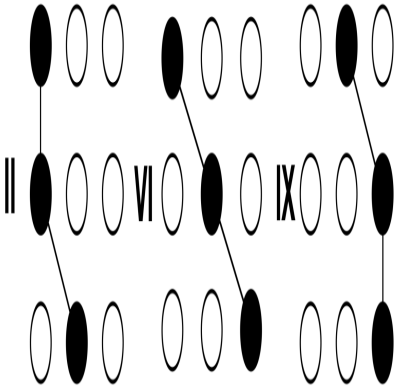

Peirce decoded

Description

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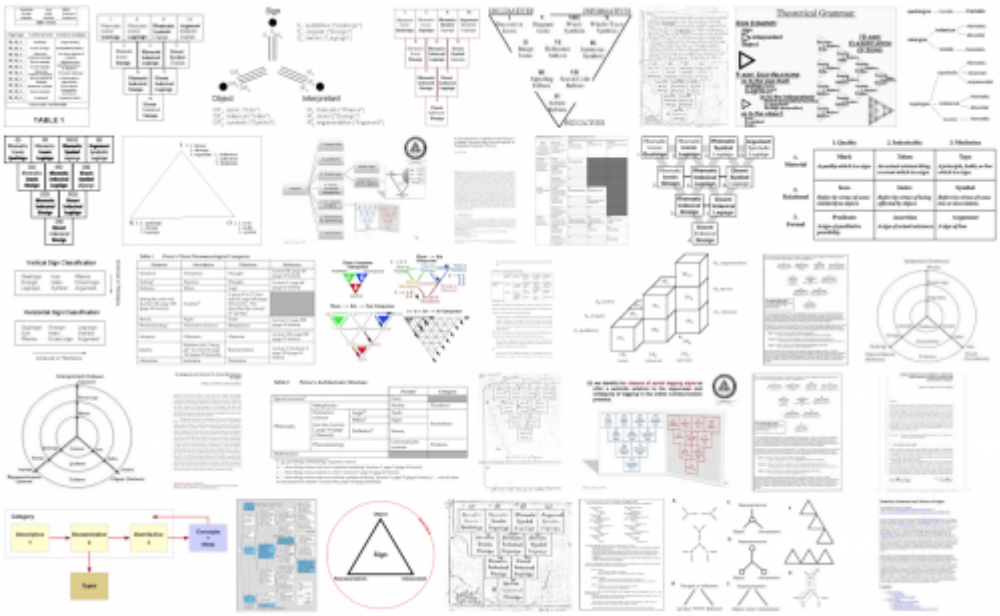
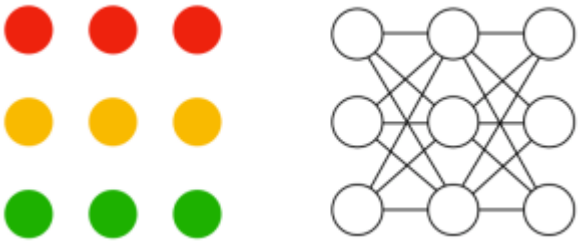
Whether or not you agree with C.S. Peirceâ??s semiotic system, thereâ??s something about his diagrams. A search on Google Images for â??Peirce sign categoriesâ?• reveals an industry of diagrammatic interpretations and reinterpretations that would appeal to anyone with an interest in the cryptographic.

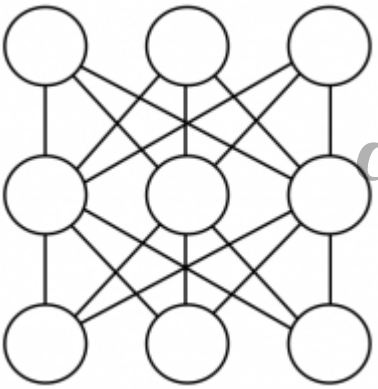


Iâ??m going to add to that collection some further abstract diagrams, or *rhematic iconic legisigns*, to help explain Peirceâ??s system (subject to correction in case of errors).

Imagine 3 sets of traffic lights, each with 3 possible states (green, amber, red). There are 27 different combinations of lights. Three sets of things that in turn can each exhibit 3 states makes 3x3x3 = 27 combinations. The three lights can show: all green; or green, amber, amber; green, amber, red, etc. The graph (network) below indicates the possible combinations of lights: 27 paths from left to right.



Iâ??ve rotated the same graph 90 degrees. So the paths run bottom to top rather than left to right. (That will make it easier to map the graph onto Peirceâ??s sign system later on.) The graph shows 3 columns and 3 rows. The connecting lines indicate all sets of 3. There are 27 paths from any of the 3 nodes in the bottom row to any node on the top row: i.e. 27 combinations.



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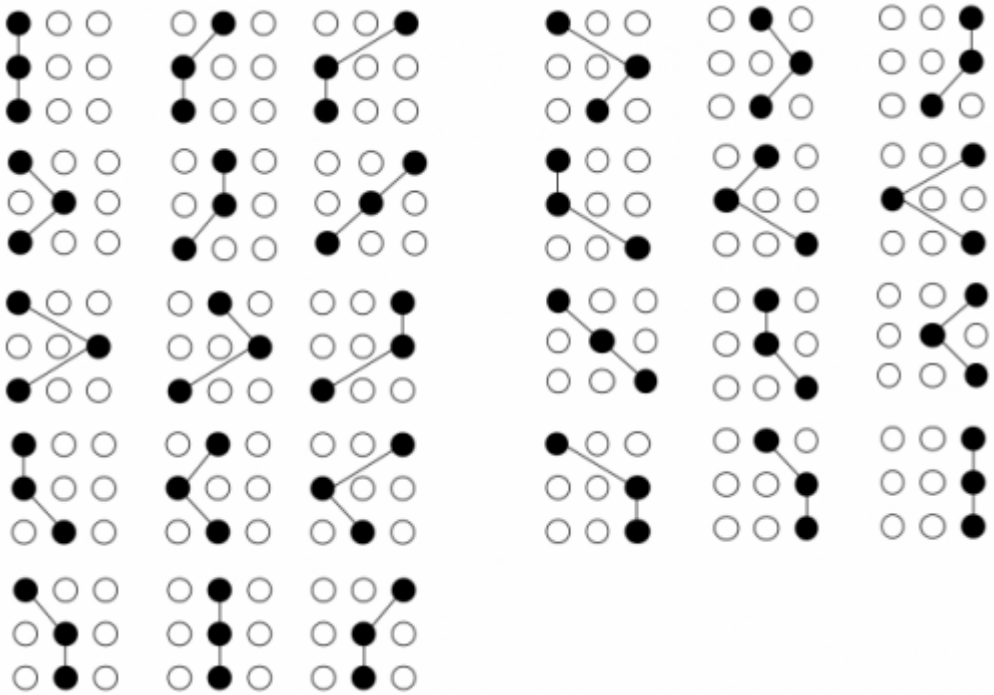
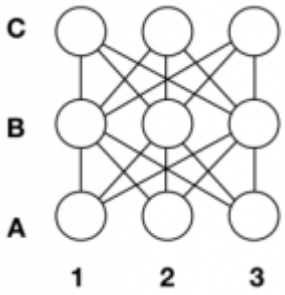
Here are the combination enumerated in order starting at the bottom left corner in the case of each graph. Iâ??ve split the column of nine sets to save space on the page. Read the illustration as a continuous set of 9 rows of 3 graphs arranged down the page.



I have numbered the columns 1, 2 and 3 in the following diagram, and the rows A, B and C, again, starting at the bottom left corner.



A rule: only go straight up or to the left

Now I want to apply an arbitrary rule to pare the number of graphs from 27 to 10. The rule says that paths that stray into the right of the column they start in are not allowed to be counted. So the path from 1A to 1C on the first column is allowed, but no path that goes from 1A to 2C, or from 1A to 1C via 2B or 3B. Paths can go straight up in a column or to the left, but never veer to the right.

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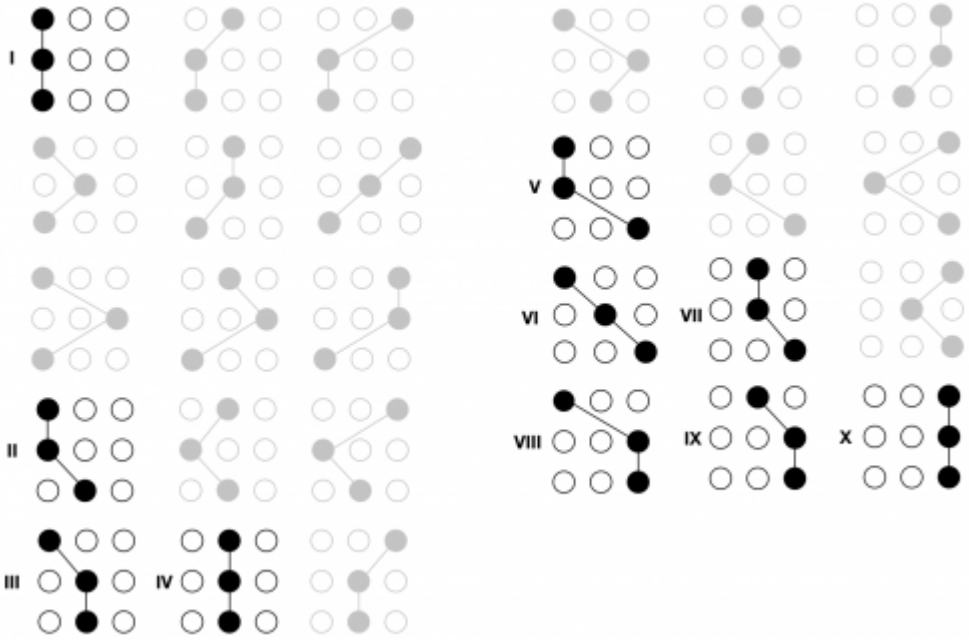
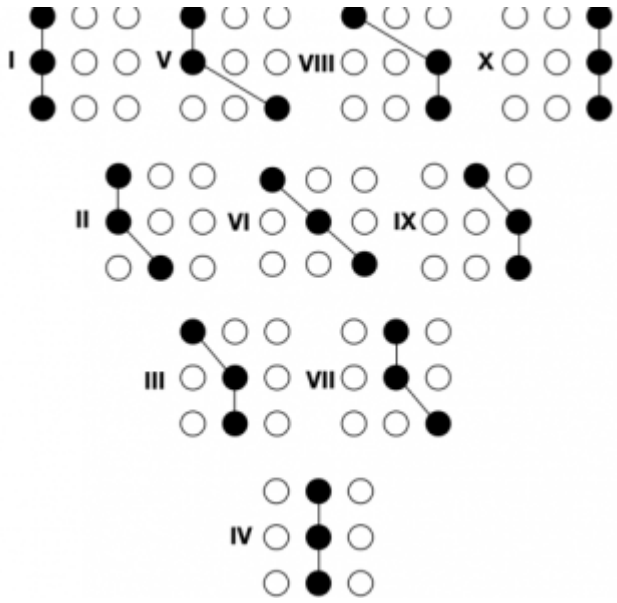
So there is only one path emanating from 1A (1A-1B-1C). Paths from nodes in column 2 can pass into column 1, but not column 3. Nor can they pass into column 1 and back to column 2. So there are 3 paths conforming to the rule (2A-1B-1C, 2A-1B-1C, 2A-2B-2C).

Paths from nodes in column 3 can cross into columns 1, 2 or 3. There are 6 such paths. The total number of paths that conform to this arbitrary rule is therefore 10. I have faded out the paths that donâ??t conform to the rule, and numbered the paths (I-X) that do in the order I generated them.



Here are the configurations that conform to this rule arranged as an inverted pyramid for neatness. The numbering I to X starts at the top left of the triangular arrangement and proceeds diagonally.



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Note the symmetries in the diagram, e.g. the arrangement of the graph VIII is graph V rotated 180 degrees, IX is I similarly rotated. VII is also a 180 degree rotation of III. The pyramid shape also emphasises the â??threenessâ?• of the set of 10. See previous post about the â??power of ten.â?• The rather restricted graphs I to IV align along the left side of the pyramid, and graphs V to X form a neat triangular arrangement of 6 graphs.

Mapping the geometry to Peirceâ??s sign categories

Believe it or not, this is C.S. Peirceâ??s geometrical template for his ten classes of signs. I will next explain the columns and rows in the 3Ã?3 graph, and the â??arbitraryâ?• rule that reduces the set of combinations down from 27 to 10.

Recall that I labelled the columns 1, 2 and 3. These correspond to Peirceâ??s metaphysical idea of Firstness, Secondness and Thirdness. His system of sign classes relates to that. In terms of the geometry of the graph, paths that start in column 1 have to stay in that column; paths starting in column 2 can stray into column 1; paths that start in column 3 are the most â??promiscuousâ?• and can stray into columns 1 and 2.

The graphs therefore provide a rudimentary analogue of Peirceâ??s concepts of **Firstness** (column 1), **Secondness** (column 2) and **Thirdness** (column 3).

Firstness. This is the raw quality of a thing: â??The first is that whose being is simply in itself, not referring to anything nor lying behind anythingâ?• (248). â??What the world was to Adam on the day he opened his eyes to it, before he had drawn any distinctions, or had become conscious of his own existence, â?? that is first, present, immediate, fresh, new, initiative, original, spontaneous, free, vivid, conscious, and evanescent. Only, remember that every description of it must be false to itâ?• (248).

In terms of signs, we could think of our immediate response to the quality of a thing. Peirce uses the example of â??a feeling of â??red.'â?• I would include what Heidegger said (with no reference to Peirce) of the carpenterâ??s encounter with the hammer, as too heavy, too light, or just right. I would also add the immediate feeling of the wind as cold, bracing, too warm, dry or gusty. Such qualitative

experiences do not need to be expressed in words or gestures in order to have their effect as signs.

Secondness. This is a fact derived from Firstness, or even just an assertion about an imagined Firstness: â??the Second is precisely that which cannot be without the first. It meets us in such facts as Another, Relation, Compulsion, Effect, Dependence, Independence, Negation, Occurrence, Reality, Resultâ?•(248).

In terms of signs, Peirce provides three cases of Secondness: a picture of something, i.e. a painting intent on representing some qualities of a thing. He also includes a spontaneous cry, i.e. an unselfconscious exclamation in response to seeing something bright red, or to feeling pain.

Then there are some signs that follow inevitably from some action, as if caused by it: in the way a weather vane signals the direction of the wind, or smoke signals fire. These belong to the category of Secondness as they are just one remove from Firstness. They are not the raw thing that signifies itself, but a representation of it, or a pointer to it.

Thirdness. This is a complex proposition or set of propositions derived from Firstness and Secondness. It is exemplified by a simple rule that relates an entity in Firstness with an entity in Secondness: â??that which bridges over the chasm between the absolute first and last, and brings them into relationshipâ?• (249).

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In terms of signs, Thirdness includes statements in language, whether spoken or written or a more idiosyncratic language of diagrams or other conventions. Peirce includes abstract diagrams, pronouns, street cries, ordinary nouns, propositions and discursive arguments in general. Thirdness therefore includes signs as commonly understood as linguistic elements.

Firstness, Secondness, Thirdness graphed

The columns in the 3Ã?3 graphs shown above are meant to give geometrical expression to Firstness, Secondness and Thirdness. Without declaring what the rows mean, we can see at least that the rule we applied ensures that items in column 1 retain their Firstness so long as they donâ??t depend on Secondness or Thirdness. Secondness (column 2) cannot depend on Thirdness (column 3). Graph I is very restricted therefore. Graphs II, III and IV encroach on Firstness and Secondness, and Graphs VI, VII, VIII, IX and X show Thirdness as the cluster of graphs that are most connected.

In terms of signs, we would say that a spontaneous and immediate experience of the quality of a thing (Firstness) does not depend on being expressed or represented. It just is. The wind is cold. The movement of a weather vane (Secondness) doesnâ??t require articulation in language to do its work of informing us of the wind direction, though it might relate to the raw feeling of the wind as bracing (Firstness). Thirdness includes all the ways we may talk about the wind, its direction, the feeling of warmth or cold, and how we might explain to someone what a weather vane tells us.

Components of a sign

Now is the time to explain the rows in the 3Ã?3 graphs. Instead of labelling them A, B and C as I have done above, the names Peirce uses are **Sign Vehicle**, **Object** and **Interpretant**. These are his three components of the sign.

The **Sign Vehicle** is the entity that carries the communicative function of the sign. In the weather vane example the sign vehicle is the pivoting of the vane, not the way it is mounted on the roof, or its material composition (important though they may be for its functioning).

The **Object** is the thing being referred, or at least those aspects of the thing being referred to. For example, a weather vane tells you the direction of the wind, but not how hot or cold it is. Wind direction is here the object of the sign.

The **Interpretant** is whatever arises from the sign situation. In any sign situation there is a result, an interpretation, a translation, an effect or use. We might say this is the *meaning* of the sign. As a pragmatist, Peirce was inclined to think of meaning as in use (anticipating Wittgenstein). In the case of the weather vane the interpretant includes how we translate the observation into a decision about whether to close the windows, put on a coat, or tell someone the wind is coming from the west. In fact, the interpretant may set off another chain of sign events.

Below I have drawn the 3Ã?3 graph as a grid with columns labelled for Firstness, Secondness and Thirdness. The rows are labelled according to the three elements of the sign: sign vehicle, object and interpretant. I have labelled the rows in that order from the bottom row to the top. This ordering makes sense, as we think of the object as derived from the sign vehicle, and the interpretant as derived from both the sign vehicle and the object. The ordering also accords with the directionality of the graphs drawn above, proceeding from the bottom to the top.

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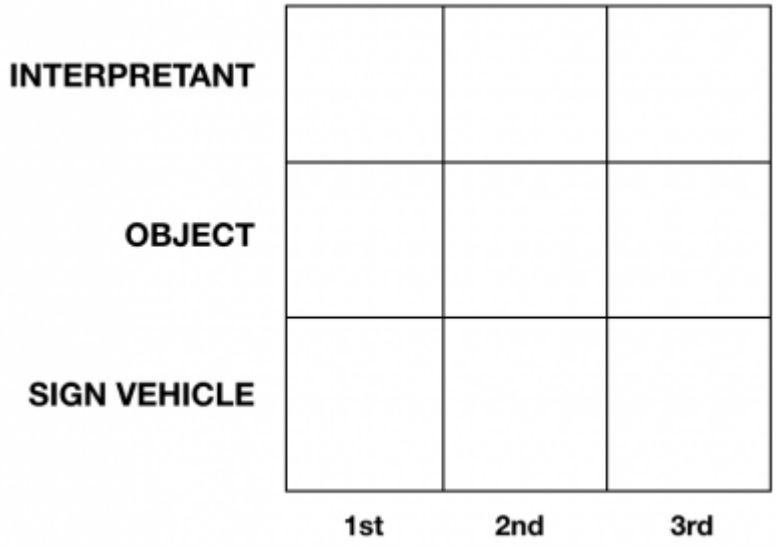


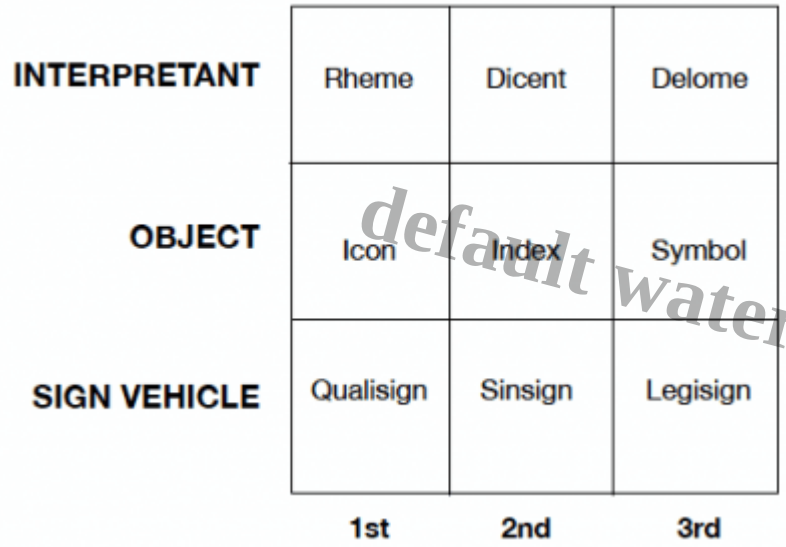
Filling in the boxes

Here, Peirce incorporates his well-known terminology of **Icon**, **Index** and **Symbol**, as well as some more esoteric terminology: **Qualisign**, **Sinsign**, **Legisign**, **Rheme**, **Dicent** and **Delome**.

A **sign vehicle** that exhibits Firstness is a raw quality, e.g. redness. Peirce calls this a **Qualisign**. A sign vehicle that exhibits Secondness is a fact or simple proposition, e.g. it is red. This is a **Sinsign**. A sign vehicle that exhibits Thirdness is a **Legisign**. This is an element of a sign that relates to a rule, e.g. Blood is red.

An **object** that exhibits Firstness is a derived experience of a thing, e.g. a picture of a red rose. He calls this an **Icon**. An object that exhibits Secondness is produced or caused by its sign vehicle, e.g. fire causes smoke. This is an **Index**. An object that exhibits Thirdness is a **Symbol**, i.e. an element of a sign that derives by convention, e.g. the symbols on a weather map that indicate the direction of the wind. I have explained Icon, Index and Symbol in a previous post: Index fever.

An **interpretant** that exhibits Firstness is an immediate expression of a quality: something is red. He calls this a **Rheme**. An object that exhibits Secondness is a statement about a thing: the rose is red. This is a **Dicent**. An object that exhibits Thirdness is a **Delome**, i.e. a rule of inference: all roses grown here are red.



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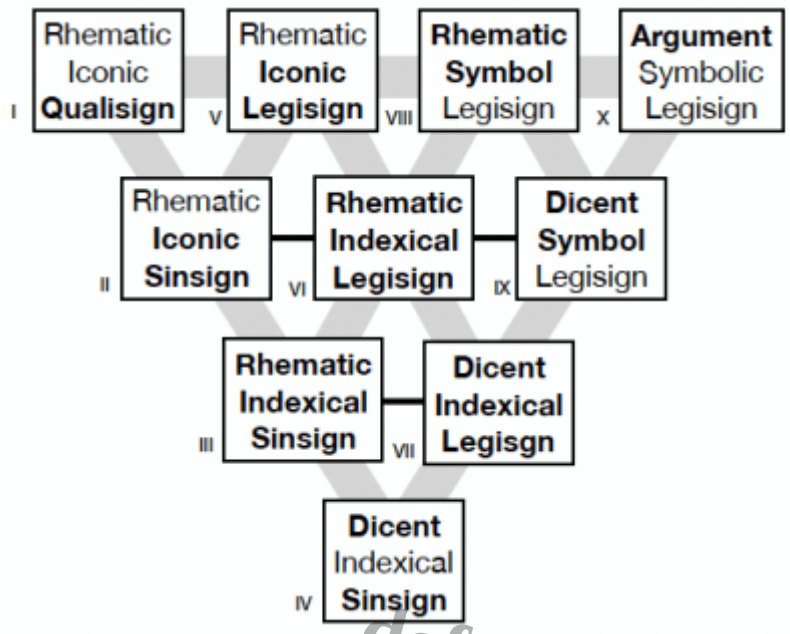
Instead of the abstract graph representations I used above, we can now substitute the terms Peirce uses in his famous diagram showing ten categories of the sign. Some of the terms are turned into adjectives (rhematic, iconic, indexical), and instead of Delome he uses the term Argument. (He seemed to use those two terms interchangeably.) The terms in bold are those he uses to describe each category as the lighter words are redundant as a means of uniquely identifying the category.



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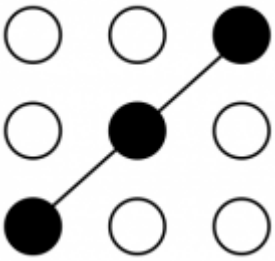
Limits

Peirceâ??s schema raises questions. The ten classes of signs exclude 17 other combinations: e.g. **Dicent Iconic Legisign**. I think that would be a statement about something that also resembles it according to some rule or convention. Perhaps that is where words get arranged on a page to look like the thing they represent: word pictures. As far as I am aware, Peirce does not consider such sign cases, but we could accept that they are fairly marginal to the usual sign functions.

Another case he does not consider is the argument that raw feelings get moderated by spoken language. That would be something like a **Delomic Indexical Qualisign**. He doesnâ??t seem to include that possibility in his schema. I think that would be a qualitative impression (e.g. of anger) (Firstness) where we think of that construction as already formed in language (Thirdness). See post: Mixed feelings. It seems as though Peirceâ??s schema limits what might be considered a sign.



Reference

- Peirce, Charles Sanders. 1992. A guess at the riddle. In Nathan Houser, and Christine Kloesel (eds.), *The Essential Peirce, Selected Philosophical Writings Volume 1 (1867-1893)*: 245-279. Bloomington, IN: Indiana University Press.

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2. diagram
3. Peirce
4. sign

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