

Metaphor and Cognition from a Peircean Perspective

bent sørensen
torkild thellesfen
morten moth



Thought is not necessarily connected with a brain. It appears in the work of bees, of crystals, and throughout the purely physical world; and one can no more deny that it is really there, than that the colors, the shapes, etc., of objects are really there. Consistently adhere to that unwarrantable denial, and you will be driven to some form of idealistic nominalism akin to Fichte's. Not only is thought in the organic world, but it develops there.

—C. S. Peirce, "Prolegomena to an Apology for Pragmatism". (CP 4.551, 1906)

Abstract

C. S. Peirce had no theory of metaphor and provided only few remarks concerning the trope. Yet, some of these remarks seem to suggest that Peirce saw metaphor as fundamental to consciousness and thought. In this article we sketch a possible connection between metaphor and cognition; we understand Peircean metaphor as rooted in abduction; it is part of an intricate relation between experience, body, sign and guessing instinct as a semeiotic mechanism which can convey new insights.

Keywords: C. S. Peirce, Metaphor, Hypoicon, Cognition. Abduction.

Introduction

In his lucid article, "Peirce and the Interaction View of Metaphor" (1993), Carl R. Hausman remarks the following: "Peirce had no theory of metaphor, and provided only a few explicit remarks about the topic" (:195). This point is indeed hard to dismiss (cf. Anderson 1984: 453–54, Haley 1988: 143). Only a few and short comments on the subject of metaphor can be found in

The Collected Papers (1931–58). If we investigate Peirce's unpublished manuscripts, the picture remains the same. Peirce did not consider metaphor of much interest. However, in "The Basis of Pragmaticism in the Normative Sciences" (c. 1906), where Peirce, amongst other subjects, touches upon philosophical concept formation, we nevertheless find the following interesting statement:

Metaphysics has been said contemptuously to be a fabric of metaphors. But not only metaphysics, but logical and phaneroscopical concepts need to be clothed in such garments. *For a pure idea without metaphor or other significant clothing is an onion without a peel.* (EP 2: 392)

Does Peirce not ascribe to metaphor a conceptual status here, even though by way of a vegetative analogy? Maybe, to Peirce, metaphor is an important mechanism, which is central to our minds—to how we think, reason and speak? Michael C. Haley does not seem to have any doubts. In his article, "Metaphor, Mind, and Space: What Peirce can offer Lakoff," he points out that Peircean metaphor should not be understood as:

an exclusively 'literary' or even linguistic phenomenon, but is instead a fundamentally conceptual or cognitive mechanism. . . . Metaphor goes beyond human language. . . . in expressing and embodying relationships that are fundamental to human thought and consciousness. (1999: 422)

Haley emphasizes that metaphor, according to Peirce, is an essentially conceptual rather than a propositional or rhetorical phenomenon (Haley refers to CP: 7.590). It is to be regarded as a central relation, which takes place within and penetrates mind and reasoning. Of course, the intriguing question is how? Let us try to close in on a tentative answer by directing attention to some pheno-semeiotic and evolutionary traits of metaphor.

This article has the following order. Firstly, we will posit general comments on cognition according to Peirce, primarily focussing on reasoning qua signs and how meaning is phenomenologically rooted. Secondly, we will comment on metaphor as an evolutionary conditioned hypo-icon; a sign relation, which embodies an abductive parallelism capable of creating new cognitions.

General comments on cognition according to Peirce

As a start, it may be useful to state some general comments regarding cognition according to Peirce, which can then function as the foundation for our investigation.

In the article “Questions Concerning Certain Faculties Claimed for Man” (1868), Peirce asked whether cognition presupposed prior cognition or whether it directly and immediately conforms to an object. If the latter is the case, we have a capacity for intuition. However, this is not the case as Peirce wrote:

There is no evidence that we have this faculty, except that we seem to *feel* that we have it. But the weight of that testimony depends entirely on our being supposed to have the power of distinguishing in this feeling whether the feeling be the result of education, old associations, etc., or whether it is an intuitive cognition; or, in other words, it depends on presupposing the very matter testified to. Is this feeling infallible? And is this judgment concerning it infallible and so on, *ad infinitum*? (CP: 5.214)

Although Peirce granted that we can possess a feeling of intuitive cognition, this feeling cannot be used as evidence for the existence of intuition, because what has to be proven becomes presupposed. And if we try to give reasons for the feeling of intuition, the question arises whether this feeling is to be understood as an infallible intuition and whether the statement on the subject is in itself an infallible intuition?

Following this logic (which is a scandal of reasoning) we either end in a circular argument or in an infinite regress. Regarding the claim for intuitive cognition, Peirce wrote in “Some Consequences of Four Incapacities” (1868):

every cognition is determined logically by previous cognitions . . . there is no absolutely first cognition of any object, but cognition arises by a continuous process. We must begin, then, with a process of cognition. (CP: 5.265–67)

However, if cognition presupposes prior cognition, and if cognition does not have an absolute starting point, it seems that Peirce himself becomes wrapped up in an infinite regress? However, this is not the case because, as he stressed in “Grounds of Validity of the Laws of Logic” (1868):

it does not follow that because there has been no first in a series, therefore that series has had no beginning in time; for the series may be continuous. . . and may have begun gradually. (CP: 5.327)

Thus, Peirce aims at the infiniteness of a continuum; a continuum does not—despite being limited in space and time—divide into smallest parts. Cognition is a process and the process is continuous despite that cognition presupposes prior cognition. Further, even though cognition does not have an absolute starting point, a first cognition—so to speak, it

does have a beginning. If we return to “Questions Concerning Certain Faculties Claimed for Man”, we find an image, which may shed some light on the subject. In (CP: 5.263), Peirce imagines a triangle, whose apex is submerged at a certain depth beneath water. This point stands for an object; which is the object of cognition but which is independent of the mind. The triangle, before it hits the surface of the water, stands for a cognition, which does not determine a later cognition, while the horizontal line being created as the triangle is lowered into the water stands for a cognition in actu. Between the point of the triangle and the actual waterline, an infinite row of waterlines can be localized; these stand for the line of prior cognitions that determine the present cognition. Logically, the present cognition depends on prior cognitions, since the prior cognitions constitute the foundation upon which the present cognition is inferred. Between the point of the triangle and the present cognition, we find an infinite row of potential waterlines, cognitions; but this does not mean that the point of the triangle is infinitely submerged beneath the surface of the water.

If cognition is a continuous process, the following question arises: what causes this process? Peirce’s answer was that the process of cognition is a sign process. According to Peirce, we have no ability to think without signs. Once again in “Questions Concerning Certain Faculties Claimed for Man” he argued for this in the following way:

If we seek the light of external facts, the only cases of thought which we can find are of thought in signs. Plainly, no other thought can be evidenced by external facts. But we have seen that only by external facts can thought be known at all. The only thought, then, which can possibly be cognized is thought in signs. But thought which cannot be cognized does not exist. All thought, therefore, must necessarily be in signs. (CP: 5.251)

Thus, reasoning can only be localized by aid of external facts—the object of reasoning is external facts. The external facts are mediated by signs—consequently, thought must depend on signs. What argument can stand against this? The moment the claim of a non-sign mediated thought is proposed, this claim must necessarily be proposed by aid of signs. Thus, the claim is self-refutable (cf. Skagestad 1978: 48–49). If we cannot think without signs, problems of cognition must be semeiotic problems. According to Peirce, a sign is “. . . something by knowing which we know something more” (CP: 8.332). In the following manuscript dating from 1873 entitled “On Representations”, Peirce once again touched upon our lack of ability to reason without signs:

since an idea consists only in what is thought at a particular moment it is only what it is thought to be at the moment it is thought . . .
Thus, the idea of one moment is in no way the same as or similar to

the idea of another moment . . . The same idea cannot therefore be said to exist in different moments, but each idea must be strictly momentary. [. . .] Thus an idea is in the strictest sense a representation and the statement that it is necessary that a representation should excite an idea in the mind different from its own idea is reduced to the statement that a representation is something which produces another representation of the same object and in this second or interpreting representation the 1st representation is represented as representing a certain object. This 2nd representation must itself have an interpreting representation and so on ad infinitum. . . (W3: 63–64)

Ascribing existence to a thought, this can only happen provided that the thought stands for something else (is a sign for this else), which is the object of the sign and only when the first mentioned representation is being represented by yet another thought, which interprets it. Thus, reasoning involves a triadic relation, a sign relation, and the function of the sign in a process of cognition depends on its qualities, its structure. Put in a more precise semeiotical/logical terminology: reasoning consists in a representative character of a representamen, which enables the representamen to represent something else, an object, iconically or indexically or symbolically (cf. e.g. CP 2.247) and only as the representamen and the object are related by another representation, the interpretant, which mediates abductively, deductively or inductively (cf. e.g. (CP 2.266–70).

Concerning the interpretant, Peirce wrote in a unidentified fragment that it is “that which it [the sign] conveys, its meaning; and the idea to which it gives rise. . .” (CP 2.339). Consequently, the interpretant is the meaning of the sign. In his Harvard lecture (1903), “Pragmatism and Abduction”, Peirce interpreted the famous dictum of Aristotle: “Nihil est in intellectu quod non prius fuerit in sensu” and made this his first cotary or whetstone proposition: there is nothing in the interpretant of a cognitive sign, which was not already in the perceptual judgement, i.e. meaning is incarnated.

Nihil est in intellectu quod non prius fuerit in sensu. I take this in a sense somewhat different from that which Aristotle intended. By *intellectus*, I understand the meaning of any representation in any kind of cognition, virtual, symbolic, or whatever it may be . . . As for the other term, *in sensu*, that I take in the sense of *in a perceptual judgement*, the starting point or first premiss of all critical and controlled thinking. (CP: 5.181)

The perceptual judgement is the view or opinion of the experiencing body. The judgement interprets and describes the bombardment of percepts to which the body becomes exposed in its dealings with the world. In this connection, Sandra Rosenthal characterizes meaning as:

relational structures emerging from behavioural patterns, as emerging from the lived-through response of the human organism to that universe with which it is in interaction. Or, in other terms, human behaviour is meaningful behaviour, and it is in behaviour that the relational patterns that constitute conceptual meaning are rooted. What, however, is meaning as a relational pattern? A purely relational pattern devoid of sensuous criteria of recognition would be a pattern of relationships relating nothing that had reference to the world, while a pure datum, devoid of the relational pattern, could not be an object of thought. For Peirce, sensuous recognition and conceptual interpretation represent two ends of a continuum rather than an absolute difference in kind. . . . Peirce accepts imagery as part of conceptual meaning, but he refuses to equate imagery with determinate, singular representation. In the schematic aspect of conceptual meaning, then, there would seem to be found the inseparable mingling of the sensuous and the relational as the vehicle by which we think about and recognize objects in the world. (1994: 27–28)

Peirce's second cotary proposition states that there is a general element in experience enabling universal propositions to be deduced from the perceptual judgement. The image scheme can be an example of this (cf. Janda 1997: 442). The image scheme is an interpretation of the experience of immediate, monadic feelings, primisense and dyadic reactions upon an object, altersense (cf. CP 7.276). Even though primisense and altersense form the basis for the image scheme, we cannot reduce the image scheme to either primisense or altersense; it is a generalized account of experience. It endows experience with stability. The image scheme mediates between experience and concept construction and it is the basis of the cognitive sign. It roots its meaning and its meaning cannot be constituted independent of experience (cf. Danaher 1998). It is important to stress that, for Peirce, phenomenological objectivity is the basis for the formation of meaning, the emergence of meaning. As A. M. Dinesen and F. Stjernfelt emphasize in "Om Semiotik og Pragmatisme":

Peirce's phaneroscopy may resemble a phenomenology in a subjective sense—where the phenomena appear for us. However, it is important to notice that the later Peirce consequently replaces this perspective with a realism that has interesting consequences. The three categories are not our intervention but the world's own: here, there are no boundaries between phenomena inside and outside the mind—they obey the same laws and are continuously related with each other. (1994: 16, our translation)

Thus, the structure of experience lies in the world, which is a potential of form that comes before the body's experiential meeting with the world. This enables the surroundings to be meaningfully recognized, represented and interpreted.

Based on this, it cannot be surprising that Peirce believed that experience is our only true teacher (cf. CP: 5.50). The machinery of the mind can discover new knowledge, only if it is supplied with perceptual facts; thus, Peirce did not understand the mind as a tabula rasa (cf. CP: 5.392).

In an unpaginated fragment to “A Neglected Argument for the Reality of God” (c. 1896), Peirce wrote: “[We] can know nothing except what we directly experience. So all that we can anyway know relates to experience” (CP: 6.492). Experience exercises pressure and constraints on our minds, hereby ideas are created, which cannot be ignored, unless one chooses to ignore reality. A reality, which is independent of what we may feel or think of it but which our feelings or thoughts may resemble. In the eighth Lowell Lecture, “How to Theorize” (1993), Peirce wrote:

It is somehow more that a mere figure of speech to say that nature fecundates the mind of man with ideas which, when those ideas grow up, will resemble their father, Nature. (CP: 5.591)

In summary, cognition logically presupposes earlier cognition; cognition has no absolute beginning but still a beginning. Cognition is a continuous process and the process is caused by signs, whose meaning cannot be constituted independently of experience; meaning is phenomenologically rooted.

Remarks regarding the cognition creating function of metaphor

After this brief account of Peirce’s view on cognition, let us return to the question we posed in the beginning of the article: Does metaphor have a cognition creating function?

If metaphor does have a cognition creating function, it must be a sign. In Peirce’s most famous, and according to himself, most important classification of signs, “the second trichotomy”, suggested in “Syllabus of Certain Topics of Logic” (c. 1902) (cf. CP 2.275), Peirce found a place for metaphor. In the classification, he defined it as a hypoicon. Thus, we can hardly rule out that metaphor may have a cognition creating function, and that this function cannot be an effect of intuition. Although we have to admit, concerning the latter, that confronted with the open, ambiguous and thus interpretationally challenging metaphors, we erroneously may believe, as Umberto Eco notes in *A Theory of Semiotics* (1979), metaphor is “. . . a product of an intuitive perception, a sort of ‘illumination’, or a sudden revelation” (:284).

The fact that Peirce defined metaphor as a hypoicon may put us on the track of its more precise cognition creating function. For a closer look at the somewhat cryptic definition of metaphor, Peirce presents in “Syllabus”: “. . .those which represent the representative character of a representamen by representing a parallelism in something else, are metaphors”

(CP: 2.277). This abstract definition of metaphor as a hypoicon appears to present a logic where something represents something else for some third. Something is represented, “the representative character of a representamen”. The something represented is affected by something, which is something else. Thus the represented object has a complex character; since we are dealing with both a dynamical and an immediate object. As Peirce wrote in a “Prolegomena to an Apology of Pragmatism” (1906), the dynamical object has to be understood as: “. . . the Reality which by some means contrives to determine the Sign to its Representation.” While the immediate object is “. . . the Object as the Sign itself represents it, and whose Being is thus dependent upon the Representation of it in the Sign” (CP: 4.536). The representing element, which is affected by the dynamical object, is only able to represent the immediate object, when another representamen, an interpretant, represents the first mentioned representation. In Peirce’s words from the article “On a New List of Categories” (1867) the interpretant serves as: “. . . the office of an interpreter, who says that a foreigner says the same thing which he himself says” (CP: 1.553). Thus, the interpretant is a mediating representation, which tries to answer the question regarding what it is that the original representamen represents, as the interpretant suggests that there is a relation of parallelism between the representamen and an object. The suggestion regarding a parallelism between representamen and object may, provided that the metaphor is able to have a cognition creating function, be due to the form of inference that Peirce named abduction, since this is the only logical operation that can introduce new ideas (cf. CP 2.96; 5.172); abductive inference emerges from within Peirce’s category of Firstness; Firstness must be initiative, original, fresh and spontaneous, all of which is related to the concept of creativity (cf. Merrell 2006: 139–140). In the earlier mentioned Harvard lecture “Pragmatism and Abduction” (1903), Peirce characterized abductive inference in his third cotary proposition in the following way:

The abductive suggestion comes to us like a flash. It is an act of insight, although of extremely fallible insight. It is true that the different elements of the hypothesis were in our minds before; but it is the idea of putting together what we had never before dreamed of putting together which flashes the new suggestion before our contemplation. (CP: 5.181)

By the aid of abductive inference, ideas that are new can be created. Thus, until now unknown relations between ideas can be established and new knowledge can be acquired, although tentative. In *The Nation*, where Peirce reviewed William James’ “The Principles of Psychology” (1891), he gave abductive inference the following logical form (CP: 8.64):

A well-recognized kind of object, M, has for its ordinary predicates P[1], P[2], P[3], etc., indistinctly recognized.

The suggesting object, S, has these same predicates, P[1], P[2], P[3], etc.

Hence, S is of the kind M.

Provided that metaphor can have a cognition creating function, it has to be caused by its ability to bring forth new relations of parallelism, since a representamen, [M], represents the representative character of a representamen, an object [S], by aid of parallelism, interpretant: "Hence, S is of the kind M".

The until now unknown relations of parallelism are the basis for any new concept formations, the creation of new symbols. Hausman notes the same in his article "Metaphorische Ikons und Teleologischer Zufall in Peirces' Semiotik":

A metaphor immediately enables a triadic thought. This takes place through positing features between which a parallelism or a non-convergent structure exists. . . As "degenerate Thirds" the metaphorical icons can never be fully integrated into the actual systems of sign processes. On the contrary, as "first-thirds" they provoke thinking. They constitute the conditions by virtue of which new symbols can emerge. . . (1994: 206; our translation)

This is a condition Peirce referred to—a condition Hausman is fully aware of—in "Ethics of Terminology" (c. 1902), where he noticed how a symbol can have its origin in either an image, in a memory or in a metaphor:

Every symbol is, in its origin, either an image of the idea signified, or a reminiscence of some individual occurrence, person or thing, connected with its meaning, or is a metaphor. (CP: 2.222)

Even if a metaphor is one out of three possibilities by which a symbol can emerge, it takes up a prominent place among these, as Hausman describes in "Peirce and the Interaction View of Metaphor":

It should be noted that the first and the second ways in which a symbol may originate seem to indicate that new significance does not occur. The first, imaging, and the second, reminiscing, both signify on the basis of something antecedent. The third origin of symbols, metaphor, must be the only way to open the possibility that a symbol can grow and have new significance. (1996: 197)

It appears that it is only by virtue of a metaphor that a symbol can be endowed with new meaning. None of the other ways in which a symbol can originate i.e. by virtue of imaging and memory, can cause such an effect of significance since both depend on already established relations of

meaning. On the other hand, a metaphor can be understood as a new relation of meaning. However, not new in any absolute sense, since not only imaging and memory are based on prior imaginings and memories but also metaphorical formation of meaning, which endows the symbol with new meaning that presupposes prior knowledge and cognitions. Cognition is a continuous process; it may have a beginning but not an absolute beginning. The new metaphor concept formation made possible does not take place in a Cartesian vacuum. It cannot be a result of intuitive cognition. This, however, is not the same as saying that a given metaphor cannot be unique and exceptional, which it has to be if it is to contribute to cognition. However, the metaphor, which endows the symbol with new meaning is not merely continuously related to prior cognitions but is also constrained by the dynamical object. In his article “Metaphorical Semeiotic Referents: Dynamic Objects as Dyads,” Hausman stresses this point in the following way:

even though a sign process or semeiosis normally includes a context of previously interpreted signs, which function in influencing the interpretation and thus the constitution of the immediate object, or what interpretation generates in response to the determination of the initiating object, there must also be a determining function, there must be constraints, originating from the side of the object. (2007: 281)

Thus, the dynamical object also constrains the interpretation; the dynamical object is related to Peirce’s category of secondness, the percept as well as the perceptual judgement caused by the percept. Hausman gives the example of Shakespeare’s well-known “Juliet-is-the-sun”-metaphor. He explains how Shakespeare created this metaphor in an attempt to describe the relationship between Romeo and Juliet:

This relationship functioned as what I believe Peirce regarded as a percept for Shakespeare. For Peirce, at least in some of his accounts of them, percepts were pre-interpreted objects experienced primarily according to the Category of Secondness. Percepts force themselves on interpreters, who may then try to interpret them. Thus, I assume that Shakespeare recognized a stage in the creation of the drama as something experienced as a percept. The percept occurred to him as the referent of a feeling in Romeo’s dramatic mind—the object of Romeo’s feeling of a fusion of his beloved with something of supreme importance in his life, the sun. His interpretation consisted in the process of creating the sign, “Juliet is the sun,” said by Romeo. (2007: 283)

If the metaphor can have a cognition creating function and it is rooted in abductive reasoning, this also suggests that its formation of meaning is related to experience, since the first premise for abduction is the perceptual judgement (cf. CP 5.16). As we remember, according to

Peirce, experience is our only true teacher. We also remember how universal propositions can be deduced from the perceptual judgement, since the universal propositions contain a general element and how the image scheme is a generalized description of experience. The image scheme mediates between experience and concept formation. Based on this, let us summarize that the metaphorical formation of meaning is related to experience in the following way: based on our emotional experience (feeling) and our dealings with our surroundings (altersense), we deduce image schemes and these schemes constitute the conceptual room in their image and grant it stability. A representamen, a “well recognized object”, of which we have experiential or empirical knowledge, or which is rooted in perception, represents the object, since it provides schematical information. The schematical information is involved in a relation of parallelism between representamen and object, hereby the representamen is able to stand for the object, since this is, in the words of Joseph Ransdell in “On Peirce’s Conception on the Iconic Sign”: “as good as its object—for some purpose, because it is sufficiently like it in [a] relevant respect” (1986: 69).

Consequently, if a metaphor can have a cognition creating function, its meaning is not constituted independently of the body’s meeting with the world. But it is important to stress as Haley does:

it [is not] *only*. . . that our minds and mental structure are partly configured by our bodily experience in nature, and partly by cultural conventions whose schemes we are bound to impose on nature . . . nature itself is an extension or instantiation of Mind, just as surely as the human mind is another (and thus inherently similar) such extension. (1999: 437)

Thus, it is not only a cultural and historical body which cognizes but also an evolutionary and biological body with a special mind. More precisely, it concerns an experiencing body, which has been capable of putting forth: “spontaneous conjectures of instinctive reason” (CP: 6.475), as Peirce formulated it in “A Neglected Argument for the Reality of God” (1908).

In our ongoing attempts to successfully convert our surroundings to our Umwelt, i.e. in our ongoing attempts to represent these surrounding in a meaningful way, we have developed a sort of ability to make abductive inferences (cf. CP 1.630, 7.219), and hereby i.e. the opportunity to put forth cognition creating metaphors. The success of abduction, its ability to create cognition, relies upon an affinity or structural analogy between the human mind and matter. In the manuscript “History of Science” (c. 1896), Peirce drew attention to how the abduction “. . . goes upon the *hope* that there is sufficient affinity between the reasoner’s mind and nature’s to render guessing not altogether hopeless. . .”

(CP: 1.121), and he further explained this relation in another manuscript entitled “Guessing” (c. 1907):

There are, indeed, puzzles, and one might well say mysteries, connected with the mental operation of guessing;—yes; more than one. There can, I think, be no reasonable doubt that man’s mind, having been developed under the influence. . . of nature, for that reason naturally thinks somewhat after nature’s pattern. (CP: 7.39)

Through evolution, the human mind has developed under influence of nature. Thus, the cognitive habits are defined by virtue of the relation to the world. Metaphor, as a cognition creating mechanism, must be thought of as based on the aforesaid structural analogy. That we can communicate and understand feelings, actions and thoughts by the aid of metaphor and thereby create new cognitions must be due to a continuous relation between mind and matter. In Haley’s words:

In short, to whatever extent we really are capable to understand nature, it is only because our minds really are *like* nature. And it is only within the context of this large likeness that we are capable of understanding ourselves and one another—which clearly includes the expression of our thoughts and feelings to one another through. . . metaphor. (1999: 435)

The same analogy exerts pressures and constraints regarding what parallelisms we can metaphorically put forth. The metaphorical meaning cannot exclusively be rooted in a social convention. The parallelism is motivated and realistically determined because experience, body, sign, abduction and guessing instinct are parts of an intricate relation; a relation which has only tentatively been suggested in the above.

Conclusion

As Hausman correctly writes, Peirce does not have any explicit theory of metaphor, although some very interesting remarks on the subject can be found in *Collected Papers*. The following remarks, however, make it possible to, albeit roughly, characterize a pheno-semeiological metaphor: a metaphor that, as we have discussed, follows the general logic of Peirce’s thinking; a metaphor that is rooted in abduction; a metaphor whose semeiosis is part of an intricate relation between experience, body, sign, abduction and guessing instinct; a metaphor that rests upon the mechanism of parallelism; a metaphor that is the only sign that can contribute to the growth of knowledge and therefore essentially to the ongoing search for truth, no less.

bent@hum.aau.dk
mmot99@hum.aau.dk
torkild@stofanet.dk

REFERENCES

- Anderson, Douglas R. (1984): *Creativity and the Philosophy of C. S. Peirce*. Dordrecht: Martinus Nijhoff.
- Danaher, David (1998): "Peirce's Semiotic and Conceptual Metaphor Theory." In: *Semiotica* 119–1/2, Berlin/New York: Mouton de Gruyter, pp. 171–207.
- Dinesen, Anne Marie & Stjernfelt, Frederik (1994): Foreword to *Semiotik og pragmatisme*. København: Gyldendal.
- Eco, Umberto (1979): *A Theory of Semiotics*. Bloomington: Indiana University Press.
- Haley, Michael C. (1999): "Metaphor, Mind, and Space: What Peirce Can Offer Lakoff." In: *Peirce Seminar Papers: Proceedings of the International Colloquium on Language and Peircean Sign Theory*, ed. Shapiro, M., Berghahn/New York: Duke University Press, pp. 417–440.
- Hausman, Carl R. (1996): "Peirce and the Interaction View of Metaphor." In: *Peirce's Doctrine of Signs*, ed. Colapietro, V. & Olshewsky, T., Berlin/New York: Mouton de Gruyter, 193–205.
- (1999): "Metaphorische Ikons und Teleologische Zufall." In: *Kreativität und Logik*, ed. Pape, H., Frankfurt: Suhrkamp Verlag.
- (2007): "Metaphorical Semeiotic Referents: Dyadic Objects." In: *The Transactions of the C. S. Peirce Society* 43.2: 276–287.
- Janda, Laura (1999): "Peircean Semiotics and Cognitive Linguistics: a Case Study of the Russian Genitive." In: *The Peirce Seminar Papers: Proceedings of the International Colloquium on Language and Peircean Sign Theory*, ed. Shapiro, M., New York/Oxford: Berghahn Books, 441–466.
- Merrell, Floyd (2006): "Creation: Algorithmic, Organistic, or Emergent Metaphorical Process?." In: *Semiotica* 161–1/4 (special issue on metaphor, ed. F. Nuessel) Berlin/New York: Mouton de Gruyter, 119–147.
- Peirce, Charles S. (1931–1958): *Collected Papers*, volume 1–6, ed. Hartshorne, C. & Weiss, P.; volume 7–8, ed. Burks, A W., Cambridge Mass.: Harvard University Press.
- (1986) *Writings of Charles S. Peirce: A Chronological Edition*, Vol. 3, Kloessel, Christian J. W., et al. (eds.). Bloomington: Indiana University Press, 63–64.
- (1992): *The Essential Peirce. Selected Philosophical Writings Volume 2*, Peirce Edition Project (ed.), Bloomington: Indiana University Press.
- Ransdell, Joseph (1986): "On Peirce's Conception of the Iconic Sign". In: *Iconicity: Essays on the Nature of Culture, Festschrift for Thomas A. Sebeok*, ed. Bouissac, P., Herzfeld, M., & Posner, R., Tübingen: Stauffenburg Verlag, 59–71.
- Rosenthal, Sandra, B. (1994): *Charles Peirce's Pragmatic Pluralism*. Albany: State University of New York Press.
- Skagestad, Peter (1978): *Vitenskap och Menneskebilde: Peirce og amerikansk pragmatisme*. Universitetsforlaget, Tankekors-serien.
- Sørensen, Bent & Torkild Thellefsen (2006): "Metaphor, Concept Formation, and Esthetic Semeiosis in a Peircean Perspective. In: *Semiotica* 161–1/4 (Special Issue on Metaphor, Guest ed. Nuessel, F.). Berlin/New York: Mouton de Gruyter, 199–213.

Copyright of Transactions of the Charles S. Peirce Society is the property of Indiana University Press and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.