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# Peircean Semiosis/Sign and their Contribution to Argumentation

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**ABSTRACT:** Argumentation scholars' interest in the work of Charles Sanders Peirce has been almost exclusively confined to his conception of abduction, and he is not currently regarded as a key figure for development of argumentation. This paper examines his notion of sign and semiotics and their relation to inference and argument, and argues that semiosis and sign, along with abduction, should be the focus for argumentation scholars' research on Peirce.

**KEYWORDS:** Charles Sanders Peirce, interpretant, semiosis, semiotics, sign, theory, history of argumentation.

## 1. INTRODUCTION

Although recent writing by Walton (2004) indicates an increasing interest among argumentation scholars in the work of Charles Sanders Peirce, to date the central focus of the research has been on his concept of abduction. In contrast, Peirce's contribution to semiotics, the humanistic or scientific study of signs, has been significant to scholars in fields other than argumentation. He is no doubt one of the founding fathers of the field along with Ferdinand de Saussure, and his insight has influenced literary theory and media studies (Sebeok and Umiker-Sebeok 1984; Ishida 2004). Given that Peirce attempted to align logic with semiotics (2. 227),<sup>1</sup> it is strange that argumentation scholars focus only on his notions of abduction and exclude semiotics from the scope of research. In this paper, I describe some key components of his semiotics and argue that semiotics should be the focus of research on Peirce in the field of argumentation. More specifically, I will consider his notion of semiosis and sign – two key concepts of his semiotics – and attempt to answer the following questions: What are semiotics, semiosis and sign? How are they related to the theory and history of argumentation? What contribution can his notions of semiosis and sign can make to theory and history of argumentation? Section 2 of the paper describes the current state of scholarship in argumentation on Peirce and also examines the use of word "pragma/pragmatic" among argumentation scholars. Section 3 interrogates Peirce's conception of semiosis and sign. Section 4 explores the implications of Peircean conceptions of semiosis and sign on the theory and history of argumentation. Section 5 offers conclusions and recommendations for further research.

## 2. ARGUMENTATION THEORISTS ON CHARLES SANDERS PEIRCE

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<sup>1</sup> Following the convention, the volume and paragraph numbers are given for the quotations from Peirce's *Collected Papers*.

Before discussing Peirce's notion of sign and semiotics, this section of the paper examines the current argumentation scholars' take on Peirce and gives an account why they perceive Peirce as they do now. The coverage of the relevant literature is not meant to be exhaustive, but it still covers well-known positions. The three threads of this section are: the history of argumentation, the pragma/pragmatic theory of argumentation, and abduction.

Since the renaissance of argumentation as a field of inquiry and its professionalization starting in the late 1970s (marked by symposiums and conferences in Canada, the US and the Netherlands), argumentation scholars have made several attempts to construct historical narratives of argumentation. Sadly, Peirce is not mentioned as an important figure in history of argumentation. Among scholars associated with informal logic, Ralph H. Johnson and J. Anthony Blair have co-authored several articles describing how informal logic developed as a theoretical and pedagogical enterprise (1980, 1985, 1987, 1994, 1996, 1997, 2000). According to their historicizing of informal logic and argumentation, the origin of informal logic can be traced back to Aristotle's *Topica* and *On Sophistical Refutations*. Stephen Toulmin, Chaim Perelman and Lucie Olbrechts-Tyteca, and Charles Hamblin started the renaissance of argumentation as a theoretical inquiry in the twentieth century. In the pedagogical realm, Howard Kahane, Stephen Thomas, and Michael Scriven are the key people who called our attention to argumentation in natural language. Despite some dissent on the name "informal logic," panelists at Informal Logic at 25 Conference – Robert Binkley, Blair and Johnson, Robert Ennis, Trudy Govier, David Hitchcock, Douglas Walton, and John Woods – did not dispute this line of standard historical account.<sup>2</sup> If we expand historical accounts given by pragma-dialecticians and rhetorical and communication theorists of argumentation, we will find similar accounts. Toulmin and Perelman and Olbrechts-Tyteca usually appear as key figures of reactivating the field,<sup>3</sup> and scholars in different disciplines started to develop various theories of argument since the late 1970s. In short, suffice it to say that Charles Sanders Peirce does not have any space as one of the key persons in the history of argumentation as a field of inquiry.

Another important thread is the phrase "pragma/pragmatic." Although Peirce has not been perceived to be the key figure in the community of argumentation scholars, the word "pragma/pragmatic" was fairly widely used. Douglas Walton's *Informal Logic*, van Eemeren and Grootendorst's *Speech Acts in Argumentative Discussion* and Johnson's *Manifest Rationality* use "pragma/pragmatic" as the key label for their theoretical accounts of argumentation. Broadly speaking, pragmatic theories of argument and argumentation emphasize the purpose of argumentative dialogues or argumentative practices to evaluate adequacy of the claim-support complex used in those dialogues or practices. In using the phrase "pragma/pragmatic," they explicitly or implicitly buy into the triadic distinction of syntactic, semantic, and pragmatic offered by Morris (1938), but do not go further than that to mention Peirce – by whom Morris was inspired to create that triadic distinction. In contrasting logical semantics with logical pragmatics at the beginning of *Informal Logic*, Walton (1989, p. 1) does not refer to Morris. However, the distinction between semantic and pragmatic, and the association of pragmatics with use of propositions in

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<sup>2</sup> Founders of argumentation theory are not limited to Toulmin, Perelman and Olbrechts-Tyteca, and Hamblin. Johnson and Blair (1996, p. 165) refer to Paul Grice; Gilbert (1997, pp. 10-11) refers to Arne Naess; and Walton may include Arthur Hastings. Walton and Brinton expand the scope of the history to give account for the period between Aristotle and the renaissance in the twentieth century, and attempt to include several key people who contributed to informal logic. However, these different accounts of the history of argumentation do not weaken my point that Peirce has not been perceived in the community. Walton and Brinton (1997, p. 8) called for the study on pragmatists. However, their emphasis is rather on Dewey than Peirce.

<sup>3</sup> See chapters 3-5 of van Eemeren, Grootendorst and Kruger (1987) and Zarefsky (1996).

dialogical settings seem to draw on Morris' pragmatics. Van Eemeren (1990) refers to the empirical pragmatics of discourse analytic approach to argumentation as well as the normative pragmatics of argumentation exemplified by pragma-dialectics. The use of pragmatics, not pragmatism, seems to indicate that he buys into Morris' idea. When Johnson (1996, p. 104) first labeled his theory of argument pragmatic, he mentioned Peirce's "Fixation of Belief" to show a parallel between pragmatic theory of argument and pragmatism. In his later work (2000, p. 149, pp. 368-369), while relying on Peirce's emphasis on the purpose of an action, he emphasized Morris' distinction between syntactic, semantic, and pragmatic. In this respect, pragmatic in Johnson's sense seems to shift back and forth between Peirce and Morris. In short, although Peirce was the founder of pragmatism which emphasized practice of scientific reasoning, it is Morris who gets more credit for pragmatic approach to argumentation than Peirce.

The last important thread is Peirce on abduction. Since the beginning of informal logic and argumentation, the search for non-deductive and non-standard-inductive inference has been an item of the research agenda (Johnson and Blair 1980, pp. 22-23). Blair (1999, pp. 56-57) has argued that Scriven's probative reasoning or Walton's presumptive reasoning would fall into the third class of inference. In this historical background, Walton (2004, p. 36) has written a monograph on abduction, and argued that presumptive reasoning or Rescher's plausible reasoning focus on "a process of discussion of an issue, a process of collecting data, or both," under which abduction is situated. He goes on to extend Peirce's abduction outside scientific reasoning and applies it to the realm of artificial intelligence and legal reasoning. His discussion and extension of abduction gives us strong evidence that abduction is a proper research topic for argumentation scholars. Given that argumentation scholars in the last thirty years have searched for a third class of inference or reasoning in argument, Peirce's conception of abduction was far ahead of its time in discussing this issue. Since Walton's goal in writing the monograph is to theorize abduction rather than justify Peirce as an argumentation scholar, he does not address this latter topic. His goal has probably prevented us from recognizing Peirce to be as important as Toulmin, Perelman and Olbrechts-Tyteca, and Hamblin to theory and history of argumentation.

The three threads seem to lead us to conclude that argumentation scholars have not fully perceived the significance of Peirce in theory and history of argumentation. If we consider that his research program encompasses such ideas as practicality in pragmatic-maxim, intersubjectivity, non-deductive/non-inductive reasoning, and sign and semiosis, the current dismissal of Peirce among argumentation scholars is, at least, to be deplored. However, a question arises why argumentation scholars are where they are, in terms of scholarship on Peirce. A fully elaborated account is beyond the scope of this paper, but the following three lines of support can plausibly explain the current state of affairs.<sup>4</sup> First and foremost, *Collected Papers of Charles Sanders Peirce* were not organized in such a way that would call our attention to Peirce's consideration of different types of signs, semiotics and semiosis in light of reasoning. Since no volume centers around his ideas on sign and semiotics, readers have to reconstruct and make sense of his ideas on signs and reasoning by reading different parts of *Collected Papers*. Therefore, many argumentation scholars may have not realized the significance of such conceptions of signs and semiotics to theory of argumentation. Even if they had realized it, it must have been really difficult to reconstruct Peirce's ideas into a meaningful whole from bits and pieces scattered in the multiple volumes. Secondly, the way argumentation scholars with a background in philosophy perceived

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<sup>4</sup> Here I am using abductive reasoning in non-scientific discourse. Peirce's application of abduction to detect a thief of his purse (wallet), and the similarity between abduction and Sherlock Holmes' reasoning are discussed in Sebeok and Umiker-Sebeok (1984).

Peirce might have blocked inquiries into scholarship on Peirce. Argumentation scholars in the philosophical discipline must have taken or taught courses on Peirce, but those courses are more likely to center around pragmatism, logic, or philosophy of science than his ideas on semiotics. Since the idea that Peirce was the founder of pragmatism has been historically constructed in the community of philosophers, it would have been difficult for them to see different aspects of Peirce. Thirdly, the trajectory of research on semiotics has developed without emphasis on argument as the artifact for study. Semiotics as a field of inquiry has developed in the fields of humanities, such as literary studies, visual studies, film studies, or cultural studies, and argumentation has not been a main focal point of the research project of semiotics. Given the way semiotics developed over years, it is unlikely that argumentation scholars have studied and applied it to argumentation.<sup>5</sup> These three lines of reasoning jointly explain why Peirce has been an unperceived figure and has not been valued as highly as Toulmin, Perelman and Olbrechts-Tyteca, and Hamblin. In the following two sections, this paper will attempt to reformulate argumentation scholars' perception on Peirce drawing on his ideas on semiotics, semiosis, and sign.

### 3. PEIRCE ON SEMIOTICS, SEMIOSIS, AND SIGN

For reformulating our understanding of Peirce, this section of the paper summarizes his conception of semiotics, semiosis and sign. Initially, semiotics as a research project is briefly described. Next, his conception of semiosis, a general process of sign use, is described with emphasis on interpretant and unlimited semiosis. Then, various types of signs are laid out as a basis for further interrogation in the next section.

#### *3.1 Peircean Semiotics and Semiosis*

Peirce regards logic as another name of semiotic, and semiotic is "the quasi-necessary, or formal doctrine of signs" (2.227). He aligns his semiotics with empirical science—his main research project—when he explains the meaning of quasi-necessary:

By describing the doctrine as "quasi-necessary," or formal, I mean that we observe the characters of such signs as we know, and from such an observation, by a process which I will not object to naming Abstraction, we are led to statements, eminently fallible, and therefore in one sense by no means necessary, as to what must be the characters of all signs used by a "scientific" intelligence, that is to say, by an intelligence capable of learning by experience. (2.227)

Empirical observation and abstraction by scientific intelligence does not achieve necessity as mathematics does, and leaves room for fallibility, which requires further observation and abstraction. This passage shows that his semiotics seems to fit well with his philosophy of empirical science, the intellectual activity conducted by the community of scientific inquirers.

One crucial conception to understand Peircean semiotics is semiosis: a triadic relationship among object, sign/representamen, and interpretant. He states: "But by 'semiosis' I mean, on the contrary, 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

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<sup>5</sup> I use semiotics but not semiologie in this paper to credit Peirce. Semiotics was developed by Peirce, whereas semiologie was originally coined by Swiss linguist Ferdinand de Saussure and developed in European literary scholars and philosophers. Eco (1976, p. 15) attempted to merge Peircean semiotics and Saussurean semiologie although he preferred Peirce's approach to signs because of its comprehensiveness.

actions between pairs" (5.484). His refusal to reducing semiosis into a binary relationship is consistent with his triadic category of firstness, secondness, and thirdness.<sup>6</sup> Peirce summarizes the triadic semiosis in the following way: "A sign stands *for* something *to* the idea which it produces, or modifies" (1.339). For example, the linguistic sign 'hot dog' stands for something that baseball spectators eat at the ballpark watching a Detroit Tigers game, and the sign may produce ideas of North American food or professional sports. In understanding his classification of signs offered in the next section, this process of semiosis plays a key role, for the classification is closely linked with semiosis.

Before moving on to Peirce's classification of signs, there are two remarks to be made on the semiosis. One feature unique to his conception of semiosis is that of interpretant. Interpretant is another sign that the original sign/representamen produces. He states: "(t)hat sign which it creates I call the *interpretant* of the first sign. The sign stands for something, its *object*. It 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 *representamen*" (2.228). The conception of interpretant, as a second sign created by the original sign, seems to allow for room for different interpretations of a sign by different individuals.<sup>7</sup>

Suppose that George W. Bush, a resident in Tuvalu, and an environmental business entrepreneur read a report on the greenhouse effect and the global warming. The report, in its totality, constitutes a sign standing for increase in temperature. What interpretant does the sign create in the mind of these three persons? George W. Bush may think, "Well, even if the report is true, limiting the emission of CO<sub>2</sub> is detrimental to the US industry and the people, so I will dismiss it." To the resident of Tuvalu, a country located only five meters above the sea level, the report can be a critical warning. She or he might think about moving out of the country. To the environmental business entrepreneur, the report can be an indication of new business opportunities. She or he may come up with a new, innovative business plan that covers carbon dioxide emission rights. This example illustrates that the original sign standing for the global temperature can produce different interpretants.

The other feature to be noted about Peircean semiosis is its infinity. If the interpretant is a second sign that the original sign produces, there is no reason why the process should stop there. A second sign may create a third sign, which in turn creates a fourth sign, which in turn creates still another. The process goes on and on and on. Semiosis becomes an unlimited, never-ending, growing process that becomes part of a new semiotic process. Peirce himself acknowledges this *ad infinitum* process of semiosis (2.303), and Eco (1976, p. 68) calls it "unlimited semiosis."<sup>8</sup> The sign and the interpretant of one semiotic process become part of the object that the new sign stands for.

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<sup>6</sup> Firstness, secondness, and thirdness are three modes of being. Firstness concerns "that which is such as it is, positively and without reference to anything else." Secondness concerns "that which is such as it is, with respect to a second but regardless of any third." Thirdness concerns "that which is such as it is, in bringing a second and third into relation to each other" (8.329). They are also respectively associated with the quality, the actual fact, and the law (1.418-1.420). Firstness can exist without secondness or thirdness. Secondness can exist without thirdness, but cannot exist without firstness. Thirdness needs both firstness and secondness for its existence (1.353). Although it is beyond the scope of this paper to fully elaborate his conceptions of firstness, secondness, and thirdness, it is important to understand that his semiotics is based upon this triadic category.

<sup>7</sup> In contrast, Saussure's conception of sign (1959, pp. 11-15, pp. 65-70) is based on a dyadic relationship between the signifier and the signified, so the interpretation process seems to be deterministic.

<sup>8</sup> For further explanation of unlimited semiosis, see Eco (1976, pp. 68-72) and Ishida (2003, pp. 65-67).

Fig. 1: Nike© logo



Fig. 2: A T-shirt at Amsterdam



Fig. 3: Souvenirs at Hakodate



The above figures exemplify the unlimited semiosis. When people familiar with sports gears encounter figures 2 and 3, the interpretants that those figures produce are probably influenced by previous semiosis involving the Nike logo. The Nike logo could produce different interpretants—exploitation of cheap labor, cool sports gears, Michael Jordan, or a successful business, to name just a few. This semiotic process becomes part of another semiotic processes that involves "just did it IN AMSTERDAM" T-shirt. For those who already know the Nike logo, figure 2 may function as a humor. However, for a feminist who only knows about the prostitution industry in Amsterdam, this T-shirt may reminds her of the unfair depiction between men and women. Figure 3 also incorporates the Nike logo in creating the sign, which also functions as a humor like figure 2. If a viewer of this souvenir knows about Hakodate, a northern city in Japan famous for fishery, the crab claw in the Nike-like logo might produce some ideas in her or his mind. The semiotic processes involving figures 2 and 3 jointly mean something to the genre of humor. Each of the semiotic processes are intertwined and with each other, and they collectively constitute a web of signs in which humans do their sign-using activities.

Figure 4: Summary of three semiotic processes

	object	sign/representamen	interpretant
Nike logo	Nike the company	the logo	varies <sup>9</sup>
A T-shirt at Amsterdam	sex industry (and the representamen of Nike logo)	the T-shirt	varies
Souvenirs at Hakodate	fishery (and the representamen of Nike logo)	the souvenir	varies

The description of the interpretant and the unlimited semiosis unfolds that the human world exists in the web of signs, and that Peircean semiotics is significant for scholars in various disciplines. In fact, Eco (1976, p. 5) refers to a possibility of a general semiotic discipline under which different scholarly inquiries into signs can be situated. Although a general semiotic discipline may be a nonstarter given the socio-political impediments of academic institutions, suffice it to say that his statement reveals the importance of Peircean semiotics to the scholarly

<sup>9</sup> As for a sign used in empirical science, various interpretants that a sign produces will probably reduce to a single interpretant as time goes by. However, in case of signs used outside of science will allow more room for different interpretations.

community.

### 3.2 Peircean Signs

Peirce conceives of signs based on his triadic category of firstness, secondness and thirdness on the one hand, and his triadic semiosis of object, sign and interpretant on the other. Therefore, his ontological system is strongly linked with his conception of signs. He divides signs according to "the sign in itself", "the relation of the sign to its object", and "its Interpretant" (2.243). This division, coupled with his triadic categories, produces the following three trichotomies:

Figure 5: Peirce's classification of signs<sup>10</sup>

	sign in itself	sign-object	sign-interpretant
firstness	qualisign	icon	rheme
secondness	sinsign	index	dicent
thirdness	legisign	symbol	argument

The first trichotomy of signs concerns sign in itself. A sign exists and functions in the semiosis, but it is still a sign in and of itself. The first trichotomy is constituted by a qualisign, a sinsign, and a legisign. A qualisign is "a quality which is a Sign. It cannot act as a sign until it is embodied; but the embodiment has nothing to do with its character as a sign" (2.244). The qualisign exists as the potential quality to be a sign. When the quality of the sign is not actually observed, it exists even without the embodiment. A sinsign is "an actual existent thing or event which is a sign," and it involves a qualisign or several qualisigns, for the actual thing or event should possess certain qualities (2.245). A legisign is "a law that is a Sign. This law is usually established by men [*sic*]." Since it is "a general type," it signifies "through an instance of its application." In other words, the legisign needs the sinsign (the Replica) every time it functions (2.246). Among these three signs, the sinsign and the legisign are relevant to argumentation. If we divide argumentation into conceptual, normative, and empirical studies of argument, the sinsign concerns the empirical aspect, for it concerns the embodiment of the argumentation. In contrast, the legisign is related to the conceptual and the normative aspects, for such conceptions as argument, good argument, good argumentative exchange, and the criteria and the rules for evaluating argument/argumentation are general law or conventions. Since qualisign is a quality of sign and the embodiment has nothing to do with its character, it does not seem to be related to argumentation.

The second trichotomy of signs concerns the relation between the sign and its object, and Peirce states that this trichotomy is "the most fundamental division of signs" (2.275). This trichotomy is based on the ways in which the sign stands for its object, and it is constituted by an icon, an index, and a symbol. An icon is "a sign which refers to the Object that it denotes merely by virtue of characters of its own, and which it possesses, just the same, whether any such Object actually exists or not" (2.247). Since the icon represents the object by virtue of its character, the representation is mainly achieved by its similarity to the object. Peirce lists images, diagrams and metaphors as examples of the iconic sign. An index is "a sign which refers to the Object that it denotes by virtue of being really affected by that Object" (2.248). The index requires the

<sup>10</sup> The chart is modified from Ishida (2003, p. 68). Peirce's labeling for the three categories and signs changed over time. The chart depends on wording in his "Logic as Semiotic: The Theory of Signs."



connection to the object for its representative function, and the connection is established either through the existential or referential relations. Since the object influences the index, the index has some common qualities to its object. Therefore, it involves an icon. Peirce lists demonstrative pronouns (this and that), quantifiers (every, all, some, etc.), and prepositional phrases (on the right/left of) as examples of the indexical sign. A symbol is "a sign which refers to the Object that it denotes by virtue of a law, usually an association of general ideas, which operates to cause the Symbol to be interpreted as referring to that Object" (2.249). For a symbol to perform its representative function, resemblance or the physical connection is not important. What matters is "the idea of symbol using-mind" that associates the symbol with the object (2.299). Although the symbol is a law, it involves an icon and an index. Suppose that a woman walks on the street, sees a balloon in the sky, and shouts, "Look at that balloon!" The statement is a symbol, for any ordinary word is a symbol. However, "that balloon" is physically connected to the balloon in the sky, so it is an icon. When she explains what a balloon is to her nephew, saying, "A balloon as something like a soap bubble," she refers to its qualities embodied in individuals, so it involves an iconic sign. Like the first trichotomy, the icon can exist without the index or the symbol. However, the symbol needs the icon and the index for its existence. This trichotomy of sign concerns artifacts of argumentation. Until recently, argumentation scholars studied argument in linguistic signs (symbols). However, interest in visual argument has expanded the scope of argumentation to include the iconic signs. The trajectory of research on argumentation indicates that both the icon and the symbol are important to argumentation scholars.

The third trichotomy of signs concerns the relation between the sign and its interpretant. It is constituted by a rheme, a dicisign, and an argument.<sup>11</sup> A rheme is "a Sign which, for its Interpretant, is a Sign of qualitative Possibility, that is, is understood as representing such and such a kind of possible Object" (2.250). For instance, "Socrates is \_\_\_\_\_." is a rheme, for it leaves the object and functions as a sign of qualitative possibility, representing something potentially. A dicisign is "a Sign, which, for its Interpretant, is a Sign of actual existence" (2.251). In contrast to the potentiality of the rheme, the dicisign emphasizes the actual existence. It is "either true or false, but does not directly furnish reasons for its being so" (2.311). For example, "Socrates is a human." is a proposition and an example of the dicisign. However, truth or falsity of this dicisign is not clear without examining the reasons furnished for it. An argument is "a Sign which, for its Interpretant, is a Sign of law" (2.252). Peirce's conception of argument is fairly traditional, which consists of the premiss and the conclusion. The premiss is a dicisign, and the conclusion is its interpretant. "Socrates is a human. Therefore, he is mortal." in an example of the argument. The first sentence, the premiss, produces the second sentence, the conclusion, as a law. According to Peirce, this law is what the argument urges, and "this 'urging' is the mode of representation proper to Arguments" (2.253). As this example indicates, the argument involves the dicisign, so the inter-relationship among the three types of sign exists also in this trichotomy. In this conception of argument, Peirce situates deduction, induction, and abduction. Although his conception of argument is structural and not "pragmatic" in the standard sense used among contemporary argumentation scholars for lack of the reference to the purpose, it seems to be a fairly standard one among logicians.

The description of the sign based on the three trichotomies reveals that Peirce's theory of sign is inextricably linked to his triadic category and semiosis. Also, each of the trichotomies shows that: the signs linked to firstness are foundations for those linked to secondness and thirdness; the signs linked to secondness are based on those linked to firstness, and becomes foundations for

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<sup>11</sup> Peirce respectively equates a rheme, a dicisign, and an argument with a term, a proposition, and an argument, which sound less idiosyncratic and familiar to logicians and argumentation scholars (2.95).

those linked to thirdness; and the signs linked to thirdness are based on those linked to firstness and secondness. The first trichotomy helps us consider dimensions of the research on argumentation and how they relate to the sign. The second trichotomy has some implications for artifacts of argumentation. The third trichotomy is related to classification of inference or reasoning used in argument.

#### 4. CONTRIBUTION TO THEORY AND HISTORY OF ARGUMENTATION

The description of semiotics, semiosis, and signs in the previous section has become signs from which different interpretants can be produced. Since the purpose of this paper is to discuss Peirce's contribution to theory and history of argumentation, the interpretants to be produced should be within these two substantive domains of argumentation. If Peirce had offered key ideas in argumentation before other scholars advanced those ideas, he should be regarded as an important figure in the history of argumentation, and argumentation scholars should prepare space for him in the history. If those ideas still pose serious challenges to the community of argumentation scholars, then the ideas should become key issues in theory of argumentation, and argumentation scholars should consider him to be a key theorist of argumentation. The points interrogated in this section collectively examine the significance of Peirce to theory and history of argumentation.

##### *4.1 Interpretant and Argument*

According to Peirce, the interpretant is a second sign that the original sign produces in a person's mind, and the conclusion of the argument represents the interpretant that the premiss should produce (2.253). In other words, the conclusion of the argument, when stated, is the interpretant that the addressee of the argument ought to produce on a logical basis; when unstated, it is the interpretant that the addressee of the argument ought to produce enthymematically. When the addressee of the argument draws a conclusion equivalent to the one explicitly or implicitly offered by the premiss of the argument, then the conclusion is judged to be a good one. The conclusion of the argument ought to be such that the addressee would arrive at on the basis of the premiss. If we follow the way in which Peirce conceptualizes the argument according to his semiosis, a key question for argument evaluation will be: does the conclusion of the argument represent the interpretant that addressees are expected to produce, on the basis of the given premiss?

Peirce's conception of argument is similar to Pinto's conception of an argument as an invitation to inference. According to him (2001, p. 37), study of argument is different from that of inference. The former presupposes the latter, and an evaluative question of an argument will always ask: "ought the addressee to make the inference which the argument invites?" The inference in Pinto's conceptualization functions similarly to the interpretant in Peirce's conception based on his semiosis. In other words, if a person accepts that Pinto's position on argument and inference poses an important question to the theorization of argument, then she or he should value Peirce as a theorist of argument, and start investigating ways for situating theory of argument in normative semiotics. In short, Peirce's ideas on interpretant and its relations to the argument pose an important question on the nature of argument, inference, and reasoning, and therefore gives a reason for Peirce to be inducted into a group of theorists like Toulmin, Perelman and Olbrechts-Tyteca, and Hamblin.

##### *4.2 Semiosis Ad Infinitum and Argument Reconstruction*

The previous subsection has demonstrated that an argument, understood as an invitation to inference, looks close enough to the production of an interpretant (the conclusion) from the sign/representamen (the premise). However, Peirce's conception of semiosis as an *ad infinitum* process, and Eco's development of the unlimited semiosis (1976, 1995), pose a critical challenge to the issue of argument reconstruction. Argument in natural language is often not fully spelled out, and a critic of the argument must reconstruct it for a fair appraisal. However, when the argument misses the conclusion, or the interpretant that the premiss should produce, a question arises where the critic can stop. As section 3.1 has demonstrated, the original sign/representamen produces an interpretant, or a second sign, which will in turn produce a third, which will in turn produce a fourth, and the process will go on and on. In light of this infinite process of semiosis, reconstructing the argument with the missing conclusion is not possible. If she stops at a certain interpretant, then she clearly violates *ad infinitum* inherently embedded in the semiosis because the inherent nature of semiosis forces her to supply further interpretants infinitely. Argumentation scholars have discussed how to reconstruct an argument, but there would be no way to reasonably reconstruct an argument with the missing conclusion, from a Peircean point of view. If there are no ways for reasonable reconstruction, then reasonable evaluation of an argument of that type will be extremely difficult. These points seem to pose important challenges on the argument reconstruction and evaluation.

Some people may say that this problem is unique to Peirce's conception of the argument, and if we show a clear dissimilarity between Pinto's conception of argument and that of Peirce, then this charge will no longer apply. However, a standard conception of inference, or logical step of moving from one statement to another, seems to be close enough to Peirce's conception of interpretant, a second sign created by the original sign. Therefore, as long as the inference has some bearing upon the argument, then the problem of *ad infinitum* will probably apply. The issue of the interpretant *ad infinitum* merits a more thorough and careful consideration, but the very fact that it merits further discussion makes Peirce a great contributor to theory of argumentation.<sup>12</sup>

#### 4.3 Iconic Sign and Argument

Peirce's second trichotomy of signs of icon, index, and symbol presents an interesting question to the scope of the artifact in the study of argumentation. As previously noted, the icon includes such visual artifacts as images and diagrams. Since argumentation scholars have already started investigating the visual argument, Peirce's trichotomy can be a grounding theory to situate different types of arguments--verbal and visual. However, his classification of ten classes of signs does not associate the icon with the argument (2.254-64). According to him, the icon is associated with the rheme but not with the dicisign and the argument. Within the second trichotomy, the symbol is the only sign associated with the argument. If Peirce is correct, the visual argument will be an oxymoron. If the visual argument does exist, then Peirce's theory of sign may need some revision. Whichever may be the case, Peirce's conception of the icon and its relations to the argument pose an important question for argumentation scholars interested in visual argument. An adequate answer will require a more extensive analysis, but suffice it to say that Peirce had prepared foundational issues on the visual argument long before it became a hot topic among argumentation scholars. This point demonstrates Peirce's historical and theoretical contribution to

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<sup>12</sup> Eco (1995) discusses the relation between unlimited semiosis and Derrida's deconstruction. Govier (1996, p. xii) expresses her concerns over the post-modern project on the meaning.

argumentation.

#### *4.4 Argumentation and Critical Thinking*

Whether or not the visual artifact function as argument, it is amenable to careful analysis. This raises a question regarding the evaluation of visual artifacts. If a visual artifact is not an argument, then the evaluation of the artifact can fall in the domain of critical thinking but not in argumentation. For example, figures 2 and 3 are clearly non-argumentative visual products. They do not have the premise-conclusion structure, do not presuppose any difference of opinions, and are not purposive use of signs in such dialogues as rational discussions, inquiries, political deliberations, negotiations, or quarrels. They derive from the Nike logo and have a humorous function. However, we can still think critically about adequacy of the interpretant that people draw from figures 2 and 3. The T-shirt seems to raise questions about gender and sex labor, and both T-shirt and souvenir raise questions regarding the copyright issue. The humor that figures 2 and 3 produce presupposes these issues, which are amenable to critical evaluation. Peirce's comprehensive conception of different types of signs as well as their interpretant opens possibilities for critical thinking of non-argumentative, non-linguistic artifacts. In fact, given that Peirce's philosophy is geared more toward cognitive process in understanding signs and fixing belief, but less toward communicating and sharing those fixed beliefs toward other inquirers in the same community, his semiotics may have more implications to critical thinking than argumentation.<sup>13</sup>

#### *4.5 Objection*

Having shown how Peirce's conception of semiotics, semiosis and signs contribute to theory and history of argumentation, let me handle one objection. People may say that that Peirce's semiotics based on empirical science does not fit well with argumentation in non-scientific settings. Peirce's semiotics, semiosis, and signs are so inextricably linked to his theories of scientific inquiry that applying them to argumentation in non-scientific settings could be problematic. His definition of semiotics clearly states use of signs by scientific intelligence, and the semiosis emphasizes empirical observation and abstraction. Therefore the application of his semiotics should be limited to scientific inquiry.

Although it is the case that his theory is strongly linked to empirical science, Peirce's slogan "do not block the way of inquiry" justifies inquiries into possibilities of applying his theories to non-scientific context. This is not the same as concluding that all parts of his theory would apply to arguments in everyday discourse, but examining the extent to which they apply in non-scientific contexts will constitute an important item on the research agenda. Given the scarcity of research by argumentation scholars on Peirce as a semiotician, denying this path of the inquiry is rather detrimental to advancing our understanding of Peirce, which in turn can impact the development of theory and history argumentation. Walton has already started this line of investigation in his study

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<sup>13</sup> Scholars have discussed the relationship between critical thinking and argumentation. Fisher and Scriven (1997, p. 33) has advanced a thesis that informal logic (logic of argumentation) is metalevel reflexivity on critical thinking; Govier (1987, pp. 237-241), Johnson and Blair (1996, p. 166) take a position that critical thinking is an educational ideal that includes skills to evaluate arguments; and Sobocan (2003) argues that the difference between critical thinking and informal logic is semantic and they teach the same skills based on the survey of textbooks. The examples in this paper support a thesis that critical thinking is not exhausted by argumentation.

of abduction. To many scholars in humanities disciplines, semiotics has become an important approach to engage in critical acts of human sign use, not limited to empirical science. In addition, Sebeok and Umiker-Sebeok (1980) has demonstrated that Peirce himself used abduction in a non-scientific context to find out who stole his watch. Given these data, it seems to be too arrogant to deny possibilities to apply Peirce's semiotics to non-scientific contexts simply because of its origins in scientific inquiry. Scholars should be cautious in cross-disciplinary application of theories, but argumentation scholars should follow Peirce, Walton, and semioticians in other fields, and start investigating possibilities to de-scientize Peirce's semiotics and apply it to argumentation and reasoning outside empirical science. Although this objection must be recognized, the foregoing four issues—interpretant and conception of argument, semiosis *ad infinitum* and argument reconstruction, potential inclusion of non-linguistic argument, and implications for argumentation and critical thinking—justify the thesis that Peirce is an important figure both to the theory and history of argumentation, and that argumentation scholars should study his ideas more thoroughly.

## 5. CONCLUSION

This paper has attempted to describe Peirce's conceptions semiotics, semiosis and sign, and advanced the claim that those conceptions involve important issues to the theory and history of argumentation. His conception of argument as invitation to produce the interpretant, interpretant *ad infinitum* and argument reconstruction, the icon and argument, and their implications for argumentation and critical thinking collectively constitute important issues for theory and history of argumentation. Given the time when he produced these ideas, the author believes that he should get much better recognition from argumentation scholars.

In addition to further investigating the four issues listed in the previous section, topics that merit further research on Peirce in the community of argumentation scholars include examination of communicative aspects of his semiotics, arguers and the community. Although Peirce emphasizes intersubjectivity in scientific inquiry, this paper has focused on his theories of sign and semiosis and disregarded the role that intersubjectivity, dialogue, and communication play in his semiotics. Since Peirce's conception of scientific inquiry involves this intersubjective dimension, future research should attempt to connect his contribution to product (sign/abduction) to dialogic dimension of his theory. Also, his conceptions of the human as the sign or the sign user, and the community as a group of people involved in inquiries require further development in light of his semiotics. Since his conception of the human and the community may have implications for argumentation as human/social activity, clarifying these conceptions and connecting them to argumentation and semiotics may offer us a fuller picture of Peirce's theory of argumentation that can involve product, process, agent and social practice. It is too early to answer the question of whether Peirce had theory of argumentation, but this paper seems to produce an interpretant that he actually did. It is up to future research to determine what the overall picture of his theory of argumentation is.

[link to commentary](#)

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