Images, diagrams, and metaphors: Hypoicons in the context of Peirce's sixty-six fold classification of signs*

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Abstract

In his 1903 Syllabus, Charles S. Peirce makes a distinction between icons and iconic signs, or hypoicons, and briefly introduces a division of the latter into images, diagrams, and metaphors. Peirce scholars have tried to make better sense of those concepts by understanding iconic signs in the context of the ten classes of signs described in the same Syllabus. We will argue, however, that the three kinds of hypoicons can better be understood in the context of Peirce's sixty-six classes of signs. We analyze examples of hypoicons taken from the field of information design, describing them in the framework of the sixty-six classes, and discuss the consequences of those descriptions to the debate about the order of determination of the 10 trichotomies that form those classes.

Keywords: *Hypoicons; classification of signs; semiotics; C. S. Peirce; pictograms; information design.*

1. Icons, indexes, and symbols

Peirce's division of signs into icons, indexes, and symbols, is well known for researchers and students of semiotics. Probably only a few, however, are familiar with a passage of his 1903 *Syllabus* (*CP* 2.276–2.277, *EP* 2 273–274) that deals with the difference between icons and hypoicons, and proposes a typology of the last.

In his essay 'On a new list of categories' (*W* 2: 49, *CP* 1.545), Peirce defines three types of signs according to the kind of relation they have with its objects. In accordance with his theory of categories, signs of the first kind, whose relation with the object is based on shared qualities, are named *likenesses*; signs of the second kind, whose relation is a factual correspondence, are named *indexes*; and signs of the third kind,

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whose relation is based on some imputed characteristic, are named *symbols*.

Peirce reviewed and expanded this division into three classes in the next years, getting to divisions into ten, twenty-eight, and sixty-six classes of signs. The consequence is an enormous accuracy in the description of the possible relations between sign, object and interpretant — the components of his triadic model of semiosis — expressed in terms of *trichotomies*. The trichotomies are aspects according to which semiosis can be observed, and those aspects can be translated into questions (cf. Houser 1991). In order to obtain the ten classes of signs described in the *Syllabus* (*MS* 540, *CP* 2.233–2.272, *EP* 2: 289–299) three questions are formulated:

(i) 'What is the relation of the Sign with itself?,' the answer is expressed as a first trichotomy;
(ii) 'What is the relation between the Sign and its Object?,' the answer is expressed as a second trichotomy;
(iii) 'What is the relation between the Sign and its Object for its Interpretant?,' the answer is expressed as a third trichotomy.

The results of these questions may be combined, in a certain way, building up a system of cross-relational classes (see Freadman 2001, 2004; figure 1). The classes are obtained by recursive application of the categories (Firstness, Secondness, Thirdness), based on combinations restricted by logical rules, or 'qualification rules' (see Savan 1987–1988: 14; Lizska 1996; table 1).[1]

The differentiation between *likenesses* (later called *icons*), *indexes*, and *symbols* is present in all those divisions, and more precisely defined as a differentiation among possible kinds of relation between the sign and its *dynamic* object (also called *dynamoid* or *real*).

2. Icons and hypoicons

Although in 1885 (*CP* 3.362) Peirce had already affirmed that 'a diagram ... is not a pure icon,' it is only in his 1903 *Syllabus* (*CP* 2.276–2.277, *EP* 2: 273–274) that, from the formulation of a typology of actual icons, or hypoicons, he extracts more consequences from his previous statement. He starts with a more rigorous definition of his concept of an icon, differentiating icons and iconic signs:

> ... most strictly speaking, even an idea, except in the sense of a possibility, or Firstness, cannot be an Icon ... But a sign may be iconic, that is, may represent

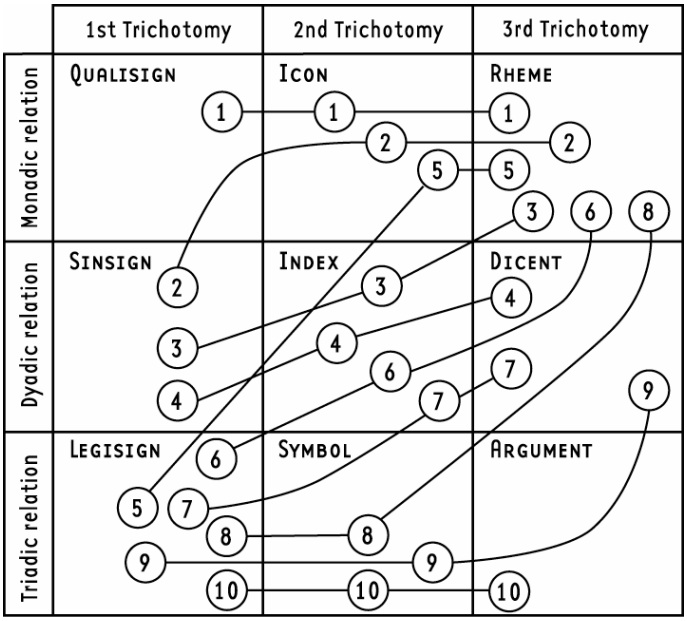

Figure 1. *The ten classes of signs as a system of cross-relational classes. The ten paths correspond to the possible compounds of relations (figure based on Merrell 1996: 8)*

Table 1. *The 10 classes of signs divided into icons, indexes, and symbols, and the examples for each of them found in CP 2.254–2.263*

Kind	Class name	Class number	Example
Icon	Qualisign	111	A feeling of 'red.'
	Iconic sinsign	211	An individual diagram.
	Iconic legisign	311	A diagram, apart from its factual individuality.
Index	Rhematic indexical sinsign	221	A spontaneous cry.
	Dicent sinsign	222	A weathercock.
	Rhematic indexical legisign	321	A demonstrative pronoun.
	Dicent indexical legisign	322	A street cry.
Symbol	Rhematic symbol	331	A common noun.
	Dicent symbol	332	A proposition.
	Argument	333	Abduction, induction, deduction.

its object mainly by its similarity, no matter what its mode of being. If a substantive be wanted, an iconic representamen may be termed a hypoicon. (*CP* 2.276, *EP* 2: 273)

In the next paragraph, Peirce describes a division of iconic signs, or hypoicons:

Hypoicons may be roughly divided according to the mode of Firstness of which they partake. Those which partake of simple qualities, or First Firstnesses, are images; those which represent the relations, mainly dyadic, or so regarded, of the parts of one thing by analogous relations in their own parts, are diagrams; those which represent the representative character of a representamen by representing a parallelism in something else, are metaphors. (*CP* 2.277, *EP* 2: 274)

It is possible to say, therefore, that a 'pure icon' is, strictly speaking, a logical possibility, and not something existent, even because, within the possibilities of relation of the sign to its object, relations of an existential nature are better described as indexical, not iconic. A symbol, otherwise, is a term reserved for signs of a general kind (a symbol is necessarily a legisign), and that are not reducible to instantiated, specific samples (sinsigns), neither to dyadic relations of cause-and-effect (indexes) or of similarity (icons).

3. Understanding hypoicons

For Ransdell, 'an icon proper is always a qualisign ... though the sign embodying it can be called ''iconic'' (or a ''hypoicon'') in virtue of doing so' (Ransdell 1997: 38). Nöth (1995: 122) and Santaella (1995: 143–145; 1996) adopt similar interpretations, locating the hypoicons, in the context of the ten classes of signs, among sinsigns and legisigns.

Peirce indeed offers, as examples of iconic sinsign and iconic legisign, respectively, 'an individual diagram' (*CP* 2.255), and 'a diagram, apart from its factual individuality' (*CP* 2.258). Besides those two classes, a third class of iconic signs can be found among the ten classes described in the 1903 *Syllabus*: qualisigns, signs of quality and feeling, and that are, necessarily iconic and rhematic. Although the division of signs in ten classes and the division of hypoicons are part of the same manuscript (the 1903 *Syllabus*, *MS* 540, *CP* 2.233–2.372, *EP* 2: 289–99), there is no explicit mention to a relation between those two divisions in this excerpt of Peirce's writings. However, if we are willing to establish some kind of correspondence between the the classes and the three kinds of hypoicons,

once we agree that qualisigns (111) are pure icons (and therefore cannot be hypoicons), there are only two types of signs that may correspond to images, diagrams and metaphors: iconic sinsigns (211) and iconic legisigns (311).

Ransdell (1997) and Nöth (1995) are not absolutely clear about where, among sinsigns and legisigns, should we locate the different kinds of hypoicons. Santaella (1995: 143–145; 1996), on the other hand, argues that the three kinds of hypoicons might be considered as three levels of iconicity, related exclusively to iconic legisigns. She proposes to systematize this issue postulating six levels of iconicity, going from 'pure icon' to 'actual icons' and from there to 'iconic signs.' In her proposal, the 'pure icon' has one level only, and is characterized as a qualisign. The 'actual signs,' identified as degenerated sinsigns, or icons as they appear in perceptive processes, have two levels: a level of 'action,' where something external is imposed to consciousness, and a level of 'reaction,' where consciousness reacts to the external stimulus. Finally, the 'iconic signs' have three levels that relate to the three kinds of hypoicons proposed by Peirce, and that Santaella (1995) characterizes as legisigns.

Houser (1991: 434), by his turn, in his proposal for 'a Peircean classification of models,' relates the three types of iconic signs found in the 10 classes described in the *Syllabus* (qualisigns [111], iconic sinsigns [211], and iconic legisigns [311]) with three kinds of *models*:

- 111: those that model their objects by sharing or duplicating significant properties of those objects (e.g., a color sample);
- 211: those that model particular objects or events by being structurally or materially like them (e.g., an architect drawing of a house);
- 311: those that serve as models by being general types, similar to laws that all instances must respect (e.g., geometric figures drawn on a blackboard).

According to Houser (1991: 437), there are coincidences between the three iconic classes and the three kinds of hypoicons, and he suggests that the relations between the two sets might be better understood in the context of the division in sixty-six classes. The author, however, does not develop this argument further.

4. Hypoicons in the context of the sixty-six classes of signs

If we agree that hypoicons are instantiated icons, and if only sinsigns can be described as instantiated signs, it should be correct to assume that

hypoicons must be characterized as three kinds of iconic sinsigns. There is, however, only one kind of iconic sinsign among the ten classes described in the *Syllabus*. Moreover, if we agree that qualisigns are pure icons, there is an obvious difficulty in classifying the three hypoicons among the ten classes, once there are only two iconic classes left (iconic sinsign and iconic legisign). This is probably the reason why Ransdell, Santaella, and Nöth felt impelled to characterize hypoicons as iconic legisigns, despite the fact that this class describes signs that are not instantiated.

Following the suggestion given by Houser, we went further in Peirce's classifications of signs, and examined the sixty-six classes, in the search for a more accurate description of the relations between Sign, Object, and Interpretant. As we will see, this choice leads to the proposal that hypoicons might be described as different kinds of iconic sinsigns, something quite distinct from the suggestions set forth by other scholars.

5. The sixty-six classes of signs

Besides his best-known division of signs into Icons, Indexes, and Symbols, C. S. Peirce devised other classifications. A division into ten classes is extensively described in his 1903 *Syllabus* (*MS* 540, *EP* 2: 289–299), while divisions into twenty-eight and sixty-six classes, are outlined in various passages of his December 1908 letters and manuscripts (*L* 463: 132–146, 150; *EP* 2: 478–491; Lieb 1977: 80–85).

In this series of drafts, Peirce presents the ten trichotomies that lead to the sixty-six classes. He introduces them as 'the ten respects according to which the chief divisions of signs are determined,' starting with the 'Mode of Being' or 'Mode of Apprehension' of the 'Sign itself.' This is followed by three 'respects' that refer to the Object, followed by six 'respects' that refer to the Interpretant. The possible combinations among the modalities that follow from those ten trichotomies (three modalities for each trichotomy, as in the ten classes described above) from the sixty-six classes. The complete list is:

1st, According to the Mode of Apprehension of the Sign itself [S],
2nd, According to the Mode of Presentation of the Immediate Object [Oi],
3rd, According to the Mode of Being of the Dynamical Object [Od],
4th, According to the Relation of the Sign to its Dynamical Object [S-Od],
5th, According to the Mode of Presentation of the Immediate Interpretant [Ii],

6th, According to the Mode of Being of the Dynamical Interpretant [Id],
7th, According to the Relation of the Sign to the Dynamical Interpretant [S-Id],
8th, According to the Nature of the Normal Interpretant [If],
9th, According to the Relation of the Sign to the Normal Interpretant [S-If],
10th, According to the Triadic Relation of the Sign to its Dynamical Object and to its Normal Interpretant [S-Od-If].
(*L* 463: 134, 150, *EP* 2: 482–483)

In a letter that is clearly a part of this series, dated December 23, 1908 (Peirce 1977: 84–85, *EP* 2: 481), Peirce explicitly gives an order of determination for the first six trichotomies, starting, however, not with 'Sign itself,' but with the two Objects (Dynamic and Immediate):

> ... it follows from the Definition of a Sign that since the Dynamoid Object determines the Immediate Object,
>
> which determines the Sign itself,
> which determines the Destinate Interpretant,
> which determines the Effective Interpretant,
> which determines the Explicit Interpretant,
>
> the six trichotomies ... only yield twenty-eight classes; and if ... there are four other trichotomies, this will only come to sixty-six. (Peirce 1977: 84–85, *EP* 2: 481)

In both cases, though, Peirce claims to be not absolutely sure about the status or the exact order of those trichotomies (*EP* 2: 481, 483). Moreover, Peirce refers to the three kinds of Interpretants with different names: Immediate, Dynamical, and Normal (*L* 463: 134, 150, *EP* 2: 482); Destinate, Effective, and Explicit (Peirce 1977: 84, *EP* 2: 481).

The fact that we can find a lot of disagreement among scholars regarding the twenty-eight and sixty-six classes of signs (see a more detailed account below), thus, should come as no surprise. According to Houser, 'a sound and detailed extension of Peirce's analysis of signs to his full set of ten divisions and sixty-six classes is perhaps the most pressing problem for Peircean semioticians' (1992: 502). Although we will not be able to fully address this question here, an understanding of hypoicons as three different kinds of iconic sinsigns has important consequences for the debate on the correct order of the ten trichotomies that form Peirce's sixty-six classes of signs.

6. Defining images, diagrams, and metaphors in the context of the sixty-six classes

Iconic signs, or hypoicons, can be defined as instantiated icons, participating in sign relations, due mainly to some kind of likeness they share with their existing objects. This definition leaves no other choice but to describe hypoicons as iconic sinsigns. In this context, images will be defined as instantiated icons of immediate, apparent, or superficial qualities. Diagrams, by their turn, will be defined as hypoicons whose similarity with their objects is mostly based on shared structural or relational qualities. Finally, metaphors should correspond to instantiated icons of habits, conventions, or laws.

According to the logic of categories that guides Peirce's semiotics, categories of higher complexity presuppose those of lower complexity (see De Tienne 1992). From a logical perspective, the categories constitute a system of necessary pressuposition (Hausman 1993: 97). It is possible to conceive *Firstness* without *Secondness*, and *Secondness* without *Thirdness*, but not *Thirdness* without *Secondness*, nor *Secondness* without *Firstness*. We can assume, therefore, that metaphors (more general hypoicons) shall depend on a certain internal diagrammatic coherence in order to assume their status of instantiated icons of laws. In a similar way, diagrams shall depend on the incorporation of images in order to be recognized as similar to the structure of their objects. Minimally complex images, by their turn, from the moment they can be analyzed as compounds of simpler elements, shall be understood as diagrams. Finally, diagrams and images may function as metaphors once their use and recognition becomes a *habit*.[2]

7. An example of analysis of pictograms as hypoicons

In graphic and information design, *pictograms* can be defined as graphic marks, mostly figurative, that visually represent objects, actions, or concepts, typically without making use of linguistic elements.[3] In figure 2, the pictogram *let's get rid of Nazis* presents itself as a version of the diagram *to throw something away* (see figure 2). It can be described as a *metaphorical hypoicon*, once its comprehension mostly depends on an analogy between the acts of throwing anything away, like garbage, and getting free of something undesirable, like Nazism. Of course, it also depends on our capacity to relate the swastika — also interpretable as an image of a sun or a star, or even as a diagram of movement — with people with extreme right wing political views.

Figure 2. *'Let's get rid of nazis': An example of a metaphorical hypoicon*

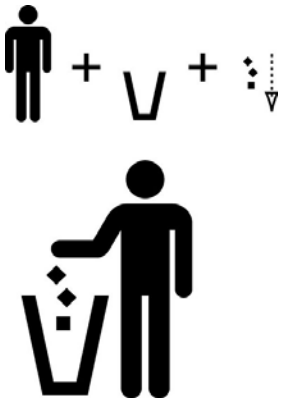

Figure 3. *'Throw it in the wastebasket': An example of a diagrammatic hypoicon*

In figure 3, we can see that the pictogram *to throw something away* depends on the recognition of the images of *man* (see figure 3) and *wastebasket*, along with an instinctive notion of the law of gravity and its effects in the pictogram two-dimensional space, that links the three little squares inside the wastebasket. The meaning of the pictogram, however, lies not in a sum of those elements, but in the structure given by the relations between them. It must be read not as a completely static figure, but more like a sequence of movements condensed in one picture. For this reason, it will be better understood as a *diagrammatic hypoicon*.

Figure 4 shows that the comprehension of the pictogram *man* (center) is made possible mostly by its similarity with the silhouette of a male

Figure 4. *'Man': An example of an imagetic hypoicon*

human being (left). In this sense, it can be defined as an *imagetic* pictogram, or an *imagetic hypoicon*. We can also understand this pictogram as a diagram of the relations between head, torso and limbs that we expect to find in all human beings — that is, as a diagrammatic pictogram. Such understanding permits this pictogram not only to be used in the wider sense of 'human being of any sex,' but also, through the adoption of other postures and combinations, to give rise to other imagetic, diagrammatic or metaphorical pictograms, like figures 2 and 3.

8. Consequences to the order of determination of the ten trichotomies that give rise to the sixty-six classes of signs

While in the icon/index/symbol division we have only one kind of icon, and in the ten classes division we have three, in the division of signs in sixty-six classes we may have three or more kinds of icons, depending on the ordering of the trichotomies. Most importantly, we may have three or more kinds of iconic sinsigns, which could relate to the three kinds of hypoicons.

This situation can be visualized, and more easily understood using 3N3, software that builds diagrams for any Peircean classification of signs (Farias and Queiroz 2004). In figures 5 to 7, we can see the three diagrams that result from one, three, and ten trichotomies, and the position of icons in each classification. From this point onward, we can evaluate the incidence and composition of the iconic sinsigns among the sixty-six classes, according to the different orders of determination proposed by Peircean

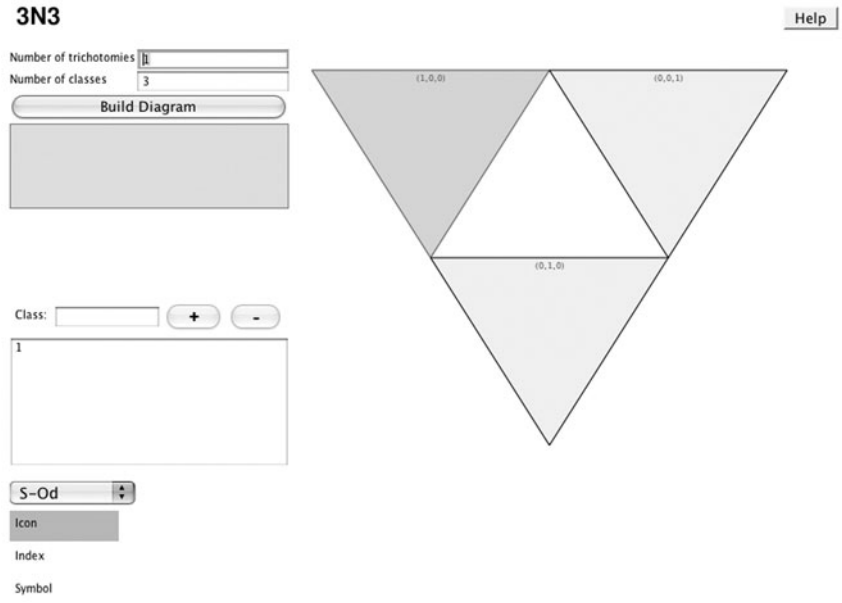

Figure 5. *A diagram for three classes, based on one trichotomy, resulting in only one kind of icon*

schollarship (Peirce's presentation order [*L* 463: 134]; Lieb 1977; Müller 1994), and propose grounds to relate those classes with the three kinds of hypoicons.

Following Peirce's presentation order (*L* 463: 134), that is, [*S, Oi, Od, S-Od, Ii, Id, S-Id, If, S-If, S-Od-If*], we find three kinds of iconic sinsigns (Figure 8):

– *Descriptive abstractive iconic sinsign* (2111111111)
– *Denominative abstractive iconic sinsign* (2211111111)
– *Denominative concretive iconic sinsign* (2221111111)

Is it possible to associate those classes with the three kinds of hypoicons? We can speculate about it. An observation of the composition of the three classes might suggest that *descriptive abstractive iconic sinsigns* (2111111111) can be related to imagetic hypoicons once it is the only one where the nature of the immediate object is a firstness (descriptive), and where, therefore, we have a higher incidence of modalities of firstness. The same principle seems to work for relating diagrammatic hypoicons with *denominative abstractive iconic sinsigns* (2211111111), where the nature of the immediate object is a secondness (denominative). This principle, however, does not seem work so well for metaphorical hypoicons, for

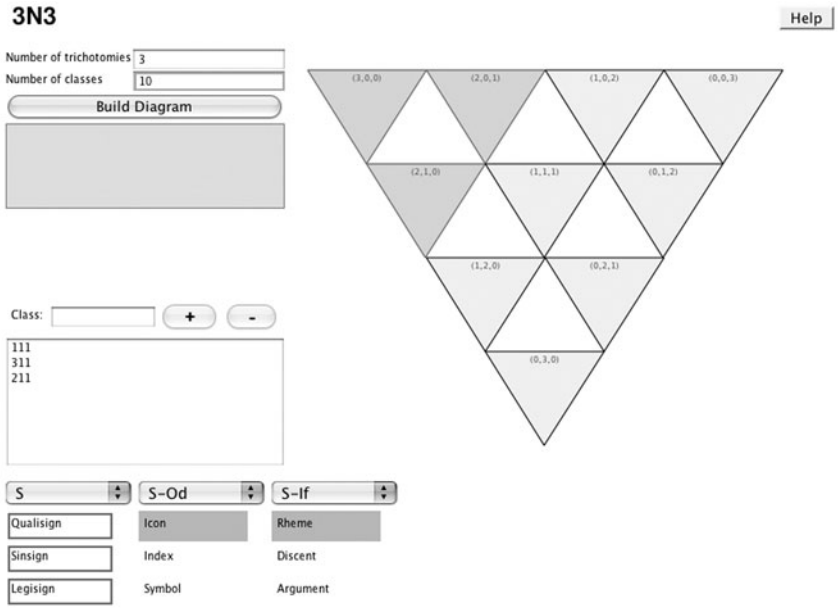

Figure 6. *A diagram for ten classes, based on three trichotomies, resulting in three kinds of icons*

which we would expect to find some incidence of thirdness. However, the fact that we are starting from the trichotomy that describes the nature of the sign, and that we decided that the nature of hypoiconic signs is secondness (sinsign), do not permit, according to the 'qualification rule,' any incidence of thirdness in the following trichotomies. The only possible relation we identify is the *triple* incidence of modalities of secondness among *denominative concretive iconic sinsigns* (2221111111). Those speculations, however do not seem to be very convincing, once they do not take into account the meaning of the resulting classes and modalities.

Regarding the ordering of trichotomies that constitute the sixty-six classes, Sanders (1970), has consistently argued that, although no full order is explicit in Peirce's work, any correct ordering should respect the following partial orderings:

– *Oi* must precede *S*
– *S* must precede *S-Od*, *which* must precede *S-If*
– *Od* must precede *S*

Although Peirce's presentation order, discussed above, does not respect Sanders' constraints, Lieb (1977) and Müller (1994) have proposed

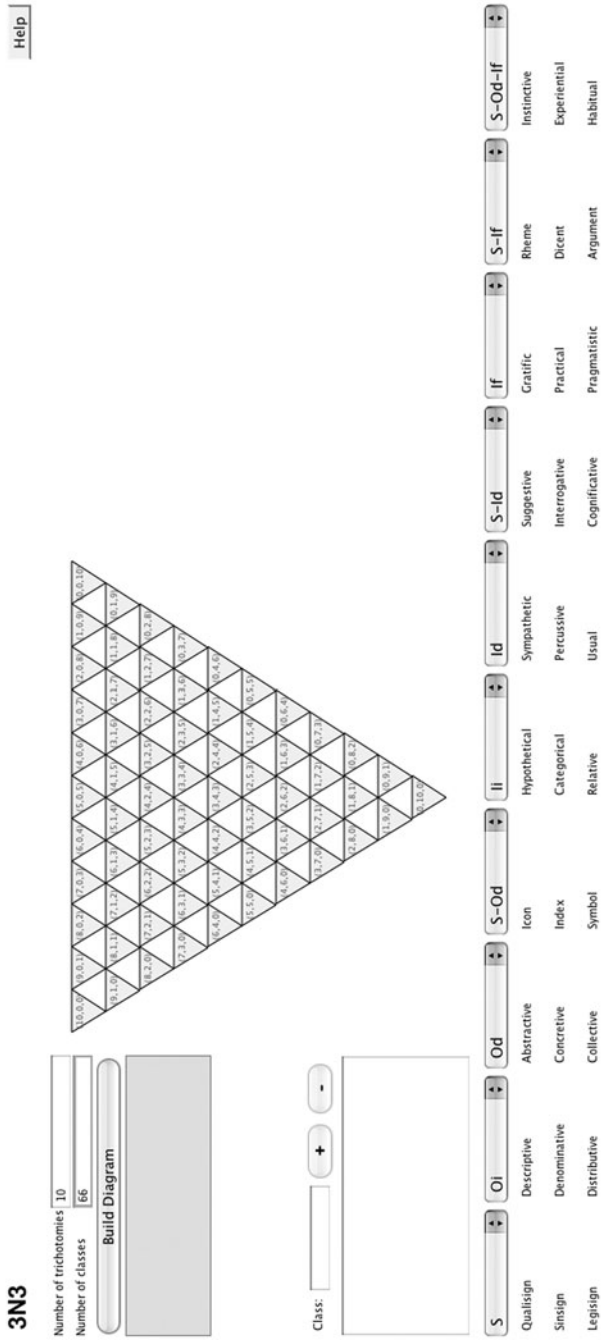

Figure 7. *A diagram for sixty-six classes, based on ten trichotomies. The location of icons in this diagram is a topic of debate*

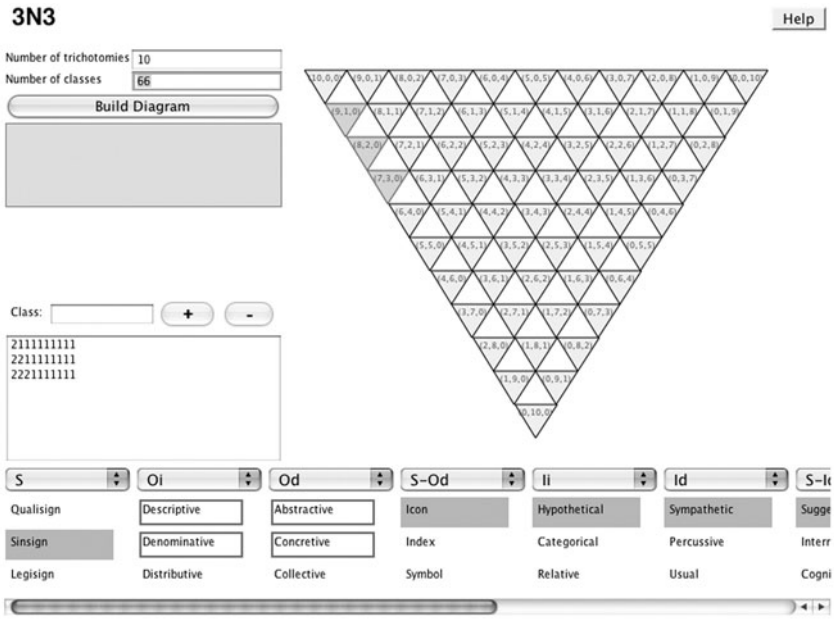

Figure 8. *A diagram for sixty-six classes, based on ten trichotomies and Peirce's presentation order (L 463: 134). The highlighted cells in the triangular diagram correspond to the three kinds of iconic sinsign found in this classification. Those kinds are expressed in numerical notation in the list of classes on the left. The verbal description of the same classes are shown in the table below. At the bottom, the solidly highlighted modalities (sinsign, icon, etc.) are present in the composition of all the three classes, while the outlined modalities are present in only one or two of those classes.*

orderings that take into account those remarks. Following the orders proposed by Lieb (1977), that is, [*Od, Oi, S, Ii, Id, If, S-Od, S-Id, S-If, S-Od-If*], and by Müller (1994), that is, [*Od, Oi, S, If, Id, Ii, S-Od, S-If, S-Id, S-Od-If*], however, we arrive at twelve kinds of iconic sinsigns. This happens because of the distance between the trichotomies S (nature of the sign) and S-Od (relation of the sign with the dynamic object).

If we adopt either Müller or Lieb's ordering, we will find twelve classes of iconic sinsigns, that could be grouped in three sets according to the nature of the immediate and the dynamic object (figures 9 and 10). Those sets, however, are not identical, once the ordering of trichotomies differs after the third trichotomy [*S*]. Nevertheless, would it be possible to relate those sets to the three kinds of hypoicons?

Regarding the nature of the immediate and dynamic objects, Peirce makes the following distinction:

> We must distinguish between the Immediate Object — i.e., the Object as represented in the sign — and ... the Dynamical Object, which, from the nature of things, the Sign cannot express, which it can only indicate and leave the interpreter to find out by collateral experience. (*CP* 8.314; emphasis in the original)

> ... we have to distinguish the Immediate Object, which is the Object as the Sign itself represents it, and whose Being is thus dependent upon the Representation of it in the Sign, from the Dynamical Object, which is the Reality which by some means contrives to determine the Sign to its Representation. (*CP* 4.536)

> The Immediate Object of a Sign is the Object as it is immediately given to the Sign, the Dynamical Object in its semiotically available form. The Dynamical Object is something which the Sign can only indicate, something that the interpreter should find out by collateral experience. (*EP* 2: 498; *CP* 8.178)

What would be the best description of the nature of the dynamic and immediate objects of a sign that is an imagetic hypoicon? Once an image is an iconic sinsign whose similarity with its object is based on qualitative aspects, its dynamic and immediate objects can only be of the nature of existing materials, or of some of their most relevant attributes like reflectance, tension of surface, relative size, silhouette, and weight.

Once a diagram, like a subway map, is an iconic sinsign whose similarity with its object is based on relational aspects, we can say that its dynamic object is a pattern of relations, in this case among relative positions in space. The object of the sign is the relative positions, which forms a regular spatiotemporal pattern. However, its immediate object indicates a particular position, physically instantiated as an event. In this sense, if it's dynamic object is a regular pattern of relations, its immediate object is an existent.

Once a metaphor is an iconic sinsign whose similarity with its object is based on lawful aspects, the object of the hypoicon can only be of the nature of thirdness, or a general. Different from the diagram (e.g., a map), its immediate object is also of the nature of a general, of thirdness, and could be described as distributive. In the example mentioned above, Nazism, as a doctrine, is wiped out as trash. If its object were not distributive, the sign would not be interpreted as 'wiped out doctrine,' but maybe only as 'wiped out object.' As an example, if interpreted as an image, the swastika could be mistaken for a ninja *manji* blade (a kind of *shuriken* blade that has the silhouette of a swastika), and therefore the whole pictogram could be understood as part of some sort of campaign for ninja retirement.

Regarding the nature of the dynamic object, iconic sinsigns in the classifications that result from Lieb and Müller's orderings, can be *concretive* (secondness) or *collective* (thirdness), while regarding the nature of the

immediate object, iconic sinsigns can be *denominative* (secondness) or *distributive* (thirdness). The possible combinations of those natures, according to the 'qualification rule,' are *concretive-denominative*, *collective-denominative*, and *collective-distributive*.

Although there might be differences in the classes formed following Lieb and Müller's orderings, the twelve iconic-sinsign classes can be divided into sets as follows:

1. a first set would be comprised of classes where both the natures of the objects are secondnesses (*concretive* and *denominative*);
2. a second set would be comprised of classes where the nature of the dynamic object is a thirdness (*collective*), and the nature of the immediate object is a secondness (*denominative*); and a third set would be comprised of classes where both the natures are thirdnesses (*collective* and *distributive*).

It seems coherent to relate the first set with images, the second set with diagrams, and the last set with metaphorical hypoicons.

The arrangement of those sets, following Müller's ordering, would be, therefore:

1. Images: *concretive-denominative iconic sinsigns*
   - 2222221111 = *concretive-denominative practic-percurssive-categorical iconic sinsigns*
   - 2222211111 = *concretive-denominative practic-percurssive-hypothetic iconic sinsigns*
   - 2222111111 = *concretive-denominative practic-sympathetic-hypothetic iconic sinsigns*
   - 2221111111 = *concretive-denominative gratific-sympathetic-hypothetic iconic sinsigns*
2. Diagrams: *collective-denominative iconic sinsigns*
   - 3222221111 = *collective-denominative practic-percurssive-categorical iconic sinsigns*
   - 3222211111 = *collective-denominative practic-percurssive-hypothetic iconic sinsigns*
   - 3222111111 = *collective-denominative practic-sympathetic-hypothetic iconic sinsigns*
   - 3221111111 = *collective-denominative gratific-sympathetic-hypothetic iconic sinsigns*
3. Metaphors: *collective-distributive iconic sinsigns*
   - 3322221111 = *collective-distributive practic-percurssive-categorical iconic sinsigns*

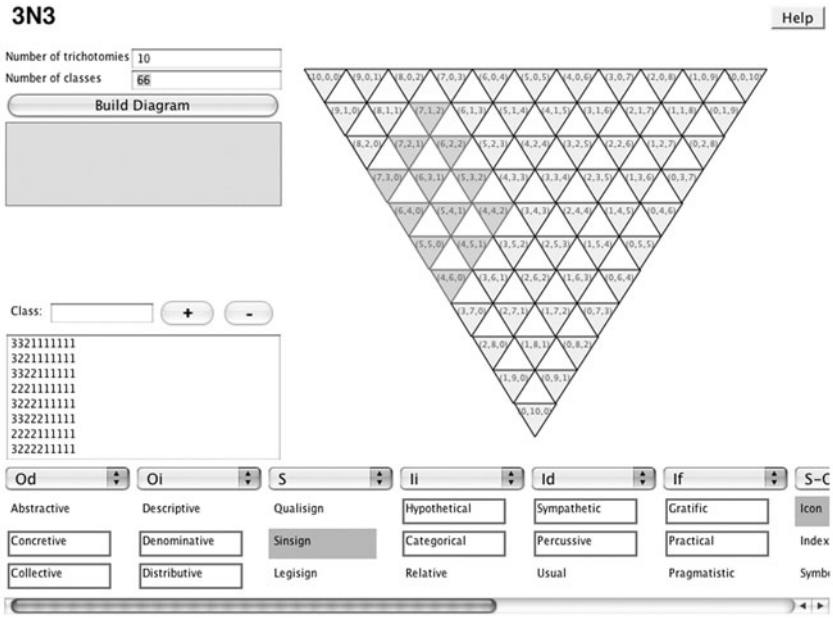

Figure 9. *A diagram for sixty-six classes, based on ten trichotomies and Lieb's order of determination (Lieb 1977). The highlighted cells in the triangular diagram correspond to the twelve kinds of iconic sinsign found in this classification.*

- 3322211111 = *collective-distributive practic-percurssive-hypothetic iconic sinsigns*
- 3322111111 = *collective-distributive practic-sympathetic-hypothetic iconic sinsigns*
- 3321111111 = *collective-distributive gratific-sympathetic-hypothetic iconic sinsigns*

Another option would be to propose a different ordering, still respecting Sanders partial ordering, but where the trichotomy S would be directly followed by trichotomy S-Od, that is, [*Od, Oi, S, S-Od, ?, ?, ?, ?, ?, ?*]. From an ordering such as that only three kinds of iconic sinsigns would follow:

- *Denominative concretive iconic sinsign* (2221111111 — image?)
- *Distributive concretive iconic sinsign* (3221111111 — diagram?)
- *Distributive collective iconic sinsign* (3321111111 — metaphor?)

The coherence of such proposals is still a topic of investigation, and should be the next step in this line of research.

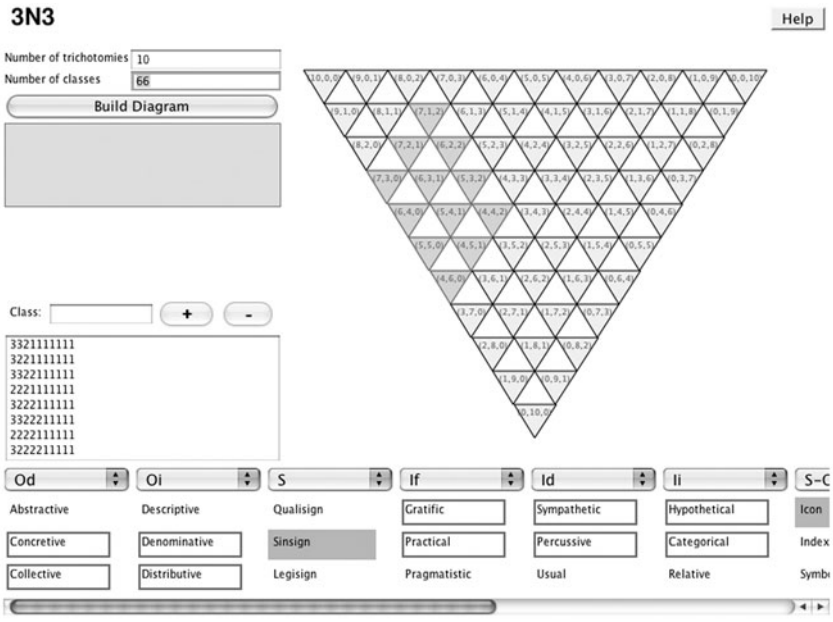

Figure 10. *A diagram for sixty-six classes, based on ten trichotomies and Müller's order of determination (Müller 1994). The highlighted cells in the triangular diagram correspond to the twelve kinds of iconic sinsign found in this classification.*

9. Concluding remarks

In this paper, we presented the sign classifications described by Peirce, and argued for an understanding of hypoicons in the context of the most extended, sixty-six-fold classification. We suggested that the three kinds of hypoicons are better described as three kinds of instantiated icons, or iconic sinsigns, and demonstrated how this description can be applied to the analysis of pictograms, an important issue in information design.

We also showed how the comprehension of hypoicons as iconic sinsigns affects the discussion on the order of determination of the ten trichotomies that form the sixty-six classes of signs, and the consequences of this to the description of those classes. A deeper discussion on the different characterizations of images, diagrams and metaphors that would follow, as well as examples of the application of those classes, are topics of future investigations.

Notes

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1. The same principle is applied to obtain twenty-eight classes from six trichotomies and sixty-six classes from ten trichotomies (see Farias and Queiroz 2003).
2. Peirce defines *habit* as a 'rule of action' (*CP* 5.397, *CP* 2.643), a 'disposition' (*CP* 5.495, *CP* 2.170), a 'real potential' (*EP* 2.388) or, simply, a 'permanence of some relation' (*CP* 1.415). In *CP* 5.400, Peirce argues that the identity of a habit depends on 'how it might lead us to act, not merely under such circumstances as are likely to arise, but under such as might possibly occur, no matter how improbable they may be.' By its turn, 'What the habit is depends on when and how it causes us to act. As for the when, every stimulus to action is derived from perception; as for the how, every purpose of action is to produce some sensible result.'
3. The term *icon* is frequently employed in the same sense (Westendorp and van der Waarde 2001: 91), being that more common in the context of digital media (Caplin 2001). In some occasions, pictograms and icons are described as a kind of diagram (Bounford 2000: 24–29), and in others as a kind of symbol (McLaren 2000; Brigham 2001; Olgyay 2001; Young and Wogalter 2001).

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