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Peirce on Symbols

Abstract: The goal of this paper is a reassessment of Peirce's doctrine of symbol. The paper discusses a common reading of Peirce's doctrine, according to which all and only symbols are conventional signs. Against this reading, it is argued that neither are all Peircean symbols conventional, nor are all conventional signs Peircean symbols. Rather, a Peircean symbol is a general sign, *i.e.*, a sign that represents a general object.

1 Introduction

One of Charles S. Peirce's most famous divisions of signs is into "icons", "indices", and "symbols". This paper is about Peirce's conception of symbol, which I believe has often been misunderstood.

Most Peirce scholars seem satisfied that a symbol is, according to Peirce, a conventional sign. There is in fact a certain agreement in classical and recent scholarship that "conventionality" is a necessary ingredient of a Peircean symbol, a necessary part of its definition.[1] In fact, "conventional" is commonly and tacitly taken as the specific *differentia* of the species "symbol": symbols are

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1 "A symbol is a conventional sign [...] it acquires a meaning not by virtue of any qualitative character but by social agreement" (Buchler 1939, 208); "a Symbol is any artificial or conventional sign" (Gallie 1952, 116–117); "The third form of connection is by convention, or imputed character" (Murphey 1961, 92); "What is supposed to demarcate symbols from other signs is a conventional relation of sign and object" (Greenlee 1973, 93); "Peirce definisce come simbolo ogni segno legato al proprio oggetto in virtù di una convenzione" (Eco 1984, 206); "a symbol represents its object in virtue of a convention that governs how the symbol will be used" (Parker 1998, 157); "If *s* is a *symbol* of *o*, then our grounds for identifying it as such are that there exists a practice of using and interpreting *s* as a sign of *o* which the utterance of the sign is exploiting" (Hookway 2000, 11); "The icon and the index embody sign-relations which are in the natural mode [...] as against the symbol, which is in the conventional mode" (Sebeok 2001, 103); "Sign A is a symbol for B if A is associated with B by convention" (Shin 2002, 23) "the symbol is a form of sign that relies on convention or law-like connections between the sign-vehicle and the object" (Atkin 2016, 300).

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signs (*genus*) that signify in virtue of a convention (*differentia*). According to this view, all symbols are conventional signs. Conversely, conventionality has often been taken as somehow *immanent* to the essence of symbols, to the effect that only symbols can be said to be conventional. I shall call the first claim and its converse the first and the second parts of the "conventionalist interpretation" of Peirce's conception of symbol. According to the first part of the conventionalist interpretation, all Peircean symbols are conventional; according to the second part, all conventional signs are Peircean symbols.

In this paper I argue that the conventionalist interpretation has to be rejected. Although some symbols are conventional, and though some conventional signs are symbols, conventionality is neither part of the definition of symbol (as the *differentia* of the genus "sign") nor is it coextensive with it. A Peircean symbol is rather (definable as) *a sign whose object is general*. A Peircean symbol *may* be a conventional sign, but it needs not: concepts for Peirce are symbols, but they are not conventional, and thus the first part of the conventionalist interpretation is mistaken. Further, as Peirce came to recognize, there are signs which, though conventional, are not symbols, because they do not denote general objects. This recognition quite naturally led him to distinguish more clearly between the generality *of the sign* and the generality *of the object* of the sign: symbols are signs whose object is general; a sign which is general *in itself*, and which may be so in virtue of a convention, is what Peirce in 1903 terms a "legisign". All symbols are legisigns, but not all legisigns are symbols. Thanks to the distinction between a symbol and a legisign, it was now possible for him to see how a sign can be the product of a convention and yet signify an individual object. Therefore, the second part of the conventionalist interpretation is also mistaken. Neither are all symbols conventional, nor are all conventional signs symbols. If my argument is correct, then the conventionalist interpretation is fundamentally flawed.

There are exceptions to the pervasive conventionalist interpretation of Peirce's notion of symbol. For example, in an old article Short has correctly emphasized the double nature of Peircean symbols, which are either conventional or natural (Short 1982, 296). And in a more recent paper he has given the correct definition of a Peircean symbol as "general sign", although the definition is given only *en passant* (2013, 297 f. n8).[2] In like manner, Liszka has noticed that a "symbol is not always conventional but could be the result of a natural dispo-

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2 However, to claim, as Short does in his major work (Short 2007, 282), that a symbol "expresses" a concept is to misunderstand Peirce's notion of symbol. For a concept *is* a symbol for Peirce, and thus Short's claim would reduce to the claim that symbols express symbols, which makes little sense on Peircean principles. Rather, as I will show, symbols express objects, and in particular *general* objects.

sition, or indurated habit" (1996, 132 n34). And Nöth has emphasized that Peirce extended the category of the symbol "from signs created by cultural conventions to signs which could have their origin in natural habits and dispositions" (Nöth 2010, 83).[3] Exceptions notwithstanding, however, the temptation to fall back on the conventionalist interpretation evidently lingers in the literature, and thus it is necessary, once and for all, to explain in detail why that interpretation is, in both its parts, mistaken, and why getting Peirce's doctrine right matters.

The most plausible historical model of the conventionalist interpretation is the first chapter of Aristotle's *De Interpretatione*. Here Aristotle states that the "things in the voice" (τὰ ἐν τῇ φωνῇ) are "symbols" (σύμβολα) of the "affections of the soul" (τῶν ἐν τῇ ψυχῇ παθημάτων), which in their turn are "likenesses" (ὁμοιώματα) of the things (πράγματα) (16a3–7). The things in the voice that are said to be symbols of the affections in the soul are, according to the *communis opinio* of ancient and medieval commentators,[4] those things which Aristotle has declared in the preceding sentence (16a1–2) to constitute the subject matter of the investigation, namely *names*, *verbs*, and *sentences*. And since these are later (16a19, 17a1) said to signify by convention (κατὰ συνθήκην), it follows that the names, verbs, and sentences that are in the voice are conventional signs of the affections of the soul, and thus that symbols are conventional signs. But the affections of the soul are not symbols, and therefore are not conventional. They are ὁμοιώματα of the external things. While the things in the voice are *conventional* because they are not the same for all, the affections of the soul are *natural* precisely because they are the same for all. And symbols being conventional signs, the affections of the soul are not, according to the *De Interpretatione*, symbols of anything.[5]

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3 But Nöth thinks that Peirce's "extended" notion of symbol (as including both conventional and natural symbols) was a product of mature reflections: "In 1901, Peirce explicitly extends his class of symbols from conventional to natural signs, when he states that the habit by which a symbol is determined in the process of its interpretation may be 'natural or conventional'" (Nöth 2010, 89). As I will show, the "extended" notion is by no means a product of mature reflection, because it is already found in Peirce's early writings, notably in the Harvard and Lowell series of lectures of 1865/6 and in the "New List" of 1867.
4 Cf. Ammonius, *In De Int*., *CAG* IV.5, 22.3–23.9; Boethius, *In De Int*. II, 30.1–42.5 (Meiser (ed.), Teubner 1887, 1880); cf. Montanari 1984, 2,32–36; Panaccio 1999, 122–124.
5 The conventionalist interpretation of Aristotle's σύμβολα has many supporters, ancient and modern. Cf. Ammonius, *In De Int*. 23.2–3; 30.16–31.1, 39.34–36; Boethius, *In De Int*. II, 23.4, 25.1; Aquinas, *In De Int*. II 14 [4]; Kretzmann 1973; Todorov 1977, 16. Among the opponents, Montanari 1984, 2, 41, and Lo Piparo 2003 have argued that Aristotle's "symbol" has rather to be taken in the more etymologically precise sense of "complementary correspondent". As I am not concerned with *Aristotle's*, but with *Peirce's* notion of "symbol", I will ignore this question here.

I will argue that although Peirce himself refers in several occasions to the conventionalist doctrine of *De Interpretatione*, it is not by reference to the Aristotelian σύμβολα that Peircean symbols are to be understood. The historical model of Peircean symbols – a model that Peirce knew, referred to, and discussed in lectures – is rather to be sought in William of Ockham's notion of *signum* as discussed in the first chapter of the first book of the *Summa logicae*: when Peirce says that symbols are general signs either natural or conventional, he has in mind the Ockhamian ideas of written and spoken signs on the one hand (which are conventional) and of mental signs on the other (which are natural), a symbol being in both cases a general sign of something which *supposit* for that thing within a propositional context.

The remainder of this article is divided in two main sections. Section 2 expounds Peirce's doctrine of conventional and natural symbols, starting from Peirce's seminal paper of 1867 "On a New List of Categories". In this section my aim is to show that, since there are Peircean symbols which are not conventional, the first part of the conventionalist interpretation (all symbols are conventional) has to be abandoned. In this section I also attempt to show that the historical model of Peirce's doctrine of symbols has to be sought not in the first chapter of Aristotle's *De Interpretatione*, but in the first chapter of the first book of Ockham's *Summa logicae*. Section 3 focuses on the classification of signs contained in the *Syllabus* of 1903, in which the notion of "legisign" is first introduced. In this section I argue that since there are conventional legisigns which are not symbols, the second part of the conventionalist interpretation, i. e. the claim that all conventional signs are symbols, has to be rejected too.

2 Conventional and Natural Symbols

In "On A New List of Categories" from 1867 Peirce explains that

> a distinction can be made between concepts which are supposed to have no existence except so far as they are actually present to the understanding, and external symbols which still retain their character of symbols so long as they are only capable of being understood. And as the rules of logic apply to these latter as much as to the former [...], it follows that logic has for its subject-genus all symbols and not merely concepts. (*W* 2, 56 f.)

Symbols are of two main kinds: external symbols, like words and the like, and concepts. The former are based on conventions or acquired habits, the latter on

dispositions or natural habits.[6] That symbols may be of two kinds is a doctrine that Peirce will never abandon:

> *Symbols*. Representations by virtue of original or acquired nature (*W* 1, 303 f.; 1865).

> a sign to which a general idea is attached by virtue of a habit, which may have been deliberately instituted, or may have grown up in a natural way (*R* 797; 1894).

> reasoning can be expressed in words, in algebraic formulae, and in diagrams; and such expressions have the same logical characteristics that the mental representations have. Logic, therefore, concerns itself as directly with the outward as with the inward representations. (*R* 735, 12; c. 1897)

> Symbols, which [...] have for their special significant character merely the certainty, based on some habit, natural disposition, or convention, that they will be understood in certain ways. (*R* 462, 88; 1903)

> *Symbols*, which represent their objects, independently alike of any resemblance or any real connection, because dispositions or factitious habits of their interpreters insure their being so understood. (*R* 675, 18; 1911)

The distinction between external and conventional symbols and internal and natural ones is, however, a distinction which logic ought to ignore. For one who is promoting an anti-psychologistic view of logic,[7] logic should only be concerned with the objective features of thought, with the logical forms of symbols, be they internal or external, "for every thought is a symbol and the laws of logic are true of all symbols" (*W* 1, 166). Logic is not interested in what differentiates natural from conventional symbols, but in what all symbols share. In fact, the term "symbol" was introduced precisely for the purpose of abstracting from the difference between concepts and words. In a coeval paper Peirce is clear as noonday: "I there [i. e. in the "New List"] also introduced the term 'symbol', to include both concept and word" (*W* 2, 82).

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6 A natural habit is an *innate* habit: "every animal must have habits. Consequently, it must have innate habits" (*CP* 5.504). That concepts are symbols based on dispositions or natural habits may thus be taken to be equivalent to maintaining that we have innate ideas: "In so far as it has cognitive powers, it must have *in posse* innate cognitive habits, which is all that anybody but John Locke ever meant by innate ideas" (*CP* 5.504). This is of course related to Peirce's later attempts to justify abduction by means of instinct: just as a bird has an instinct to fly, so man has an instinct to guess correctly the explanation of natural phenomena; the scientific hypotheses arrived at by abduction are "spontaneous conjectures of instinctive reason" (*EP* 2, 443; 1908). On the instinctual aspects of Peirce's later theory of abduction see Paavola 2005.

7 Cf. *W* 1, 163 f., 166, 305–309. On Peirce's early anti-psychologism see Colapietro 2003.

But what is it that is common to all symbols, be they external/conventional or mental/natural, and which distinguishes them from non-symbolic signs? In the "New List" Peirce defines symbols as those signs "the ground of whose relation to their objects is an imputed character, which are the same as *general signs*" (*W* 2, 55 f.). The same is maintained in a "Sketch of Logic" dated 1869, where a symbol is said to be "something to which a certain character is *imputed*, that is which stands for whatever object may have that character" (*W* 2, 294). In brief, Peirce's doctrine is that a symbol is a sign that denotes an object by means of an imputed character, *i. e.*, a character that it does not, as a sign, possess, but which is imputed to it. The assumption is that the connotation of a term serves to fix its extension.[8] Take the word "man": as a linguistic sign, it is based on the semantic conventions of English language, which are different from the semantic conventions of French. But both the semantic conventions concerning "man" in English and "homme" in French determine these signs to connote certain characters (*e. g.*, *animal*, *rational*, *biped*, *capable of laughing*, etc.), and consequently to denote whatever possesses those characters. The word itself does not possess those characters. The characters connoted are "imputed" to it, that is, the word is taken, thanks to a linguistic convention, to connote those characters and consequently to denote whatever possesses those characters. Given the equivalence between internal and external symbols, the same is true of concepts: the word "man" is equivalent to the concept "man", which is the same for both English and French speakers and which, like the word, does not possess the characters it connotes, but these are imputed to it by virtue of a habitual or natural connection. Thus the concept can, thanks to a natural association, connote certain characters, and denote whatever possesses them.

A symbol, be it external, as words, or internal, as concepts, differs from other species of signs in that it denotes whatever possesses the character imputed to it. Non-symbolic signs cannot do this: *indices*, like pointing fingers, personal pronouns, proper names, selectives, etc. do not denote what they denote by virtue of their connotation; an index has denotation but lacks adequate connotation.[9]

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8 Cf. *W* 1, 187 f., 272–279, 340 f., 467–469.
9 Peirce's theory of proper names, according to which they are indices, or better, as we shall see, "indexical legisigns", has much in common with causal theories of reference such as Kripke's; cf. Hilpinen 1995 and Di Leo 1997; for a more articulated view see Pietarinen 2010. It has also to be noted that in Peirce's later system of Existential Graphs a "selective" denotes an individual, and a line (termed "line of identity") connecting selectives represents the numerical identity of the individuals denoted by the selectives. But in all of his writings on the graphs, Peirce explains that everything which can be expressed by selectives and lines of identity can also be expressed by lines of identity alone (*R* 300; 1908). Now identity is a *general* relational predicate ("such a

Likewise, *icons*, like pictures, images, diagrams, only connote certain characters without specifically denoting anything that possesses them; an icon has connotation but lacks adequate denotation.[10] Only symbols denotes by connoting, thus having both connotation and denotation.

Under the conventionalist interpretation this doctrine of Peirce's must make little sense. Under that interpretation, moreover, the fact that in 1866 Peirce characterizes the index (at that time called, confusingly, "sign") as a conventional sign is difficult to explain. Here is the relevant passage:

> In the first place there are likenesses or copies – such as *statues*, *pictures*, *emblems*, *hieroglyphics*, and the like. Such representations stand for their objects only so far as they have an actual resemblance to them – that is agree with them in some characters. [...] The second kind of representations are such as they are set up by a convention of men or a decree of God. Such are *tallies*, *Proper names*, &c. The peculiarity of these *conventional signs* is that they represent no character of their objects. Likenesses denote nothing in particular, *conventional signs* connote nothing in particular. The third and last kind of representations are *symbols* or general representations. They connote attributes and so connote them as to determine what they denote. To this class belong all *words* and *conceptions*. (*W* 1, 467 f.; 1866; all emphases in the original)

Icons ("likenesses") connote without denoting. Indices ("signs" or "conventional signs") denote without connoting. Symbols do both. A proper name is an index, because it denotes an object without connoting any character of it. It is, in this sense, purely conventional that an object be called John or Paul, as it is purely conventional to use the Paris meter as the unit of measurement. Symbols denote whatever possesses the characters that they connote: it is by no means conventional that certain animals are thought of under the concept of "horse" (*i. e.*, that the concept "horse" should denote those animals), because in this case the denotation is fixed by the connotation, and since another conception would connote (*i. e.*, be a conception of) other characters, the denotation would also be different.

Peirce was to dismiss the early doctrine that indices are conventional signs. As he would later acknowledge, *some* indices are conventional (see next section),

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proposition as *Tully is Cicero* predicates the general relation of identity of Tully and Cicero", *EP* 2, 208), and as such must be expressed by a symbol (the line of identity); whereas selectives, just like proper names, denote individuals, and thus are indices. This is why the general character of the identity is lost when the notation of selectives is used along with lines of identity. Thanks to an anonymous reader for pointing this out. On selectives and lines of identity see Pietarinen 2015.

10 "Every symbol denotes certain objects and connotes certain characters. The symbol represents each of those objects to have each of those characters" (*W* 2, 1; 1867). Cf. also *W* 1, 272; 1865, where "copy" stands for "icon" and "sign" for "index", and *W* 1, 469; 1866.

but symbols too may be conventional (though they need not to). Therefore, conventionality is a defining feature of neither indices nor symbols, as we shall see.

Indices have an *individual* object, which they denote. Icons do not, properly speaking, have an object: they only connote characters. Symbols, by contrast, have a *general* object. For to say that a symbol denotes whatever possesses certain characters, is to say that it denotes a *kind* of thing. Characters are general, and thus only a general object can be said to satisfy those characters. Thus to say that a symbol is a sign the ground of whose relation to its object is an imputed character is to say that a symbol denotes an object by means of a character which it does not itself possess, but which is imputed to it. But to say that a symbol denotes an object by means of a character is to say that the object denoted is general, for characters are general. Thus symbols are signs whose object is general or, in brief, *general signs*. And this is precisely how Peirce defines symbols in § 14 of the "New List", which I have quoted above. In point of fact, "symbol" and "general sign" are almost synonymous expressions for both the young and the mature Peirce.[11]

Peirce usually divides symbols into *terms*, *propositions*, and *arguments* according to the function each is supposed to exercise in logical discourse. The function of a term ("man"), later conceived in Fregean fashion as an unsaturated predicate ("__is a man") and called a "rhema", is to represent a possible character, which is imputed to it. The term applies to whatever object might satisfy the character imputed, but does not explicitly say of what object it says what it says. Unlike the term, the proposition does explicitly say what object or objects satisfy the predicate imputed, *i.e.*, of what object it says what it says. Thus the proposition "Socrates is a man" connotes a character (in the predicate) and denotes an object (in the subject), and by so doing it says that the character applies to the object. Like the proposition, the argument explicitly represents the object; but unlike the proposition, it also represents the *further* proposition that may be substituted for the former without loss of truth in the substitution. The argument "Socrates is a man, therefore Socrates is mortal" not only represents in the premise the object as the proposition does (Socrates as a man), but also represents in the conclusion what follows from this representation (that Socrates is mortal). The argument says what character applies to an object and what further character applies to it in consequence of the first application.[12] An argument can be expressed in a conditional proposition ("If Socrates is man, then he is mortal"), and a proposition can be expressed in a term ("The humanity of Socrates"). A term is a rudimentary

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11 Cf. *W* 2, 446; 1870; *EP* 2, 69; 1901; *R* 492; 1903; *CP* 4.544; 1906; *CSP* to F. A. Woods, *R L* 477; 1913.
12 Cf. *W* 2, 57; 1867; *R* 484, 7 f.; 1898; *R L* 75, 237 f.; 1902; *EP* 2, 204; 1903; *R* 491, 9 f.; 1903; *EP* 2, 272; 1903.

proposition, and a proposition a rudimentary argument (*R* 787, 30–32; 1896). Each is a symbol in its own way, because each performs a specific symbolic function (represent a character, represent a character and an object, represent a character, an object, and another character of the object).

Peirce considered the argument to be the perfect symbol: "an argument, or proposition considered as leading to a definite conclusion, ought alone to be considered as a completely expressed symbol" (*R* 1147, 12; 1901); "the *Argument* perfects a symbol, or specially third category sign, by explicitly indicating an interpretant; namely, its conclusion" (*R* 690; 1901); "The highest kind of symbol is one which signifies a growth, or self-development, of thought, and it is of that alone that a moving representation is possible" (*R* 298, 13; c. 1906). Now, the claim that arguments are perfect symbols patently conflicts with the conventionalist interpretation. Aristotle says that names, verbs, and sentences signify by convention (κατὰ συνθήκην) (*De Int*. 16a19, 17a1). In his second commentary to the *De Interpretatione* Boethius observes that sentences are conventional in virtue of being composed of conventional terms (names and verbs) (*In De Int*. II, 92.25–31); they are indirectly conventional.[13] The same applies to Peirce's conception of symbol: if conventionality is made part of the definition of the symbol, as the conventionalist interpretation would wish, the consequence would be that the proposition is a symbol only *indirectly* (because it is composed of terms), and the argument *doubly indirectly* (because it is composed of propositions). But if an argument is indirectly a symbol, it cannot be the perfection of a symbol. For how can a member of a class be the perfect member of that class if it belongs to that class only indirectly? Peirce's claim that an argument is a perfect symbol remains unexplained under the conventionalist interpretation.

If on the contrary a Peircean symbol is defined as a general sign, *i. e.*, as a sign whose object is general, this undesired consequence could be avoided. Propositions are general because their predicate is general: "[e]very symbol, as involving an assertion, or rudimentary assertion, is general [...]. That is, the predicate is general" (*R* 787, 34; 1896). But arguments are general not just because they contain general signs, but first and foremost because they exemplify a *general scheme of inference*. An argument represents that a certain passage from premises to a conclusion is legitimate. In order to do so, it must profess to be representative of a general method of procedure according to which from such-and-such premises one can draw such-and-such conclusions. The argument, while it represents its own conclusion, also "exemplifies", "shows", or "urges" the general scheme of inference of which it is an instance:

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13 Cf. Lo Piparo 2003, 115, and Montanari 1984, 2, 315.

> The Interpretant of the Argument represents it as an instance of a general class of arguments, which class on the whole will always tend to the truth. It is this law, in some shape, which the argument urges; and this "urging" is the mode of representation proper to arguments. The Argument must, therefore, be a Symbol, or Sign whose Object is a General Law or Type (*EP* 2, 293; 1903).

The predicate of a proposition is a symbol because it refers to a general type of objects ("man"). The argument is a symbol because it refers to a general law ("from P it is legitimate to infer Q"). But why are arguments *perfect* symbols? After all, they seem to contain as much generality as terms and propositions, only in the form of a general law rather than in that of a general predicate. While the undesired consequence of the conventionalist interpretation is avoided as soon as we define symbols as general signs, the claim that an argument is a *perfect* symbol still awaits explanation. The explanation of it requires a closer examination of Peirce's semiotic taxonomies of 1902/3, which will be the topic of the next section.

Another reason why symbols should not be identified with conventional signs is the following. As Murphey 1961, 299 f., and Short 2007, 46–51, have observed, the discovery of quantification theory in 1882/3 brought Peirce to modify his earlier analysis of the proposition. According to this earlier analysis, a proposition is composed of symbols, its subject and predicate being terms, and thus symbols. But the new theory of quantification reveals that a proposition cannot be composed of symbols only. It must *indicate* what its object is: "tokens [symbols] alone do not state what is the subject of discourse; and this can, in fact, not be described in general terms; it can only be indicated" (*W* 5, 164; 1885). In "Methods of Reasoning" from 1881 the claim that "no proposition whatever can be completely and fully expressed in general terms alone" (*W* 4, 249) is called an important "theorem of logic". The point is that no proposition can signify anything if it is not understood as relating to some definite universe of discourse. And since the universe of discourse to which a proposition refers is singular, it cannot be described, *i. e.*, represented by means of symbols only: it must be *indicated*. Therefore, an index or a sign of the nature of an index is necessary in every proposition. Now, if a symbol were a conventional sign, the change in Peirce's analysis of the proposition would be inexplicable, for both the subject and the predicate of a proposition are words, and thus conventional signs. But Peirce is very clear that the necessity of indices is due to the fact that symbols are *general* signs, and since the universe of discourse is singular, general signs cannot determine it.

The matter can be further elucidated by considering the historical antecedents of Peirce's notion of symbol. If in Aristotle "symbol" signifies "conventional sign", then Peirce cannot be taken to maintain an Aristotelian conception of symbol. And yet this is precisely what he seems to maintain in the second chapter of a projected, but never published, multi-volume work on logic titled *How to Reason*:

> *Symbols*. The word symbol has so many meanings that it would be an injury to the language to add a new one. I do not think that the signification I attach to it, that of a conventional sign, or one depending upon habit (acquired or inborn), is so much a new meaning as a return to the original meaning. [...] the Greeks used "throw together" (συμβάλλειν) very frequently to signify the making of a contract or convention. Now, we do find symbol (σύμβολον) early and often used to mean a convention or contract. Aristotle calls a noun a "symbol", that is, a conventional sign. In Greek, a watch-fire is a "symbol", that is, a signal agreed upon; a standard or ensign is a "symbol", a watch-word is a "symbol", a badge is a "symbol"; a church creed is called a symbol, because it serves as a badge or shibboleth; a theatre-ticket is called a "symbol"; any ticket or check entitling one to receive anything is a "symbol". Moreover, any expression of sentiment was called a "symbol". Such were the principal meanings of the word in the original language. The reader will judge whether they suffice to establish my claim that I am not seriously wrenching the word in employing it as I propose to do (*EP* 2, 9; 1894).

Peirce is worried that his definition of the term "symbol" should not conflict either with its etymology or with its traditional meaning. In Liddell and Scott's *Greek-English Lexicon*, which Peirce was referring to,[14] it is explained that "σύμβολα were strictly the two pieces of a bone or coin, which two ξένοι, or any two contracting parties, broke between them and preserved [...] hence, generally, *the half* or *corresponding portion* of a thing cut in two". The Lexicon entry also lists several other meanings, some of which are those mentioned by Peirce: a watch-fire, a signal agreed upon, a standard or ensign, a watch-word, a badge, a church creed, a theatre ticket.

The etymology of the Greek σύμβολον decidedly suggests convention, because the two halves of the coin cannot be recognized as representing anything unless there is a previous agreement concerning their meaning, and thus a convention. But though a Peircean symbol may be conventional, it by no means needs to be such. Thus notwithstanding the profession of terminological ethics made in the passage just quoted (from *How to Reason*, 1894), later Peirce would recognize that his divergence from the Aristotelian conception must be signalized, one way or another:

> A conventional sign has, since Aristotle and earlier, received the name of *symbol*; but besides conventional symbols there are signs of the same nature except that instead of being based on express conventions they depend on natural dispositions. They are natural symbols. All thought takes place by means of natural symbols and of conventional symbols that have become naturalized (*R* 450, 6; 1903).

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14 Cf. the editorial note at *EP* 2, 505.

While for Aristotle the things in the voice (words) are conventional, because they are not the same for all, the affections of the soul (conceptions) are natural, because they are the same for all. Thus words and conceptions are not, according to the *De Interpretatione*, of the same nature: the former are σύμβολα, the latter ὁμοιώματα. Unlike in the *De Interpretatione*, spoken and mental symbols are for Peirce "of the same nature": the former are based on artificial conventions, the latter on natural dispositions. Peirce may not be seriously wrenching the word "symbol" in employing it as the name of all general signs, whether conventional or natural, but by including under his notion of symbol also conceptual entities that signify by natural disposition, he is certainly departing from the meaning that Aristotle and his commentators had given to that word.

I have suggested above that the historical model of Peirce's conception of symbol has to be sought in Ockham's doctrine of terms in the *Summa logicae*. It is known that the current notion of sign at Ockham's times was directly derived from Augustine's famous definition in the *De doctrina christiana*: "signum est enim res praeter speciem, quam ingerit sensibus, aliquid ex se faciens in cogitationem venire" (II, 1, 1). A sign for Augustine is something which, being offered to sense, also offers something to the intellect; a concept, being intellectual and not sensible, cannot be a sign in Augustine's sense. Yet, already in the thirteenth century we find authors who treat intellectual concepts as signs, thus dropping the Augustinian requirement. For example, for Roger Bacon not all signs are sensible, but some are given to the intellect only.[15] Ockham simply and directly identifies the concept with the mental sign, and thus allows the categories used for the description of linguistic or external signs to be imported within the description of mental or internal signs.[16]

In a passage that Peirce knew at least since 1869,[17] Ockham distinguishes, following Aristotle and Boethius, between three sorts of terms: spoken, written, and conceptual terms.

> Terminus scriptus est pars propositionis descriptae in aliquo corpore, quae oculo corporali videtur vel videri potest. Terminus prolatus est pars propositionis ab ore prolatae et natae audiri aure corporali. Terminus conceptus est intentio seu passio animae aliquid naturaliter significans vel consignificans, nata esse pars propositionis mentalis, et pro eodem nata supponere. (*Summa logicae*, I, 1 = Ockham 1974, 7.16–21)

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15 "non omne signum offertur sensui ut vulgata descriptio signi supponit, sed aliquod soli intellectui offertur". Roger Bacon, *De signis* I.2. See Fredborg *et al.* 1978, 82.

16 On Ockham's semantics see Tabarroni 1989; Panaccio 1999, ch. 7; Panaccio 2004.

17 Peirce read this passage as part of his third 1869/70 Harvard University Lectures on British logicians; cf. *W* 2, 317–321.

While for Aristotle spoken terms are symbols of mental terms, for Ockham spoken terms or words are not signs of mental terms; they are, like mental terms, signs of the things (while for Aristotle, as we know, the affections of the soul are not σύμβολα but ὁμοιώματα of the πράγματα). Furthermore, while both words and concepts are signs of the things, the word is subordinate to the concept (*voces esse signa subordinata conceptibus*) and secondarily signifies what the concept primarily signifies. The reason of the subordination is that if a concept were to change signification, the word would change its own in consequence. This introduces a further difference between external and internal signs:

> Inter istos autem terminos aliquae differentiae reperiuntur. Una est quod conceptus seu passio animae naturaliter significat quidquid significat, terminus autem prolatus vel scriptus nihil significat nisi secundum voluntariam institutionem. Ex quo sequitur alia differentia, videlicet quod terminus prolatus vel scriptus ad placitum potest mutare suum significatum, terminus autem conceptus non mutat suum significatum ad placitum cuiuscumque. (*Summa logicae*, I, 1 = Ockham 1974, 8:46–52)

Spoken and written terms signify for voluntary imposition and agreement, *i. e.*, by convention; their signification could be changed by changing the convention. We can stipulate that the word "man" signifies, from now on, what was previously signified by the word "ape". But we cannot modify the signification of conceptual terms by changing a convention; we cannot stipulate that our general concept of man is different from what it is. The reason is that a word signifies the thing conventionally, while a concept signifies the thing naturally. In the narrow sense in which the term is used in the *Summa*,[18] a *signum* is either part of a proposition (a categorematic or syncategorematic term), or it is itself a proposition: it is either a complete *oratio* or a *pars orationis*. As observed by Panaccio, "Ockham's technical definition restricts the domain of signs which are of interest for logic, to

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18 Ockham distinguishes a wider from a narrower notion of "sign" (1974, 8.53–9.65). In the wide sense, a *signum* is something habitually associated with its *significatum*, so that the presence of the former brings to mind the remembrance of the latter; Ockham's examples of signs in this wider sense are the "vox" as sign of the thing, the smoke as sign of fire, and the barrel-hoop as sign of wine in the tavern. In the narrow sense, a *signum* is either an element of a mental proposition, or itself a mental proposition; see Panaccio 2004, ch. 3. Marmo 2013 has argued that in discussing the wide sense of "sign" Ockham intentionally avoids reference to the traditional distinction between natural and conventional signs: in the wide sense of "sign", both a natural sign as smoke and a conventional sign as a spoken word are signs of their *significata*, because the actual apprehension of such signs produces the retrieval of a habitual knowledge of the things signified by them. If Marmo is right, then there would be some reason to regard Peirce's notion of symbol as corresponding not only to the narrow sense of "sign" (proposition or propositional component), but also to the wide sense (either natural or conventional "habitual" sign of a thing).

those that can occur, in some capacity or other, in the well-formed sentences of a language" (2004, 51).

This is precisely Peirce's notion of symbol. A Peircean symbol is not a sign (in Aristotle's terms, a symbol) of the concept, *for the simple reason that the concept is itself a symbol*. In Ockham's terms, a Peircean symbol is a "mental sign" (*terminus conceptus* or *passio animae*). Unlike in the Aristotelian view, a Peircean spoken (conventional) symbol is not a symbol of the mental symbol, this latter being in turn a symbol of the outward thing. Like Ockham's *signum*, a Peircean spoken (conventional) symbol is, like the mental symbol coordinate with it, a symbol of the thing, and just as Ockham's *signum* is either a complete *oratio* (proposition) or a *pars orationis*, a Peircean symbol is either a proposition, something which enters into a proposition (a term), or a proposition that represents another proposition (an argument). It is true that Peirce cannot say, as Ockham does, that the word is subordinate to the concept and secondarily signifies what the concept primarily signifies. For conversely, his anti-psychologism forces him to regard mental signs as subordinate to external signs, at least from the point of view of the methodology of logic. And as I have mentioned, the term "symbol" was introduced as a technical term of his logic precisely for the purpose of abstracting from the difference between mental signs and external signs. But he certainly shares Ockham's idea that words signify things conventionally, while concepts signify things naturally, and that both are representations of the same kind. Words are conventional symbols, concepts natural ones. Logic is not interested in what distinguishes words from concepts, but only in what they share, and this is that they are both symbols, *i.e.*, signs whose object is general.

3 Legisigns, Symbols, Arguments

Commentators that adhere to the conventionalist interpretation must have failed to pay the necessary attention to the taxonomy of signs included in Peirce's *Syllabus* for the Lowell Lectures of 1903. Before the *Syllabus*, Peirce had been content with considering his second trichotomy of signs, that into terms, propositions, and arguments, as a division of the last member of the first trichotomy, that into icons, indices, and symbols.[19] In the *Syllabus* he introduces two important taxonomic innovations: first, he adds a *third* trichotomy to the earlier two; the three trichotomies of signs of the *Syllabus* are, in order of logical presupposition:

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19 Cf. *W* 2, 58; 1867, and *R* 787; 1896.

 I. *qualisign/sinsign/legisign*
 II. *icon/index/symbol*
 III. *term/proposition/argument* (*EP* 2, 291 f.)

Second, he considers these trichotomies not as divisions of *classes* of signs, but divisions of *parameters* that classify signs. The classes of signs are obtained by combining the parameters represented by the members of the three trichotomies with one another. The possible combinations are, of course, twenty-seven, but Peirce excludes some of them on the basis of precise "rules of semiotic compossibility" about which in a moment. By combining the parameters according to his rules, he excludes seventeen classes of impossible signs (or impossible combinations of parameters) and obtains ten classes of possible signs. We need not go into all the ten classes in detail.[20] However, an examination of these rules will give us the key to understand, first, why there are conventional signs which are not symbols (*contra* the second part of the conventionalist interpretation); and second, why arguments are perfect symbols.

 A personal pronoun is, as a word, a conventional sign. Is it a symbol? According to the second part of the conventionalist interpretation, it must be a symbol, because all conventional signs are symbols. According to Peirce, personal pronouns are not symbols, though they are "legisigns".

 We find traces of Peirce's *Syllabus* distinction between symbols and legisigns in the already mentioned second chapter of *How to Reason*: "A symbol, as we have seen, cannot indicate any particular thing; it denotes a kind of thing. Not only that, but it is itself a kind and not a single thing" (*EP* 2, 9). In the *Logical Tracts No. 1*, written just before the *Syllabus* in the summer of 1903, Peirce is more explicit:

> The word "man" has the meaning it has simply by virtue of there being a general law, or habit, among English speaking interpreters, to which the interpretations of it will conform. Not only is "man" a "general sign" *formaliter*, or in its signification, but it is also general *materialiter*, in its mode of being as a sign (*R* 491, 6 f.).

The word "man" is general in its signification, because it applies to a general object. But what Peirce emphasizes here is that the word is also *general in itself*: all occurrences of the word "man" in a book are one and the same word, each occurrence being a distinct "existent individual", a replica or token of it.[21] Consid-

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20 Peirce's semiotic combinatorics of 1903 has been the object of intense study by Peirce scholars; see Short 2007, 238–242, and Bellucci 2017, ch. 7.

21 In point of fact, Peirce carefully distinguishes a replica or occurrence from a token or "sinsign" (*EP* 2, 291). See footnote 23. Of course, Peirce's idea that a symbol is a type that occurs in

ered as a sign that is one and the same in all its occurrences, *i.e.*, as a sign which is general in itself, a word is, as Peirce explains in the *Syllabus*, a "legisign":

> Every conventional sign is a legisign. It is not a single object, but a general type which, it has been agreed, shall be significant. Every legisign signifies through an instance of its application, which may be termed a *Replica* of it (*EP* 2, 291).

When a word is considered as a legisign that occurs in sinsigns, it is what the scholastics[22] called *suppositio materialis* that is under consideration. When a word is considered as symbol (as signifying such and such characters, and thus the objects that satisfy those characters), it is considered as standing for that which it signifies, *i.e.*, in its *suppositio formalis*. *Materialiter*, the word "man" is general, *i.e.*, is a legisign. *Formaliter*, the word has a general object, *i.e.*, is a symbol.

The trichotomy qualisign/sinsign/legisign is the level of analysis corresponding to the *suppositio materialis* of signs which Peirce introduces in the *Syllabus*, and constitutes the first real innovation with respect to his earlier semiotic doctrines. But how does the new level of analysis interact with the older ones? Are all legisigns symbols?

One of the rules of semiotic compossibility in the *Syllabus* is that *a symbol can only be a legisign* (*EP* 2, 292). From the point of view of the combinatorics, this means that a combination of the third member of the second trichotomy (symbol) with the first and second members of the first trichotomy (qualisign, sinsign) is excluded. The reason for this is that a sign which is general in its signification (general *formaliter*) *must* also be general in itself (general *materialiter*); for how could the occurrence of a sign that belongs to no type be capable of signifying a general object? Repeatability is a typical feature of general signs. In Peirce's terms: symbols can only be legisigns.[23]

But while symbols can only be legisigns, legisigns can be signs other than symbols. Thus the taxonomy of the *Syllabus* includes, besides symbolic legisigns, also iconic and indexical legisigns. An iconic legisign is an icon-type. The portrait

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replicas is directly opposed to Ockham's nominalistic ontology: for Ockham mental signs (just as the linguistic signs subordinated to them) are tokens, not types. For a discussion see Panaccio 2004, 55–58.

22 The distinction between *suppositio formalis* and *suppositio materialis* is found in William of Sherwood (*Introductiones in Logicam*, Brands/Kann (eds.) 1995, 136) but not in Ockham, whose own distinction is into *suppositio materialis*, *simplex*, and *personalis* (*Summa logicae*, I, 67–69).

23 As Short correctly explains (see Short 2007, 220 f.), while a sinsign in itself cannot signify anything general, yet there must be a sense in which a sinsign which is a replica of a legisign can signify a general object. This is the reason why in the *Syllabus* Peirce is careful to distinguish between "ordinary sinsigns" and those sinsigns which are replicas of legisigns; *qua* replica of a legisign, a sinsign can in fact signify a general object; cf. *EP* 2, 291.

of Leibniz in a German postage stamp is an iconic legisign: it is iconic because it is *like* Leibniz without saying that Leibniz was like it (to do so, it would require an index, like a label); but it is a legisign because it is always the same type which occurs in replicas in each postage stamp of the same type. Likewise, an indexical legisign is an index-type. Personal pronouns and proper names are indexical legisigns; they are indices because they denote individuals without saying anything of them; but they are legisigns because they are words, and words are legisigns. An iconic legisign must occur in iconic sinsigns which are replicas of it (each singular stamp bearing Leibniz's portrait), and an indexical legisign must occur in indexical sinsigns which are replicas if it (each singular occurrence of a personal pronoun or proper name).

The distinction between the generality of the object of the sign (general sign *formaliter*) and the generality of the sign itself (general sign *materialiter*), and the corresponding rule of semiotic compossibility (symbols can only be legisigns) does not imply that symbols can only be conventional (as the supporters of the first part of the conventionalist interpretation would wish). For while Peirce is very clear that "every conventional sign is a legisign", he never says that all legisigns are conventional signs.[24] The portrait of Leibniz in the postage stamp is not conventional, and yet is a legisign. Personal pronouns, as words, are conventional, and they are legisigns. Thus legisigns may or may not be conventional, their essential character being that of being signs general in themselves (general signs *materialiter*). According to the *Syllabus* taxonomy of signs, conventionality is a defining feature of neither legisigns nor symbols, for there are legisigns that are non-conventional, and conventional signs that are non-symbolic. A correct understanding of the difference between a legisign and a symbol, and a correct definition of them, should therefore entail an immediate abandonment of the first and second parts of the conventionalist interpretation of Peirce's notion of symbol.

We have just seen that one of the rules of semiotic compossibility of the *Syllabus* is that *symbols can only be legisigns*. Another rule is that *arguments can only be symbols*. From the point of view of the combinatorics, this means that a combination of the third member of the third trichotomy (argument) with the first and second members of the second trichotomy (icon, index) is excluded. That arguments can only be symbols is clear from what I have said above, namely that an argument must "show", or "urge", the *general* scheme of inference of which it is an instance: since in the trichotomy *icon/index/symbol* only symbols are general, arguments can only be symbols.

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24 Cf. Short 2007, 211.

Now, the claim that arguments are *perfect* symbols derives from a contrast with what the law does *not* exclude. The law does not exclude that propositions and terms be signs other than symbols. Take a weathercock. In his early writings, Peirce tended to see a weathercock as an index, because being causally connected with its object it directly denotes that object (the wind).[25] But he later came to think that a weathercock does not simply denote an object (the wind); it also says something about it (it says what its direction is). In this sense, it is more like a proposition than as a pointing finger or proper name.[26] A weathercock says what the direction of the wind is, but does this by being actually connected with its object rather than by describing its object in general terms, as a symbolic proposition would do ("The wind blows NE"). In light of the new taxonomy, an index that asserts, like a weathercock, is an *indexical proposition*. This class of propositions was taxonomically impossible in Peirce's pre-*Syllabus* semiotic theory. It now becomes possible because the members of the three trichotomies are considered as parameters that classify signs and not as themselves classes of signs.

This finally explains why arguments are said to be "perfect symbols". A proposition can be other than general: the weathercock says what the direction of the wind is by being a singular object that physically reacts with another singular object. But arguments cannot be other than general: any particular argument must necessarily make reference to a general scheme of argument of which it is an instance. In order to signify the direction of the wind the weathercock does not need to make such a reference to a general mode of signifying, while the argument, in order to signify that a conclusion is a logical consequence of a set of premises, does need to make reference to a general scheme of inference. The argument, therefore, is the perfect symbol because it is the only member of the third trichotomy that is a symbol and a *symbol only*, while the other members of the trichotomy (terms and propositions) are symbols, but can also be signs other than symbols.

Conclusion

Peircean symbols are not definable by *genus* and *differentia* as conventional signs, nor do all conventional signs belong to the class of Peircean symbols. There are symbols, like concepts, which are not conventional, and there are conventional signs, like personal pronouns and proper names, which are not

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25 Cf. *W* 2, 54; 1867; *W* 2, 225; 1868; *W* 3, 62; 1873; *EP* 2, 14; 1895.
26 Cf. *R* 787, 34; 1896; *EP* 2, 297; 1903; *EP* 2, 306 f.; 1904; *EP* 2, 406 f.; 1907.

symbols. Symbols, which for both the young and the late Peirce are either propositions, parts of propositions (terms), or propositions representing other propositions (arguments), are *general signs*, *i.e.*, signs whose object is general. Among symbols, arguments are the perfect symbols because they can only be symbolic, while terms and propositions, as Peirce came to see in the *Syllabus* of 1903, can also be iconic and indexical. To call a personal pronoun a symbol cannot mean that its object is general; it can only mean that the sign itself is general. To capture the dimension of analysis of signs corresponding to their *suppositio materialis*, the *Syllabus* introduces the notion of "legisign", or sign-type which is general in itself and which occurs in sign-replicas. A personal pronoun is an indexical legisign. Unlike symbols, it is not general. Like legisigns, it is a type that occurs in replicas.[27]

W   followed by volume and page number refers to *Writings of Charles S. Peirce. A Chronological Edition*, 8 vols. Ed. the Peirce Edition Project. Indianapolis, 1982–2009.

EP 2   followed by page number refers to *The Essential Peirce Vol. 2*. Ed. the Peirce Edition Project. Indianapolis, 1998.

R   followed by manuscript and, when available, page number, refers to Peirce's unpublished manuscripts in the Houghton Library, Harvard University. MS numeration follows R. Robin. 1967. *Annotated Catalogue of the Papers of Charles S. Peirce*. Worcester, MA.

CP   followed by volume and paragraph number refers to *Collected Papers of Charles S. Peirce*, 8 vols. Eds. C. Hartshorne/P. Weiss/A. Burks, Cambridge, MA, 1932–1958.

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