

# Question-Answer Structures in Cognition

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## **Abstract**

Peirce's semeiotic was all about cognitive studies of the mind. His anthropomorphism states that the study of the structures of the world must go through the study of the structures of the mind shaped by experience. This was labelled much later as? Descriptive taphysics? What is the correct method of such an investigation? Peirce thought that all our knowledge-seeking activities must be conducted in terms of Socratic processes of questions and answers. The mind is a dialogical creatory of signs. Rather than? Putting questions to Nature?, the method of doing philosophy, that is pragmatism, is therefore? Putting questions to mind? In Peirce's proof of pragmatism, the crucial steps characterize abduction in terms of signs that give their objects as conclusive answers to questions. Questions are experiments on various ways of finding solutions in our thoughts. And logic is the theory of the inner nature of habits which cater for those solutions.

## 1.

From a certain point of view that I would like to attempt to characterize and defend in this paper, Charles Peirce's theory of semiotics, or *semeiotic* if you want, was all about, and not really too much more nor less, than the workings out of the details of what the proper 'cognitive studies' of the mind would look like; couched of course in his outlandishly original semiotic, philosophical, logical and methodological nomenclature.

My report is a condensed attempt to justify this assertion of a very close association, virtually that of an identification, of semiotics and the study of cognition, or cognitive science. (We might even coin and begin to promulgate a neo-Peircean study of a science of 'cognitics'.) My preliminary justification to this characterization of what Peirce's semiotics in the end amounts to is that we need to take seriously the kind of *anthropomorphism* Peirce tended to appeal to in defending his semiotic ideas.

His anthropomorphism states that any scientific study that is concerned with whatever structures and features *the world* has, is necessarily filtered through the study of the structures of *the mind* and which of course is then something heavily shaped by experience. This does not mean any simpleminded sentimental recourse to Kantian transcendentalism. For those, mostly perhaps philosophers, interested in the study of the basic constituency of the world—and I mean ones that do not draw too much from the discoveries of natural sciences as such—this sort of investigation was labelled as «descriptive metaphysics» by Peter Strawson in the 1950s. It soon became one of the hallmarks in contemporary metaphysics.

(Let me remark here at the outset that the contrasting viewpoint Strawson singled out was «revisionary metaphysics», which meant that the mind is taken to enjoy some direct and privileged access to reality in the sense of being capable of forming some kind of a 'picture' or a 'vision' of that reality that readily satisfies some criteria of what the world is to be like, such as aesthetic, artistic, intellectual, abstract, formal, or what have you.)

So in this anthropomorphic sense, which I believe is shot through Peirce's agenda, all semiotic studies are in actual fact cognitive studies, and all cognitive studies are, in turn, or at least should in actual fact be regarded as, studies in the field which is nowadays characterized by «descriptive» metaphysical topics. And let us also remember that this kind of descriptive metaphysics is not what Peirce meant by metaphysics as such, since his semiotics is the normative science of logic in the wide sense of the term. What Peirce meant by metaphysics is thus something else, namely a speculative study of the universe that draws from logic and phenomenology.

## 2.

Now what could the method of such a joint investigation of semiotics, cognitive sciences, and descriptive metaphysics be? Or perhaps the question could be phrased as follows: How do we gain *information* by which we look for the objects of signs that determine the signs' interpretants in the first place? This, I would like to emphasise, is the key question in semiotics, and I think all too often a neglected one as that. We cannot rest content with the idea that it

is somehow the theory of signs as such, whatever that is taken to be —maybe some kind of a classificational exercise of all kinds of signs— that provides the correct method for semiotics. No classification provides a method proper simpliciter. No, the entire point of the theory of signs and the allied notion of interpretational processes (which sometimes is termed *semiosis*), is to investigate the ways and possibilities in which signs give us *information* that will gear us up with the means to look for and find their objects. Signs are something «by knowing which we know something more».

My answer to the main methodological question that I would like to briefly go on to sketch here proceeds as follows. Peirce thought that all our knowledge-seeking activities are conducted in terms closely reminiscent of *Socratic processes of questions and answers*. That he really thought that the appropriate method of study in semiotics has to do with such a venerable ancient approach of questions and answers is justified by his often emphasized notion that the mind is a «creatory» of all signs. This is, Peirce maintains, the key function of the mind, to produce and create signs. This characterization comes from one of his late unpublished papers, where he writes that a mind is a «*sign-creatory* in connection with a reaction-machine» (MS 318: 18, 1907).

Now such a ‘creatory’ works by way of *dialogic processes*. Dialogic is indeed the other main character of Peirce’s understanding of cognition: There is always one aspect, phase or character of the mind that submits the signs (and by signs we should think of self-controlled thoughts and other intellectual concepts) to the contemplation of other, or next, aspect, phase or character of the mind, to be further interpreted and further submitted to the contemplation of yet another aspects or phases of the mind. Somehow, mind comes to be engaged in a constant dialogue with itself.

But here the whole point of the idea of having such creative interrogative and dialogical processes in place is nothing but a reflection of the age-old idea of the fundamental nature of the manner of scientific investigation, including both empirical and theoretical investigation, which can nicely be glossed as the inquirer’s activity of «putting questions to the source of information» (Hintikka 2007). The inquirer of course does that in hope of getting some answers from the source. Now the source is commonly thought to be Nature. However, the method of semiotics, or cognitive studies, or descriptive metaphysics —and all these terms really amount more or less to the same method— differs from this esteemed depiction in the sense that the principle source of information is not Nature but *Mind*. And so, the fundamental method of semiotics seems really to be very closely related to the method of study of what there is to be teased out from the notion of «putting questions to *mind*».

Now how on earth can we accomplish *that* sort of a study? What is the primary nature of such activities in which the mind, so to speak, interrogates itself or its own content? Let me try to tackle this question in the following manner. Recall that Peirce, in his later years, attempted several times to prove his method of *pragmaticism*. Pragmaticism was the general theory of the meaning of all intellectual concepts, signs, thoughts, and generalities. Now, in the reconstruction of his late proof of pragmaticism coming roughly from 1907, where the proof is laid out into open in semiotic terminology, there are two crucial steps towards the end of the proof. (I will not go into explaining the reconstruction of that lengthy proof itself here, I have done it elsewhere, see e.g. Pietarinen 2007, Pietarinen 2009; Pietarinen & Snellman 2006.)

These steps are intended to characterize the Peircean Grail of *Abduction*. In other words, the proof attempts to characterize abduction in terms of referring to such kinds of signs that give their objects as *conclusive answers* to right kinds of questions.

In the light of this approach, then, questions are certain kinds of *experiments*. Since they are placed on the source of information which is the mind, the fundamental nature of questions boils down to the idea of experimentation on various ways of finding solutions in our thoughts (because, remember, thoughts are signs created by the mind). So if this reasoning is indeed correct, then the entire notion of semiosis is nothing but a generalization of the old idea of a *controlled experiment*, which is not limited only to experimenting on Nature's nature but encompasses the mind, too.

### 3.

But at any rate, certain further questions are bound to arise here at this point. We all probably would like to ask now: precisely what are these ways of finding solutions or answers in our thought by putting questions to the mind? Furthermore, what is it that in fact counts as a *conclusive answer* to such a question?

Peirce's answer to the former seems to be: the ways of finding solutions in our thoughts are given by *habits*, as habits are general rules of acting and thinking in certain ways in certain kinds of situations. And habits, moreover, are certain generalities that are only partly connected with the world of experience and for their most part point out towards merely possible and hypothetical outcomes.

Well, this all seems fine and dandy, but what exactly are these habits taken to be? What is *their* real constituency? How, where and when do they emerge? I will not attempt any eloquent answer to this difficult question, and so my proposal is solely that we should continue to look for the answers where Peirce had left us off, namely to take the theory of the inner nature of habits to be *logic*, and continue the study of such logic along the lines indicated. The nature of habit cannot be answered only by studying of the nature of action, because actions are not real generals but singulars. It is, therefore, the theory of logic which seems to cater for those solutions that we attempt to find by our putting questions to the source of information, where that source is at the same time the factory that creates the signs whose objects we wish to determine as well as the source of answers that the inquirer wishes to glean from it by experimental and abductive means. And we should just add that what kind of logic reveals the true nature of habits is certainly not the commonplace deductive logic, but an ampliative, abductive one. We could, it seems to me, consider habits as *strategic* plans of actions in the sense of game theory (Pietarinen 2006).

Let me then say a little about the issue of *conclusive answers* in closing. What characterizes a good answer the essence of which is derived from the source of information is that such a source is somehow a *reliable* one. Now how do we assess that? Well, quite easily. What else could be a more reliable source than the one that has been the source of signs in the first place? The mind, mind you, is the originator, the «creatory» of all intellectual signs (thoughts). It is thus only natural, and not in any straightforward sense circular, that such a creatory

of signs is really the source of information we want to concentrate all our efforts on in our interrogative activities. For, those activities are precisely the efforts concerned with teasing out more information from the source, and according to which information the objects of the signs produced by the mind could eventually be hit upon with.

To put this point in a brief form, conclusive answers are those that are necessitated by the suitably arranged controlled and self-controlled experimentation that puts questions to the mind concerning the objects of signs.

Finally, what kinds of answers does the mind provide for in general? What is the end result of question-answer processes in cognition? According to pragmatism, the end is the formation of a stable habit, which is the ultimate meaning of the sign in question. At the same time, habits are used as strategic rules to choose between several alternatives. If the source truly is a reliable one, new stable habits will easily emerge to take place of final interpretants, and to do so in the time and space less than the ideal limit case of 'the long run'. For, a conclusive answer is the one that caters us with enough information to find out what the objects of the sign are. And whenever we gather enough information about the objects, the final interpretants are bound to arise. And whenever there are final interpretants, new habits are bound to emerge.

In summary, finding solutions to the question-answer experimentation taking place in our thoughts are given by the habits of thinking in a certain way in certain kinds of situations, and those solutions in turn give rise to new habits and habit-changing behaviour. This is how cognition appears to work in Peirce's semiotic theory.

#### 4.

Do not be afraid of becoming schizophrenic when you accept the idea of the basic methods of semiotics having to do with the notion of mind somehow interrogating mind. There is nothing wobbly and psychological, psychoanalytic, let alone psychosemiotic in that notion. It is not strictly speaking your mind that is interrogating exactly the same mental entity of yours. Mind is not a singular term in Peirce's theory. It has a communal and collective character. It associates with the notion of a person rather than with a singular agent, and what a person is «is not absolutely an individual». The notion of dialogue comes together with this temporally extended and future-oriented understanding of persons engaged in it rather than mental agents. The pronoun in the following sentence must be literally interpreted as referring to a *personal*, not singular, pronoun: «His thoughts are what he is 'saying to himself,' that is, is saying to that other self that is just coming into life in the flow of time» (CP 5.421, 1905, *What Pragmatism Is*). Persons live in alternative possible worlds as much as in this one actual, current world of ours.

What is the mechanism of mind to accomplish the task? Surely there is no undemanding natural or symbolic 'language of thought' behind the actions that can do the trick. I believe the best way of understanding how experimentation can be operationalised is through a comprehensive understanding of the nature of diagrammatic thinking, something which for example Stjernfelt (2007) has much to say about. The appropriate and expressive enough theory of

diagrams is nevertheless likely to be not a linguistic one anymore, even though some simpler formal diagrams (such as Peirce's existential graphs on the first-intentional level) can well be seen as alternative kinds of heterogeneous or non-symbolic (iconic) languages. More expressive diagrams are no longer *languages* at all.

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