"Matter as effete mind": Peirce's synechistic ideas on the semiotic threshold

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Abstract. Following Peirce's broad concept of semiosis as a foundation of a field of study, the semiotics of physical nature, it is argued that we have to explore the interconnections of Peirce's semiotics with metaphysics. These interconnections will be analyzed in five steps: (1) Peirce's radical antidualism and evolutionism, implied in his synechistic ideas, (2) Peirce's semiotic statement that "all this universe is perfused with signs if it is not composed exclusively of signs" (CP 5.448, n.1), (3) Peirce's bold statement that "matter is effete mind, inveterate habits becoming physical laws" (CP 6.24), (4) his theory of final causation, which can only be properly understood in the light of semiosis, (5) his metaphysics and his methodeutics in relation to semiotics. The laws of nature are discovered by abductive inference revealing an affinity between the human mind and the designs of nature. Hence, the formal laws of thought are not simply laws of our minds but laws of the intelligibility of things.

1. Introduction

Coined by Umberto Eco (1968), the metaphor of the semiotic threshold has been used to designate the boundaries of the research field of semiotics (Nöth 2000). For those who have accompanied the historical development of explicit semiotic studies from the 1950s to the present it is evident that these studies have undergone a continuous and gradual lowering of the semiotic threshold.

Under the influence of structuralism, semiotics first expanded to the domain of literary studies, especially to the semiotics of narratives, poetry, and discourse in general. From verbal discourse, text semiotics

then expanded to visual signs in films, paintings, mass communication, or fashion, and then to the domain of culture in general. From there, the expansion of the semiotic field went beyond the realm of human culture to the area of zoosemiotics. The ensuing insight that semiosis begins with life led to the development of the broad interdiscipline of biosemiotics, which gave rise to the semiotic study of a variety of sign processes such as microsemiosis, endosemiosis, mycosemiosis, phytosemiosis, and more recently ecosemiosis (Nöth 1998). Besides all these domains of the organic, with the development of computers and digital culture, the domain of nonliving systems from machines and computers to artificial intelligence and artificial life constituted a new challenge to semiotic research.

The most recent and still rather unexplored threshold of semiotics is the one of physicosemiosis. As far as I know, one of the first semioticians to call attention to this threshold was John Deely (1990). Referring to the new and startling vision that T. A. Sebeok has entertained since the 1960s about the convergence of the science of linguistics with the science of genetics, Deely stated that

> while Sebeok considerably propelled contemporary semiotics beyond the boundaries of a glottocentrically conceived anthroposemiosis and in the direction of considering sign processes as at work throughout the biological world, it still provided no ground for a notion of physiosemiosis, for seeing the action proper to the signs as already at work in the physical nature itself beyond the bounds of organic matter or prior to its advent. — To provide this further ground and to establish the Peircean broad conception of semiotics, therefore, would be the same thing. This other decisive step, taken together with the Peircean one of bringing the action along with the being of signs into thematic focus, is what is required to establish the full possibilities of a doctrine of signs. (Deely 1990: 86)

Since then, a new field of protosemiosis has emerged having as its object of study the precursors of semiosis in the inanimate world (cf. Nöth 2001a, 2001b). In this context, and following Deely's suggestions towards establishing Peirce's broad conception of semiotics as a foundation of the new semiotic territory of physiosemiosis, my argument is that for the development of this new domain, we have to explore the interconnections of Peirce's semiotics with his metaphysics. These interconnections should be analyzed in five steps:

(1) Peirce's radical antidualism and evolutionism, implied in his synechistic ideas, have to be taken to its ultimate consequences. According to these ideas, there is no separation or division, but there are only differences of degree between nature and culture,

between the organic and the inorganic, the psychical and the physical, the natural and the artificial.

(2) Peirce's disturbing semiotic statement that "all this universe is perfused with signs if it is not composed exclusively of signs" (CP 5.448, n.1) can only be properly understood in the light of synechism.

(3) Peirce's even more disturbing statement that "matter is effete mind, inveterate habits becoming physical laws" (CP 6.24) can only be properly understood in the light of his broad concept of mind and in the context of his theory of final causation.

(4) Final causation can only be properly understood in the light of semiosis. It is in Peirce's classification of signs, from quasi-signs to genuine signs, that we can find the basis of the analysis of the different degrees of semiosis ranging from the inorganic to the organic, from the physical to the psychical, from protosemiosis to the most developed form of semiosis, namely, the self-control that human reason can exercise over thought and conduct.

(5) Metaphysics and semiotics will appear even more deeply connected when we consider that Peirce's emphasis on continuity was vital to his evolutionary logic and pragmatism. His methodeutics, the liveliest branch of semiotics (cf. Santaella-Braga 1999a), highlights the scientific method as the prototype of final causation. The laws of nature are discovered by abductive inference revealing an affinity between the human mind and the designs of nature. Hence, the formal laws of thought are not simply laws of our minds but laws of the intelligibility of things.

These five steps are my working hypotheses for the development of a physicosemiosis based on Peirce. As this development is a task that will take some time to be accomplished in its whole, the present paper will be restricted to the discussion of the first step only.

2. Peirce's radical antidualistic metaphysics

Peirce's notion of synechism appears in his paper "The Law of Mind", which was included in the 1890–93 Monist series (CP 6.102–6.163). *Synechism*, a Greek coinage that contains the concept 'continuity', is the complementary opposite of *tychism*, another Greek word that contains the meaning of 'chance'. Esposito (1973: 63) says that in later

life, Peirce came to believe he had outlined a philosophical system that could serve as a matrix for his entire thought. The name he gave to that metaphysical system was synechism (CP 6.202). In a letter to William James, on November 25, 1902, when Peirce spoke of his "completely developed system, which all hangs together and cannot receive any proper presentation in fragments, he went on to describe synechism as the keystone of the arch" (CP 8.255–257; Potter & Shields 1977: 20).

Metaphysics is the first science in Peirce's architectonic classification of the sciences. It inquires into the nature of the objective world rather than into the structure of thought as his semiotics does. This means that there is a difference between thought and the world (Parker 1994: 52). Peirce's synechism, as we shall see, rejects this difference as being one of kind, but considers it instead as a difference only of degree.

Besides the development of his synechistic ideas, Peirce also gave ample thought to tychism or absolute chance. This latter was proposed because Peirce considered mechanistic and deterministic explanation insufficient in the light of his doctrine of categories. Despite its importance, tychism could not be taken as central to his metaphysics, since this centrality was due to synechism. That is why Peirce objected at having his metaphysical system as a whole called tychism. He explained that

> I object to having my metaphysical system as a whole called Tychism. For although tychism does enter into it, it only enters as subsidiary to that which is really, as I regard it, the characteristic of my doctrine, namely, that I chiefly insist upon continuity, or Thirdness, and, in order to secure to thirdness its really commanding function, I find it indispensable fully [to] recognize that it is a third, and that Firstness, or chance, and Secondness, or Brute reaction, are other elements, without the independence of which Thirdness would not have anything upon which to operate. Accordingly I like to call my theory Synechism, because it rests on the study of continuity. I would not object to Tritism. And if anybody can prove that it is *trite*, that would delight me [in] the chiefest degree. (CP 6.202)

Synechism is defined as "that tendency of philosophical thought which insists upon the idea of continuity as of prime importance in philosophy". Continuum, in its turn, is defined as "something whose possibilities of determination no multitude of individuals can exhaust" (CP 6.169–170; cf. Noble 1989; Myrvold 1995). A rudimentary form of continuity is generality, since continuity is nothing but perfect generality of a law of relationship (CP 6.172).

Peirce frequently remarked that his pragmatism was intimately related to synechism, that is, his version of pragmatism leads to synechism in the sense that synechism includes pragmatism as a step. That is why Peirce emphasized the methodological aspect of synechism when he stated that synechism is not "an ultimate and absolute metaphysical doctrine", but like the pragmatic maxim itself "is a regulative principle of logic" (CP 6.173). While this maxim deals with the meaning of concepts, the synechistic principle prescribes "what sort of hypothesis is fit to be entertained and examined" (CP 6.173; Potter 1997: 71–72).

Despite the relevance of the methodological aspect of synechism and despite Peirce's statement that synechism is not an ultimate metaphysical doctrine, the principle of continuity envolves other aspects which are no less relevant. These are the ontological and the metaphysical aspects of synechism. For the purposes of this paper the ontological and metaphysical aspects are the ones I have chosen as the privileged path into synechism, leaving the methodological aspect to be discussed in the fifth step of my argument.

3.The ontology and metaphysics of synechism

In "The Doctrine of Necessity Examined" (CP 6.35–6.65, 1892), Peirce rejected the universality of the uniformity of nature and its consequent mechanism. According to Cosculluela (1992: 743), Peirce was against the suggestion that the observation of nature proves that determinism is true and claimed that observation merely shows that there is an element of uniformity in nature; it does not show that such regularity is "exact and universal" (CP 6.46, 1.55). "No observation or set of observations which human beings are physically capable of making can prove that every fact is precisely determined by law" (Cosculluela 1992: 743). In sum: facts do not conform precisely and uniformly to law.

Peirce did not deny that there are laws in nature. On the contrary, he asserted that laws of nature are real generals which means that there is an element of regularity in nature. The regularity of the laws, however, is constantly being violated to some degree (CP 6.59, 6.588). Peirce's tychism results from the imperfect regularity of nature provoked by the "infinitesimal departures from law" with which nature is literally infected. The more precise our observations become,

the more likely it is that we shall encounter facts which seem to depart from laws (CP 6.46). This is a proof that chance is an objective feature of nature.

Hookway (1997: 18–21) remarks that, since 1884, in his "Design and Chance" (W4: 544–554), Peirce was aware of the sporadic violation of the laws of nature in some infinitesimal degree. Noticing that chance is governed by the laws of the probability calculus, he argued that chance "has the property of being able to produce uniformities far more strict than those from which it works" (W4: 551). From the indication that certain laws of nature are "statistical facts", Peirce concluded that all known laws are statistical facts, although some laws are so well established that the deviations they do undergo are so rare and minute as to be unnoticed. Peirce's further step, which was taken in a supplement to "Design and Chance" (W4: 553), was to propose that the laws of physics may be "habits gradually acquired by systems". This anthropomorphic suggestion of habits of nature as an analogue of the processes whereby human beings acquire habits of conduct was not new, since it had already been endorsed in Peirce's manuscript "Methods of Reasoning" of 1881 (cf. Hookway 1997: 20).

From 1884 on, habits of nature became the central concept in Peirce's synechism at the same time that he became a defender of the relevance of anthropomorphic concepts in philosophy. "In fact, habits, from the mode of their formation necessarily consist in the permanence of some relation, and, therefore [...] each law of nature would consist in some permanence, such as the permanence of mass, momentum, and energy. In this respect, the theory suits the facts admirably" (W6: 210).

Hence, Peirce's insistence on the importance of absolute chance was appropriately counterbalanced by the role that habits perform in nature. In 1886, in a manuscript entitled "One, Two, Three: Kantian Categories", nature's tendency to take habits was clearly postulated:

> We must [...] suppose an element of absolute chance, sporting, spontaneity, originality, freedom in nature. We must further suppose that this element in the ages of the past was indefinitely more prominent than now, and that the present almost exact conformity to law is something that has been gradually brought about [...]. If the universe is thus progressing from a state of all but pure chance to a state of all but complete determination by law, we must suppose that there is an original elemental tendency of things to acquire determinate properties, to take habits. This is the third or mediating element between chance which brings forth First and original events, and law which produces sequences of Seconds. [T]his tendency must itself have been gradually evolved; and it would evidently tend to strengthen itself. (W5: 293)

In 1887, three years later, in his "A Guess at the Riddle" (W6: 166–210), "habit taking" did not "introduce something which is categorially distinct from law. This tendency is itself a law which explains the evolution of laws, including itself" (Hookway 1997: 20). At this point, Peirce could find his explanation for the evolutionary character of all laws, a character that comes from their being subject to growth and change.

> The tendency to obey laws has always been and will always be growing. [...] Moreover, all things have a tendency to take habits. [...] This tendency itself constitutes a regularity and is continually on the increase. In looking back into the past we are looking towards periods when it was a less and less decided tendency. But its own essential nature is to grow. It is a generalizing tendency; it causes actions in the future to follow some generalization of past actions; and this tendency is something capable of similar generalization; and thus it is self-generative. We have therefore only to suppose the smallest spur of it in the past, and that germ would have been bound to develop into a mighty and over-ruling principle, until it supersedes itself by strengthening habits into absolute laws regulating the action of all things in every respect in the indefinite future. According to this, three elements are active in the world, first, chance; second, law; and third, habit-taking. Such is our guess at the secret of the sphinx. (W6: 208)

This guess suggests that habit-taking or continuity, thirdness, is the bridge, that is, the mediation between possibility or chance, i.e., firstness and actuality or operative law, i.e., secondness. Peirce's categories should be understood here as categories of relation and modality rather than of substance and quality. They are neither limited within the mode of being of possibility alone nor within the mode of an individual thing or actual fact alone. According to synechism, there is nothing about actuality that just *is*. On the one hand, actuality always retains an element of arbitrary chance, an element of sporting which disposes it to be something other than what it is (Wells 1996: 233). On the other hand, the law of habit prescribes that actual events can not escape the governance of laws. However, the regularity of the laws are constantly being violated to some infinitesimal degree by the element of arbitrary chance. Hence, "in a dialectic of becoming, actual fact or existence, secondness, is only partially real; its destiny lies within the wider context of Thirdness" (Esposito 1973: 67). A thoroughgoing synechistic evolutionism implies that nothing escapes the guiding hand of habit-taking or thirdness.

In the light of synechism, thirdness means continuity, that is, relational thirdness (CP 6.190), which implies the interrelation of the three

categories and their coexistence within thirdness. Thus, continuity should not be understood as generalization fully spread out or taken to the limit of generalization. Continuity is rather a dispositional state that infinitely tends toward such spreading out (Wells 1996: 234). This is possible because continuity encapsules the principle of discontinuity, since the originality of chance may violate the conformity of an event to the strict guidance of the law. That is why laws are approximations which retain a dispositional propensity for habit taking or continuity.

For Peirce, a system of philosophy must be able to account for the following distinctive traits of the observable universe: (a) growth and developing complexity; (b) variety; (c) regularity, i.e., laws of nature; (d) consciousness or feeling (CP 6.613,; Reynolds 1996: 404). His synechistic idea of habits of nature as a complementary opposite to chance, as we have seen, enabled him to account for the first three of these demands: growth, variety, and laws of nature. Although a better clarification of these issues implies the discussion of Peirce's concepts of efficient and final causation, I will not face this discussion now so that we can go straight to the forth issue, the existence of consciousness or feeling in the universe. Peirce vehemently rejected any dualistic separation of consciousness and matter since this would betray his synechism which prescribed a thoroughgoing evolutionism and, consequently, a radical antidualism. To suppose that dead matter was capable of feeling was a rather improbable hypothesis. How could Peirce find a route out of this dilemma?

Given a choice between Cartesian dualism and some variety of monism, philosophy must adopt the latter according to Peirce. There are three possible directions in which monism can be developed: (a) neutralism, which takes physical and psychical laws as independent of each other and stemming from some third *Urstoff*; (b) materialism, which takes the psychical laws to be derived from the physical, and (c) idealism, which take the physical as derived from the psychical. Occam's razor guided Peirce against neutralism. The first principle of scientific thought, that is, do not resort to the ultimate and inexplicable as an explanation, guided him against materialism. Objective idealism is the only rational alternative: "matter is effete mind" (CP 6.24; Potter 1997: 133). If "matter is effete mind", and physical laws are derived from psychical, there is only one kind of stuff in the universe and that is mind, the great law of the universe is that of mind. What is the law of mind?

> Logical analysis applied to mental phenomena shows that there is but one law of mind, namely, that ideas tend to spread continuously and to affect certain others which stand to them in a peculiar relation of affectibility. In this spreading they lose intensity, and specially the power of affecting others, but gain generality and become welded with other ideas. (CP 6.104)

This is the tendency to generalize and to form associations which is also the tendency to form habits, itself a habit (CP 6.612).

> But no mental action seems to be necessary or invariable in its character. In whatever manner the mind has reacted under a given sensation, in that manner it is more likely to react again: were this, however, an absolute necessity, habits would become wooden and ineradicable and, no room being left for the formation of new habits, intellectual life would come to a speedy close. Thus the uncertainty of the mental law is no mere defect of it, but on the contrary its essence. (CP 6.148).

At this point, the law of mind appears as the prototypical dispositional state of continuity or thirdness, a kind of law that is proper of final causation. Leaving the discussion of final causation to the fourth step of my argument, let me now clarify the relation between mind and matter.

4. Mind and matter

What Peirce found out in nature and in thought is a general tendency of possibilities or chance events to turn into sequences of events that coalesce by taking habits (W6: 209–210). This is relational generality from which dynamism and growth generate. The prototype of this tendency is in the human mind, in the way ideas are associated in our minds which is analogous to the probabilistic laws of nature (Hulswit 2000: 7).

With chance, Peirce introduced rudimentary consciousness in nature. "Wherever chance-spontaneity is found, there in the same proportion feeling exists. In fact, chance is but the outward aspect of that which within itself is feeling" (CP 6.265). With the extension of the notion of habit-taking down to the world of chemistry and physics, down to the world of physical laws, Peirce accomplished to develop his evolutionism. Synechism amounts to the denial of an absolute separation of mind from world. Mind and matter are *termini* of a single *continuum*, and so are the organic and the inorganic, the artificial and the natural, culture and nature. This expresses Peirce's radical

antidualism. Hence, his monism on mind or objective idealism is not just an inversion of the physicalist conception of mind according to which mental states are simply physical states. What Peirce asserted is that all of reality, in an infinite series of differentiations, is governed by the law of mind (see Santaella Braga 1999b). He did not mean that matter has the substance of mind, neither "substance" in the old sense of a thing nor in the modern chemical sense. In sum: "The truth is, the mind is not subject to "law" in the same rigid sense that matter is. It only experiences gentle forces which merely render it more likely to act in a given way than otherwise would. There always remains a certain amount of arbitrary spontaneity in its action, without which it would be dead" (CP 6.148).

In contrast, what we call matter is merely mind so hidebound with habit (so regular) that it ceases to exhibit the same behavior of spontaneity and feeling which is so abundant in mind (CP 6.25; Reynolds 1996: 405–406). While mind is anarchic, matter is law-abiding. Synechism bridges the gap between matter and mind because when we suppose "matter to be but mind under the slavery of inveterate habits", the law of mind still applies to it. According to that law, consciousness subsides as habit becomes established, and is excited again at the breaking up of habit. But the highest quality of mind involves a great readiness to take habits, and a great readiness to lose them; and this implies a degree of feeling neither very intense nor very feeble" (CP 6.613). In sum: matter is mind

> whose habits have become fixed so as to lose the power of forming them while mind is to be regarded as a chemical genus of extreme complexity and instability. It has acquired in a remarkable degree a habit of taking and laying aside habits. The fundamental divergences from law must here be most extraordinarily high, although probably very far indeed from attaining any directly observable magnitude. But their effect is to cause the laws of mind to be themselves of so fluid a character as to simulate divergences from law. (CP 6.101, g)

Matter, on the other hand, "is not completely dead, but is merely mind hidebound with habits. It still retains the element of diversification; and in that diversification there is life" (CP 6.158). From this presence of mind in matter and vice versa, Peirce inferred the direct and indirect connections between matter and mind, between the physical and psychical aspects of matter and the reaction between mind and matter (see CP 6.268, 6.277). As it attributes to mind, one of the properties of matter, extension, and attributes to all matter, "a certain low degree of feeling together with a certain power of taking habits", Peirce's hy-

pothesis may be called materialistic. However, it differs from materialism because it does not suppose mind to be guided by blind mechanical law. Instead, it supposes "the one original law to be the recognized law of mind, the law of association, of which the laws of matter are regarded as mere special results" (CP 6.277).

In the light of synechism, human mind and physical matter are only the two extremes of a very subtle and complex range of differentiations in the continuous time-arrow that constitutes nature. Peirce took the time's arrow principles of mind as paradigmatic of any evolutionary process be it in mind or in nature. What he sought was a definition of an irreversible process which was sufficiently abstract to take in both the mental and the physical. Thus, mind has to be understood in a very broad sense (Santaella-Braga 1994). In the metaphysical context of synechism it is synonymous with continuity, in the logical context of semiotics, it is synonymous with semiosis. Mind is continuity and semiosis.

I have only discussed above the first step of my argument. This step is meant to function as a ground for the development of a physiosemiotics. Hence it is foundational for the discussion to be developed in the other four steps. However, these steps are a long task that will be left for the future. To conclude this paper, I will limit myself to advance a few remarks about the ideas to be developed.

In nature, secondness is law and thirdness is tendentiality to acquire new habits. That there is no pure or absolute secondness or brute reality in nature and in thought has to be stressed since this conclusion is of the highest importance for bio- and ecosemiotics and to understand why "all the universe is, in fact, perfused with signs if it is not composed exclusively of signs". For most Peircean semioticians this statement is a puzzling embarrassment as much as "matter effete mind" embarrasses metaphysicians. When, under the label of the dynamic object, semioticians claim for a non-semiotic realm to preserve the explanatory power of the concept of the sign, when they claim for an independent world of dyadic existence, semioticians are not only unaware of Peirce's synechism but they are also being loyal to their ingrained Cartesian soul.

As to the embarrassment with the statement that "matter is effete mind", if we conceive of mind as some mysterious ghostly substance lurking behind natural processes, matter as effete mind is, indeed, a most bewildering assertion.

As to the methodological aspect of synechism, it is worth advancing the idea that without a scientific metaphysics semiotics lacks a

theory of the external world and of cosmic evolution. This lack has led semioticians to consider the dynamic object of human semiosis as a brute, formless reality external to our sense-perception. This is a serious mistake that comes from the ignorance that nature has a semiosis of its own to which human semiosis is connected through the thread of continuity and affinity. The process of nature and the process of thought are alike (Hookway 1997: 20). "There is in the being of things something which corresponds to the process of reasoning, that the world lives and moves, and has its being, in a logic of events" (NEM 4: 343–5).

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"Материя как истощенный разум": синехистические идеи Пирса о семиотическом пороге

Принимая за основу исследования семиотики физической природы широкое пирсовское понимание семиозиса, автор статьи обосновывает необходимость изучения взаимосвязей пирсовской семиотики с метафизикой. Анализ этих взаимосвязей делится на пять этапов: 1) глубокий антидуализм и эволюционизм Пирса, который содержится в его синехистических идеях, 2) семиотическое утверждение Пирса, что "вся

вселеннная пропитана знаками или даже состоит целиком из знаков" (CP 5.448, n.1), 3) смелое утверждение Пирса о том, что "материя является истощенным разумом, закосневшими привычками, ставшими законами физики" (CP. 6. 24), 4) его теория о конечной причинности, которую можно правильно понять только в свете семиозиса, 5) его метафизика и методевтика в связи с семиотикой. Законы природы открыты посредством абдуктивных выводов, обнаруживших соответствие между человеческим разумом и оформлением природы. Таким образом, формальные законы мышления являются не просто законами разума, но и законами интеллигибельности вещей.

"Mateeria kui (välja)kurnatud mõte": Peirce'i sünekistlikud vaated semiootilise läve kohta

Järgides Peirce'i avarat semioosise kontseptsiooni füüsilise looduse semiootika uurimise alusena, sedastatakse vajadus uurida Peirce'i semiootika seoseid metafüüsikaga. Neid suhteid analüüsitakse viies järgus: (1) Peirce'i sügav antidualism ja evolutsionism sisalduvana tema sünekistilistes ideedes, (2) Peirce'i semiootiline väide, et "kogu universum on märkidest läbiimbunud, kui ta just puhtalt märkidest ei koosnegi" (CP 5.448, n.1), (3) Peirce'i julge avaldus, et "mateeria on (välja)kurnatud mõte, panetunud harjumused, millest on saanud füüsikaseadused" (CP. 6. 24), (4) tema teooria lõplikust põhjuslikkusest, mida on võimalik õigesti mõista ainult semioosise valguses, (5) tema metafüüsika ja metodeutika seoses semiootikaga. Loodusseadused on avastatud abduktiivse järeldamise abil, paljastades vastavuse inimvaimu ja looduse kuju(nduse) vahel. Seega ei ole mõtlemise formaalsed seadused mitte üksnes vaimu seadused, vaid ka asjade mõistetavuse seadused.