C. S. Peirce’s theory of signs is inseparable from a theory of representation which radically differs from the traditional notions of representation. Semiotics is not strictly a theory of signs but a theory of semiosis, the analysis of how signs act. This action implies the interrelated concepts of mediation, representation, including the perceptual and interpretative processes.

Peirce’s complex and multifaceted theory of representation also includes a range of variations which go from genuine representation, to quasi representation, and to the limit of presentification. Furthermore, it includes not only the distinction between representation and reference but also between representation and interpretation.

Despite its complexity, representation is only one of the facets of a much broader and general concept of mediation. The key for the comprehension of all these notions is found in Peirce’s definitions and classifications of the sign as far as one does not take these classifications in a narrow sense, but as patterns which include all the ontological and epistemological aspects of the sign universe. This is a very special kind of universe which is fundamental to logic, to science, and also to language, communication, law, politics, religion, art etc. In fact, it is fundamental to the understanding of human thought, action, perception and emotion.

For some commentators, representation is a synonym of sign. This is less than half of the truth. Representation is only one of the facets of mediation whose other facet is determination. It is well known that Peirce’s semiotics is founded on phenomenology from which Peirce extracted three universal categories: firstness, secondness, and thirdness. In some passages of his writings Peirce stated that the simplest form of thirdness is found in the notion of the sign. The best known definition of the sign as “something that represents some other thing to somebody” was what Peirce called his “sop to Cerberus”, a simplification to make himself understood. However he knew that to retain the whole potentiality of the notion of sign it is necessary to consider its definition at a more abstract and general level.

The issue of this journal is dedicated to the discussion of the complexities of Peirce’s semiotics in order to extract from it its full pragmaticist consequences.

In his paper, Vincent Colapietro analyses the tensions in Peirce’s efforts to develop a theory of signs. One tension, for instance, is between the articulation of a truly general
theory and Peirce’s endeavor to deploy this general theory for a specific purpose, namely, to offer a normative account of objective inquiry. Another tension is between the need to formulate abstract definitions of the basic terms and the need to go beyond such definitions by offering pragmatic clarifications, that is, the tension between Peirce’s formal, taxonomic tendencies, on the one hand, and his pragmatic, ethical impulses, on the other. In pointing out a number of these tensions, Colapietro does not intend to claim that we are confronted with contradictions but with creative tensions. In reality, the intent of the author is to highlight some important respects in which one of Peirce’s most important contributions, his theory of signs, is an even more complex undertaking than many of his most penetrating interpreters have acknowledged thus far.

One of the consequences that can be inferred from this theory of signs is that it encompasses an account of the distinctive form of deliberate agency. This corresponds to the reflexive facet of the theory directed towards the overarching goal of intellectual self-control. In sum: an account of the pervasive form of semiosis must ultimately give way to a nuanced understanding of historical practices which range from experimental investigation to artistic innovation.

Winfried Nöth’s paper addresses the question of what Peirce has to say about representation and reference, two key concepts and topics of 20th century language philosophy. Nöth’s detailed study of Peirce’s writings reveals that representation, according to Peirce, is mostly a synonym or a quasi-synonym of the concept of "sign" in its broadest sense. The term reference, by contrast, is not a technical term of Peirce’s semiotic terminology at all. Nevertheless, what others have defined as reference and as the referent of a sign is not ignored in Peirce’s semiotics. Reference only partly corresponds to the way in which indexical signs represent their objects; according to Peirce, signs are not "used" to refer to their objects; they have a potential of their own to indicate what they represent. The referent of a sign roughly corresponds to Peirce’s "object of the sign", but in contrast to positivist theories of reference, according to which signs only have referents if they are signs of a concrete physical thing, Peirce’s semiotics postulates that all signs represent an object, more precisely, an immediate and a dynamical object. This latter differentiation of the object, alias referent of the sign, into two kinds of objects allows Peirce to extend the idea of reference, i.e., the way the sign represents its object, from concrete things to imaginary, fictional, or mythological objects.

Frederik Stjernfelt dedicates his paper “Signs Conveying Information” to Peirce’s notion of Dicisign. In Peirce’s semiotics, Dicisigns are a class of signs that are related to propositions since they claim something about something. These are signs that can convey information and should be of importance to semiotic studies of communicative signs. Dicisigns could also be of interest to logicians, since they compose Peirce’s theory of propositions.

However, semioticians do not show much interest on Dicisigns, which makes this subject still unclear. Despite the increase of research in Peirce’s semiotics, many studies on this issue adopt only the first and more famous trichotomy of signs, using just the terms icon, index and symbol. When the other trichotomies and classes of signs are ignored this gives rise to misunderstandings. Stjernfelt’s paper is a remarkable contribution to Peirce’s theory of signs because he considers the whole system of classes to describe the Dicisigns.

Among logicians, Frege is much more well-known and famous than Peirce due to his formal analysis of a proposition. There is not much research on Peirce’s notion of proposition and hence the differences between his notion, and the notion of proposition in logic and philosophy are not highlighted. Peirce’s and Frege’s views on the structure of a proposition agree in many points, but differ on where and how propositions occur. Fregean tradition tends to suppose that propositions are confined to linguistic. A Peircean view considers that propositions do not need to be expressed in
language; they can also be expressed, for instance, in gestures, pictures, and diagrams.

Contributing to an undeveloped area, Stjernfelt presents Dicisigns in detail, explaining their logical structure and then applying them to explain animal behavior. Selecting non-linguistic examples, the author follows Peirce’s proposal that Dicisigns are not confined to language and shows clearly how to analyze a non-linguistic proposition. Therefore, this paper is a contribution to both issues: it clarifies the Dicisign showing its importance to understanding how signs convey information and it stresses the most unique characteristic of Peirce’s notion of proposition.

The article “Self-Organization and Peirce’s Notions of Communication and Semiosis”, by Angelo Loula and Joao Queiroz, introduces semiosis as a meaning process. The next topic of the paper “Semiosis and self-organization” shows the coherence of self-organization as a process within systems, the idea that communication processes are self-organized in local interactions. The third topic exposes “Building self-organized semiotic system” in the context of ALife experiments, a virtual world of experimental simulation exploring the emergence of symbolic communication. The “Conclusion” is a summary of the ideas previously developed, focusing on the self-organizing dynamics of semiosis in a particular community of sign-users and a self-correcting process of associative learning by observation.

At the beginning, the authors stress the coherence of meaning processes as “complex emergent, self-organizing adaptative systems”, a hypothesis supported by many researchers. Next, they emphasize their own approach to Peirce’s semiosis as a process to be explored “theoretically and empirically” which brings various consequences to understand complex system simulation and modeling. On the one hand, the arguments of the article are based, theoretically, on Peirce’s concept of semiosis in connection with the theory of self-organization. On the other hand, the theory is empirically developed into the experimental project called “The Symbolic Creatures Simulation”, in the context of ALife experiments.

For the authors self-organization is compatible with Peirce’s theory of a communication model which includes a habit changing process. They explore the implications of semiosis as a pattern which emerges through the cooperation among agents in a communication act. Peirce’s idea of process is fundamental to developing the idea of a systemic process which can be understood as a symbol-based communication emerging as a global interaction. That general principle allows them to investigate the epistemological approach of self-organizing dynamics of communication through local interactions.

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