What is a symbol

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In the most different fields of science and the arts the word symbol has been used so generously that its sense became imprecise. In the last decades the concept of symbol has been used very frequently in the cognitive sciences but here the concept is very simplified. Peirce's definition of the symbol, on the contrary, is complex and precise, that is why it is able to collaborate to a better understanding of the way a symbol functions and produces sense.

In Peirce's semiotics we should begin the study of the symbol through the concept of the legi-sign since this latter is the ground of the symbol. The legi-sign is a law that is a sign. But here we have to consider that Peirce's concept of law is very original. It cannot be confused with necessity neither with norm, since this latter is just a conventional translation of law. For Peirce, law is a living power, a permanent conditional force (CP 3.435), that is, a regularity in the indefinite future (CP 2.293). Without the domain of laws, facts and actions would be brute and blind. Being conformed to a certain extent to the living power of a law, facts accomodate in a regularity which is to a certain extent predictable. Hence, a law functions as a force that will be actualized given certain conditions. As laws do not present the rigidity of necessity, they can evolve. But in itself a law is an abstraction. It does not have a concrete existence except through the cases that are under its domain. These cases can never exhaust all the potencial of a law as a living force. This means that laws that govern facts are general while facts are particular, but at the same time, laws endow facts with a certain generality which appears as regularity.

As a consequence of this, a legisign is a sign considered in terms of a power that belongs to it to act semiotically, that is, to generate an interpretant (Ransdell 1983: 54). The law of representation is in the sign itself, so that it is bound to produce an interpretant sign or a series of interpretant signs as general as the legisign itself. It is through the interpretants that its character of sign is accomplished. It is the law that will lead the sign to be interpreted as a sign, since the legisign functions as a rule that will determine its interpretant, a rule that will determine it to be interpreted as refering to a given object.

Verbal discourse is the most evident example of a legisign or system of legisigns. As they belong to a language system, words are interpreted as representing what they repre-

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sent as a consequence of the laws of the system. But words can only take part in experience through their manifestation. Peirce calls these instances of manifestation replicas. They are sinsigns of a special kind. They are sinsigns because they are individuals that occur in a determinate space and time, but they are replicas because they actualize, they embody legisigns.

The nature of the symbol derives from the above considerations. The meaning that Peirce gave to a symbol, that of a conventional sign that depends on a habit acquired or inate (2.297), is not new since it goes back to its original meaning. In Greek symbol meant the celebration of a contract . In Aristotle, a name is a symbol, a conventional sign.

For Peirce, symbols function as such not in virtue of a character that belongs to them, neither in virtue of a real connection with their objects, but simply in virtue of being represented as being signs (CP 8.119). In contrast with the icon, whose relation to the object is founded in a mere resemblance, and in contrast with the index, whose relation to the object is a relation of fact, an existencial relation, the ground of the relation of the symbol with its object depends on an imputed, arbitrary and non motivated character. Hence, the symbol is a sign which is connected to its object thanks to a convention that it will be interpreted as such and also through an instinct or an intellectual act that takes the symbol as representing its object, without the need of any action to occur and establish a factual connection between sign and object (CP 2.308).

The symbol, in itself, in its nature of a legi-sign, is a general type, an abstraction. The object of the symbol is no less abstract than the symbol. For instance: what is the object of the legi-sign "man"? It refers to all men that can logically exist. Hence the object of the symbol is not a particular thing, but a type of thing that corresponds to an idea or general law to which the symbol, also in its character of a law, is associated through a rule or interpretative habit that Peirce called the logical interpretant. Conclusion: not only the symbol but also the object and its interpretant, all the three have a general nature. They are abstract types. From this the self reproductive character of the symbol is derived, since the symbol is only constituted as such through the interpretant.

Consequently the symbol is connected to its object in virtue of an idea in the mind that uses the symbol, without which this connection would not exist (CP 2.299). This means that the symbol would lose its character of a sign if there was no interpretant (CP 2.304). What is implicit in these statements is the fact that the symbol is social by nature, depending on the use that a community makes of it. Hence, the third member of the triad, the interpretant is also a general type, transindividual, presenting the nature of a law as well. "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 operate to cause the Symbol to be interpreted as referring to that Object" (CP 2.249). And also: "the significative value of a symbol consists in a regularity of association, so that the identity of the symbol lies in this regularity" (CP 4.500). From 1906 on, Peirce began to call this law or regularity the logical interpretant, an interpretative law that guides the association of ideas that connect the symbol to its object. In many passages, Peirce emphasized the habitual character of the association of ideas in virtue of which the symbol denotes its object.

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Although in some passages habit and convention are used as synonyms, there are some differences between them. To consider this difference we have to bear in mind that Peirce's notion of habit is as original as his notion of law. It is not by chance that in some situations both, law and habit, may be taken as synonyms. Habits can be inate including natural dispositions. If it includes a natural disposition, then symbols are not necessarily conventional. This is clear in the following quotation: "Noticing that I have classed the natural symptoms both among indices and among symbols, I restricted symbols to conventional signs, which was another error" (CP 2.340). Although the great majority of symbols are conventional there may exist symbols that depend on natural habits.

At this point the comprehension of the originality of Peirce's conception of habit contributes to a better understanding of the symbol itself. To a certain extent, habit is a psychological concept, in the sense that it is embodied in the human mind. But it is not only psychological, since "habits are general rules to which the organism has become subjected" (CP 3.360). Furthermore, organisms do not necessarily need to be human. There are habits in rudimentary organisms, as much as there are habits in plants and in nature itself, in a river, for instance. That means that the concept of habit is very general and abstract. It is an effective general law (CP 4.447), that is, a rule for action (CP 5.397-98). Hence, habits are actions that tend to repeat themselves according to uniform patterns, under specific conditions. At this level of generality, habit is a synonym of a natural or acquired law. When it is acquired by a social convention, the habit is conventional.

Here the notion of law as a regularity in the indefinite future can be recuperated, as much as the consequences it brings to the notion of the symbol. The habit that the symbol activates in the mind of the interpreter, implies a disposition to act in a certain way under certain circumstances. But the question does not end here. If the symbolic sign in itself is a legi-sign, this law is also a general rule or habit. Or better, not only the interpretant but the symbol itself is also a habit or effective general rule (CP 2.249). This is why the symbol is able to activate in the mind of the interpreter an interpretive rule that, once embodied in the mind of a particular interpreter, will produce an association of general rules, an associative regularity (CP 4.500), that is, a habitual connection between the sign and its object.

Although the ground of the relation between symbol and object is, most of the times, based in an imputed character (CP 1.558), it is not possible to treat the question of conventionality without considering, on the one hand, the legisign or law that will determine the interpretant (CP 2.292), on the other hand, without considering the interpretant, since it is in the interpretant that, through an interpretive rule, an association of ideas is produced in the mind of the intepreter. That is why Peirce repeated many times that the symbol is only constituted as such through the interpretant (NEM IV: 260).

However, no interpretive occurrence of a symbolic legisign in the mind of a particular interpreter can exhaust the symbol's generalily. From this the plasticity of the symbol, its tendency to change is derived. Such changes are evinced when there are changes in the interpretive habits, since the rules of intepretation, that is, the logical interpretants can be modified. This is the reason why the symbol is a sign of growth and it grows in the interpretants that it generates in the long run (see Short 1988).

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At this point we have to consider a crucial question. If laws have no concrete existence, from where is the denotative power of the symbol derived? How can words, for instance, refer to situations that are out there?

Well, "that which is general has its being in the instances which it will determine" (CP 2.249). The legi-sign depends on individual cases to be actualized. The symbolic legisign is embodied in individual cases. In this same act of embodiment the individual cases are conformed to the symbol's domain. The symbol functions as a rule for the formation of a certain sub class of sinsigns which are called replicas. The rules for the formation of the replicas also involve the interpretive rules of these replicas. Hence, the replica of a symbol is a special kind of index which acts to apply the general rule or habit of action or expectance associated to the symbol to a something particular (Short, 1988). For this application to something particular to occur there must exist cases of that which the symbol denotes. Although the object of the symbol is as general as the symbol itself, there are singular cases to which it applies. How does it apply? Through an index.

That is the reason why in the universe of verbal discourse, there are different types of words, those that are general, which are strictly symbolic, and the indexes, as the personal pronouns, the demonstrative pronouns, the adverbs of place etc. These latter constitute the indexical ingredient of the symbol, also called the marks of enunciation whose function is to connect thought, discourse, the sign in general to particular experiences.

According to Ransdell (1966: 158-60), Peirce distinguished between two types of generality: objective and subjective generality. The former is referential generality, i.e, the capacity of a thing to represent a plurality of objects. The latter might conveniently be called entitative generality in order to indicate that it qualifies the mode of being of a thing.

"A thing is entitatively general if its mode of being is not that of an individual" (CP 5.429, 1.420). The latter may in turn be divided into what I shall call qualitative and nomic generality. Qualitative generality is 'of that negative sort which belong to the merely potential, as such, and this is peculiar to the category of quality'. Nomic generality is 'of that positive kind which belongs to conditional necessity, and this is peculiar to the category of law' (CP 1.427). I know of no further way to characterize these two types of entitative generality, other than to note that they correspond to Peirce's firstness and thirdness, but the distinction might be illustrated as follows. On the one hand, it makes no sense to ask 'where and when is redness', and redness (the form, quality, firstness) is general for precisely that reason. On the other hand, it does make sense to ask where and when something is red; but to such a question two anwers might be forthcoming. One might say 'This, here and now, is red', and that which is denoted would be individual and thus non-general. Or one might say 'Something (i.e. anything) is red whenever and wherever such and such conditions obtain,' and this answer would make no reference to any individual thing, but would denote rather a regularity or class of cases of which it would be true to sayof any given one 'This, here and now, is red,' that class being defined by specified conditions. In this case, what is denoted would be nomically general. We have, then, the following modes of generality:

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(1)   objective or referential
(2)   subjective or entitative
    (a)   qualitative
    (b)   nomic

The symbolic sign is both referentially and entitatively general, and its entitative generality is of the nomic sort.

The indexical sinsign is the only type of sign that lacks generality. It always indicates, it points to individuals or collections of individuals. The icon presents an entitative generality of the qualitative type. The symbol, on its turn, presents both the referential generality and the entitative generality of the nomic type, that is, the generality that belongs to conditional necessity. However, once the symbol contains inside itself elements of iconicity and elements of indexicality it functions as a synthesis of all the three dimensions. Lets see how this works.

When he considered the traditional logic notions of comprehension (depth) and extension (breadth) Peirce gave them alternative names: signification and conotation for depth, and denotation for extension. While denotation, extention or application, that is, the referential power of the symbol corresponds to its indexical ingredient, signification, conotation or depth corresponds to its iconic ingredient. What would then be the properly symbolic ingredient of the symbol? This question is relevant because if the symbol is the genuinely triadic sign, we should expect its ingredient to be three. According to Ransdell (1966, p. 183), Peirce did not explicitly mention three properties of the symbol, probably because the symbolic and the iconic ingredients are so deeply linked that the distinction between them demands analytical sharpness.

We have already seen that to connect thought to a particular experience or a series of experiences linked by dynamical relations (CP 4.56), the symbol needs indexes. Hence, the symbol's power of reference comes from its indexical ingredient. However, indices cannot signify. To be able to signify, a symbol needs an icon. But this is not an icon *tout court*, but a special type of icon, that is, an icon that is connected to a symbolic ingredient. This ingredient or symbol part was called 'concept' by Peirce. The icon part was called 'general idea'. For Ransdell (ibid., p. 184), the concept is the meaning and the general idea is signification. The concept or meaning corresponds to the general and not actualized habit. The icon part or general idea actualizes habit producing signification. That is why Peirce repeated so often that the symbol signifies through a habit or an association of ideas. Habit is not taken here in the practical psychological sense, but in a sense that is similar to the one Kant gave to the term schema or rule when he discussed the schematism that underlies our pure sensitive concepts. These are very different from the images of the objects (Ransdell ibid., pp. 167-171). Peirce's distinction between the concept, habit or idea gets clear in the following passage:

"An idea which may be roughly compared to a composite photograph surges up into vividness, and this composite idea may be called a general idea. It is not properly a conception; because a

conception is not an idea at all, but a habit. But the repeated occurrence of a general idea and the experience of its utility, results in the formation or strengthening of that habit which is the conception; or if the conception is already a habit thoroughly compacted, the general idea is the mark of the habit" (CP 7.498)

Hence, our general idea of a cat, for instance, would be the fusion that results from the images of repeated sensorial experiences which are more determined and very differentiated of particular cats. The idea would be a gestalt, form or unit immediately perceived, that is, an icon, an entitative general of the qualitative type. The iconic part of the symbol is the actualization of the concept or habit which is an objective general as much as a subjective of the nomic type. This is the authentically symbolic ingredient of the symbol which is so general that without indices to particularize its referentiality, and without the icon to embody its nomic generality, the symbol would be impotent to inform and to signify anything.

The triadicity of the symbol and its inclusion of three ingredients, the iconic, the indexical, and the symbolic leads us to the conclusion that the symbol is a hybrid sign. The consequences of this conclusion to the cognitive sciences is something to be considered especially when we take into account the fact that all the complexities explained above are not yet complete, since the side of the interpretants of the symbol should still be taken into account. However, this latter consideration will be left for another occasion.

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