897, p 99),
in a sort of Platonic sense.

Figure 2.5.2.
Platonic idea as candidate for Peirce’s original ground.

An approach to how Peirce reasons is to substitute the two concepts of idea
and appearance for the single concept of object. This brings the number of
elements involved in semiosis back to four, bound together in a tetratic relationship. This view of semiosis is modeled in Figure 2.5.2.

The problem is now as to what extent (1910, p 100)

Where Peirce introduces his ground, he suggests that a sign limits an interpretant to a particular (Platonic) appearance. But by referring to an idea, he does not specify a constraint for both sign and interpretant. Rather, he opens the view to what lies beyond a particular appearance. Does he really believe that sign use leads to the idea, as meant by Plato? Suppose that Peirce does. Then more than a sign telling about an appearance is involved. For an appearance would, in its turn, need to be telling about an idea. Is he aware of the two-step mechanism? Is Peirce convinced that sign use overcomes the constraints of a sign representing an object “in some respect or capacity?” Does he see it as experimentation to investigate different appearances?

Figure 2.5.3.
Idea as concept as candidate for Peirce’s original ground.

Then again, perhaps splitting Peirce’s object into appearances and idea is a severe mistake in interpretation. For there is also much to be said for an interpretation according to which he sees, not the object, but the sign as grounded.17 A multi-step mechanism is still present, however. Is the sign

17. B. Van Heusden takes up this interpretation in Halve tekens (in: Het semiotisch pragmatische van Charles S. Peirce, 1991, ed. Van Driel), concentrating on artistic semiosis. The title of his contribution is probably translated best as Partial signs. A work of art, Van Heusden suggests, is an icon, one of the types in Peirce’s sign classification. He states that (p 79, my translation from the Dutch) “[a]n icon is only a partial sign: it does provide a reference but it does not yet [...] lead to an interpretant. The ground fails.” Van Heusden concludes that (p 85) “[b]eing an icon, a work of art is an unfinished, or ‘partial,’ sign, which forces us to look for meaning. The artist does not create meaning. Instead, he creates a problem of meaning.”

It is probably that Van Heusden limits his attention to art appreciation only, i.e., to a specific example of semiosis, why he stops
telling about an idea, with the idea subsequently telling about an object? Does the idea occur in the course of the triadic dynamics as an interpretant, resulting from experimentation by the sign user? Figure 2.5.3 tries to capture this triadic shift between steps of the process of sign use.

I am certainly not at all the first to inquire into more detail after what Peirce himself might hold as ground. Interpretations are widely scattered, though. For some divergent examples, see Eco (1959-1977), Nöth (1985) and Hookway (1985). In The Thought of C.S. Peirce (1950, pp 1-7), T.A. Gouge suggests that Peirce shows “discrepancies” due to his conflicting “sets of premisses” of “naturalism” and “trancendentalism,” respectively.

2.6 from triads to pentads

Whichever way Peirce is interpreted, problems are encountered as long as ground is left out of the semiotic equation. My own approach for further conceptual development departs from belief in independent objects.

A unity is assumed to exist between an object and what – if only inspiration – may be drawn from Peirce as being its ground. The next step is to abstain from belief in ground being a general quality, such as a Platonic idea. Instead, there may exist multiple grounds for an object.

Situation, then, is a better word. Indeed, I believe Peirce’s qualification of “some respect or capacity” connotes better with situation than with ground. An object appearing in whatever particular situation, then, is simultaneously similar and different from appearances elsewhere. This joint emphasis on similarities and differences underlies the formal integration of ground into my model of semiosis. I take a direct cue from Peirce by extending his triad.

I add the assumption that differences do not exclude similarities. From an integrative perspective they may very well complement each other, be compatible. But then of course the question is how differences and similarities are properly coordinated. Once again the answer lies in recognition of relative ground. Always seeing an object in a particular situation frees an object from having only a universal, absolute “respect or capacity.” On different grounds, that is, in varying situations, an object will show differences besides what an object’s similarity in all situations. Chapter 4 argues that for purposes of modeling it is optimal to keep at a minimum what an object is believed to have in common across situations.

When an object is by definition situational, a sign always pertains to the unit short of explicitly integrating ground into the dynamics of sign use, in general. 18. I use the concept of belief, of course, throughout in a Peircean sense.
of both a situation and an object, i.e., to their combination. Now a sign can only be attributed with these characteristics of referring to situational objects because the sign user experiences a corresponding difference through his interpretants. In fact, a wealth of research exists strongly suggesting that at least human cognition is largely based on the duality of foreground and background. Or as it is labeled in literature on cognitive psychology, on the duality of figure and, indeed, ground. P.H. LINDSAY and D.A. NORMAN, for example, observe that (1972, p 10)\(^1\)

- the tendency to attend to and organize selectively the data provided by sensory systems is a very general characteristic of all perceptual experiences. [What data are] extracted […] becomes figure. All other [data] in the environment become ground.

They add the Kantian argument that (p 13)

- it is difficult, if not impossible, to prevent the organization of information […] p 14] for the perceptual processes impose organization upon it.

So, without the one, the other cannot be experienced. Substitute object and situation for figure and ground, respectively, and the extension of PEIRCE’s semiotic is at once firmly connected to modern developments in cognitive psychology. The operative term is “connected.” And for my design I see no need to venture beyond the general concept of intelligence. It is, for example, irrelevant for this treatise whether an individual sign user ‘develops’ interpretants in/with his consciousness, unconsciousness, or both. Such categories are too finely grained for my purpose.\(^2\)

The model of triadic dynamics offers too little variety to account for situational objects. Or at least it should be read a sign covers a situational object rather than an independently existing, absolute object. And with an interpretant seen to distinguish between object and situation. That is precisely my hypothesis. I assume that PEIRCE’s original interpretant is composed of elements which correspond to the distinction made (sic!) between situation and object. In a triadic relationship, mediated by the sign, the interpretant is the counterpart of the object. Allowing for situation-as-ground, the b-interpretant, standing for (back)ground interpretant, is taken to mean the whole of world of separated, stable and identifiable objects and distinct events.” See also Indeterminacy and Intelligibility (1992) by B.J. MARTINE.

19. Human Information Processing (1972). See also Perception: From sense to object (1982) by J.M. WILDING who writes that (p 60) “the figure is seen as separated from the background […, the figure] is treated as a unity or whole and is the focus of attention.” Of special interest to this treatise is that WILDING views figure as corresponding to objects (p 21): “[O]ur experience is of a selected and organized

20. For intriguing speculations I refer to The Unconscious as Infinite Sets: an essay in bi-logic (1975) by I. MATTE BLANCO.
the situation. As the counterpart of object I propose the concept of figure or foreground interpretant. Of f-interpretant, for short. Without any dynamics shown, Figure 2.6.1 summarizes the elaboration from three to five concepts in semiosis. (Figure 2.6.1? Figure against ground? It is an illustration of multiplicity that the same term figure figures here engineered from different interests of the author, aiming at different observations by the reader.)

Figure 2.6.1.
Adding dual ground: from triad to pentad.

As a result of adding concepts, the dynamics of sign use are no longer characterized by a sequence of triads. Instead, sets of five are involved, that is, pentads. This extended model explains a correspondingly richer variety of semiosis. Still, I take the development inspired by Peirce’s ground a step further.

2.7 hexadic dynamics

The right-hand side of Figure 2.6.1 shows five elements. The logic of a sixth element is easy to recognize when changing the static perspective into a dynamic one. In a sequence of Peircean triads In precedes In. In its turn, the latter is followed by In, etcetera (see Figure 2.2.2, above). At this stage I merely require consistent application of the distinction made in the previous paragraph between foreground and background. So, instead of a single In there are f-In and b-In.

Figure 2.7.1 sketches how any two consecutive steps in the process of sign use are related. Of course, f-In and b-In together may be called an integrated interpretant when considering them as the result of a sign use step, and a sign when the next step starts. But, then, the move from two ingredients to one single ingredient remains to be accounted for.

Let the object be denoted by O, and the situation by E. Why E? Because S already stands for sign. And E for environment is close enough to situation.

In this way, for all n > 1, the hexad Hn consists of

\[ H_n = \{O, E, f-I_{n-1}, b-I_{n-1}, f-I_n, b-I_n\}. \]
With just S, the first pair of interpretants, f-I₁, b-I₁, is not determined through a hexad but a pentad, as follows:

\[ P₁ = \{O, E, S, f-I₁, b-I₁\}. \]

Is this irregularity inherent of the dynamics of sign use? Or should this starting pentad be converted into an hexad, too?

The obvious place to look for is *around* S, the original sign. Highlighting the regular nature of the sign use, the original sign might also be called a nil interpretant, or I₀. Still from a pentadic point of view, it stands to reason correlating S as nil interpretant with foreground. Thus, S equals f-I₀. But when a foreground variety exists in the world of original signs, where is the background equivalent? Is there a real use for a b-I₀? With sign as text in the widest possible sense, vice versa, it is only logical to view b-I₀ as context. When C stands for context defined this way, the starting pentad P₁ is eliminated in favor of a starting hexad, as follows:

\[ H₁ = \{O, E, S, C, f-I₁, b-I₁\}. \]

A static view of sign use, based on hexads, elaborates on the model shown at the right in Figure 2.6.1. The development into a hexad is shown in Figure 2.7.2.

Introducing context allows direct specification of the changing roles of f-Iₙ and b-Iₙ, respectively. Thus, the background and foreground interpretants resulting from one step constitute the context and sign for the next. Figure 2.7.1 is augmented accordingly, yielding Figure 2.7.3.
Hexad: every element of the original triad is grounded.

Figures 2.7.2, 2.7.3, 2.7.4.

I make both my extension and departure from PEIRCE even more explicit by sketching his original triad connected to another triad. The additional triad is composed of the elements that have all been developed here from his single ground. Figure 2.7.4 shows how a hexad results.
The semiotic hexad is already sufficient to corroborate another of Voloshinov’s – for whom the word figures as the quintessential sign – statements from *Marxism and the Philosophy of Language* (1929, pp 79-80):

The meaning of a word is determined entirely by its context. In fact, there are as many meanings of a word as there are contexts of its usage. At the same time, however, the word does not cease to be a single entity; it does not, so to speak, break apart into as many separate words as there are contexts of its usage.

Earlier in this chapter, I raised some questions about what Peirce exactly wants to say with the sentence (1897, p 99):

A sign […] is something which stands to somebody for something in some respect or capacity.

What does he want to condition by “in some respect or capacity”? Is he qualifying the object? Or the sign? Or the interpretant? The way his *ground* is developed here negates the mutual exclusion of such interpretations. Instead, every element of Peirce’s triad is given a characteristic ground: object in situational, sign in context, and foreground interpretant in background interpretant. His principle of a process of sign use is maintained but hexads, not triads, are involved in its dynamics. In the next chapter I apply the hexad for ontological design.

21. Van Heusden (1991, see note 17 in this chapter), though already going beyond Peirce, associates ground with just sign, leading him to redefine the original sign as a partial sign. Indeed, a text is always partial, requiring context to constitute a whole. In the same way, an object may be considered partial, too. A whole only exists when object is joined by situation. And also partial, then, is a f-interpretant that for wholeness needs a b-interpretant, vice versa.