

What Is a Sign?

MS 404. [Published in part in CP 2.281, 285, and 297-302. This work, probably composed early in 1894, was originally the first chapter of a book entitled "The Art of Reasoning," but was then turned into the second chapter of Peirce's multi-volume "How to Reason: A Critick of Arguments" (also known as "Grand Logic").] In this selection Peirce gives an account of signs based on an analysis of conscious experience from the standpoint of his three universal categories. He discusses the three principal kinds of signs—icons, indices, and symbols—and provides many examples. He maintains, as he had earlier, that reasoning must involve all three kinds of signs, and he claims that the art of reasoning is the art of marshalling signs, thus emphasizing the relationship between logic and semiotics.

§1. This is a most necessary question, since all reasoning is an interpretation of signs of some kind. But it is also a very difficult question, calling for deep reflection. (1)

It is necessary to recognize three different states of mind. First, imagine a person in a dreamy state. Let us suppose he is thinking of nothing but a red color. Not thinking about it, either, that is, not asking nor answering any questions about it, not even saying to himself that it pleases him, but just contemplating it, as his fancy brings it up. Perhaps, when he gets tired of the red, he will change it to some other color,—say a turquoise blue,—or a rose-color;—but if he does so, it will be in the play of fancy without any reason and without any compulsion. This is about as near as may be to a state of mind in which something is present, without compulsion and without reason; it is called Feeling. Except in a half-waking hour, nobody really is in a state of feeling, pure and simple. But whenever we are awake, something is present to the mind, and what is present, without reference to any compulsion or reason, is feeling.

Second, imagine our dreamer suddenly to hear a loud and prolonged steam whistle. At the instant it begins, he is startled. He instinctively tries to get away; his hands go to his ears. It is not so much that it is unpleasing, but it forces itself so upon him. The instinctive resistance is a necessary part of it: the man would not be sensible his will was borne down, if he had no self-assertion to be borne down. It is the same when we exert ourselves against outer resistance; except for that resistance we should not have anything upon which to exercise strength. This sense of acting and of being acted upon, which is our sense of the reality of things,—both of outward things and of ourselves,—may be called the sense of Reaction. It does not reside in any one Feeling; it comes upon the breaking of one feeling by another feeling. It essentially involves two things acting upon one another.

Third, let us imagine that our now-awakened dreamer, unable to shut out the piercing sound, jumps up and seeks to make his escape by the door, which we will suppose had been blown to with a bang just as the whistle commenced. But the instant our man opens the door let us say the whistle ceases. Much relieved, he thinks he will return to his seat, and so shuts the door, again. No sooner, however, has he done so than the whistle recommences. He asks himself whether the shutting of the door had anything to do with it; and once more opens the mysterious portal. As he opens it, the sound ceases. He is now in a third state of mind: he is *Thinking*. That is, he is aware of learning, or of going through a process by which a

phenomenon is found to be governed by a rule, or has a general knowable way of behaving. He finds that one action is the means, or middle, for bringing about another result. This third state of mind is entirely different from the other two. In the second there was only a sense of brute force; now there is a sense of government by a general rule. In Reaction only two things are involved; but in government there is a third thing which is a means to an end. The very word *means* signifies something which is in the middle between two others. Moreover, this third state of mind, or Thought, is a sense of learning, and learning is the means by which we pass from ignorance to knowledge. As the most rudimentary sense of Reaction involves two states of Feeling, so it will be found that the most rudimentary Thought involves three states of Feeling.

As we advance into the subject, these ideas, which seem hazy at our first glimpse of them, will come to stand out more and more distinctly; and their great importance will also force itself upon our minds.

§2. There are three kinds of interest we may take in a thing. First, we may have a primary interest in it for itself. Second, we may have a secondary interest in it, on account of its reactions with other things. Third, we may have a mediatory interest in it, in so far as it conveys to a mind an idea about a thing. In so far as it does this, it is a *sign*, or representation.

§3. There are three kinds of signs. Firstly, there are *likenesses*, or icons; which serve to convey ideas of the things they represent simply by imitating them. Secondly, there are *indications*, or indices; which show something about things, on account of their being physically connected with them. Such is a guidepost, which points down the road to be taken, or a relative pronoun, which is placed just after the name of the thing intended to be denoted, or a vocative exclamation, as "Hi! there," which acts upon the nerves of the person addressed and forces his attention. Thirdly, there are *symbols*, or general signs, which have become associated with their meanings by usage. Such are most words, and phrases, and speeches, and books, and libraries.

Let us consider the various uses of these three kinds of signs more closely.

§4. *Likenesses*. Photographs, especially instantaneous photographs, are very instructive, because we know that they are in certain respects exactly like the objects they represent. But this resemblance is due to the photographs having been produced under such circumstances that they were physically forced to correspond point by point to nature. In that aspect, then, they belong to the second class of signs, those by physical connection. The case is different, if I surmise that zebras are likely to be obstinate, or otherwise disagreeable animals, because they seem to have a general resemblance to donkeys, and donkeys are self-willed. Here the donkey serves precisely as a probable likeness of the zebra. It is true we suppose that resemblance has a physical cause in heredity; but then, this hereditary affinity is itself only an inference from the likeness between the two animals, and we have not (as in the case of the photograph) any independent knowledge of the circumstances of the production of the two species. Another example of the use of a likeness is the design an artist draws of a statue, pictorial composition, architectural elevation, or piece of decoration, by the contemplation of which he can ascertain whether what he proposes will be beautiful and satisfactory. The question asked is thus answered almost with certainty because it relates to how the

artist will himself be affected. The reasoning of mathematicians will be found to turn chiefly upon the use of likenesses, which are the very hinges of the gates of their science. The utility of likenesses to mathematicians consists in their suggesting, in a very precise way, new aspects of supposed states of things. For example, suppose we have a winding curve, with continual points where the curvature changes from clockwise to counter-clockwise and conversely as in figure 1. Let us further suppose that this curve is continued so that it crosses itself at every such point of reversed bending in another such point. The result appears in figure 2. It may be described as a number of ovals flattened together, as if by pressure. One would not perceive that the first description and the second were equivalent, without the figures. We shall find, when we get further into the subject, that all these different uses of likeness may be brought under one general formula.



Fig. 1



Fig. 2

In intercommunication, too, likenesses are quite indispensable. Imagine two men who know no common speech, thrown together remote from the rest of the race. They must communicate; but how are they to do so? By imitative sounds, by imitative gestures, and by pictures. These are three kinds of likenesses. It is true that they will also use other signs, finger-pointings, and the like. But, after all, the likenesses will be the only means of describing the qualities of the things and actions which they have in mind. Rudimentary language, when men first began to talk together, must have largely consisted either in directly imitative words, or in conventional names which they attached to pictures. The Egyptian language is an excessively rude one. It was, as far as we know, the earliest to be written; and the writing is all in pictures. Some of these pictures came to stand for sounds,—letters and syllables. But others stand directly for ideas. They are not nouns; they are not verbs; they are just pictorial ideas.

§5. *Indications.* But pictures alone,—pure likenesses,—can never convey the slightest information. Thus, figure 3 suggests a wheel. But it leaves the spectator uncertain whether it is a copy of something actually existing or a mere play of fancy. The same thing is true of general language and of all *symbols*. No combination of words (excluding proper nouns, and in the absence of gestures or other indicative concomitants of speech) can ever convey the slightest information. This may sound paradoxical; but the following imaginary little dialogue will show how true it is:

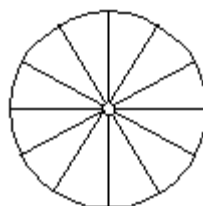


Fig. 3

Two men, A and B, meet on a country road, when the

following conversation ensues.

B. The owner of that house is the richest man in these parts.

A. What house?

B. Why do you not see a house to your right about seven kilometres distant, on a hill?

A. Yes, I think I can descry it.

B. Very well; that is the house.

Thus, A has acquired information. But if he walks to a distant village and says "the owner of a house is the richest man in those parts," the remark will refer to nothing, unless he explains to his interlocutor how to proceed from where he is in order to find that district and that house. Without that, he does not indicate what he is talking about. To identify an object, we generally state its place at a stated time; and in every case must show how an experience of it can be connected with the previous experience of the hearer. To state a time, we must reckon from a known epoch,—either the present moment, or the assumed birth of Christ, or something of the sort. When we say the epoch must be known, we mean it must be connected with the hearer's experience. We also have to reckon in units of time; and there is no way of making known what unit we propose to use except by appealing to the hearer's experience. So no place can be described, except relatively to some known place; and the unit of distance used must be defined by reference to some bar or other object which people can actually use directly or indirectly in measurement. It is true that a map is very useful in designating a place; and a map is a sort of picture. But unless the map carries a mark of a known locality, and the scale of miles, and the points of the compass, it no more shows where a place is than the map in *Gulliver's Travels* shows the location of Brobdingnag. (2) It is true that if a new island were found, say, in the Arctic Seas, its location could be approximately shown on a map which should have no lettering, meridians, nor parallels; for the familiar outlines of Iceland, Nova Zemla, Greenland, etc., serve to indicate the position. In such a case, we should avail ourselves of our knowledge that there is no second place that any being on this earth is likely to make a map of which has outlines like those of the Arctic shores. This experience of the world we live in renders the map something more than a mere icon and confers upon it the added characters of an *index*. Thus, it is true that one and the same sign may be at once a likeness and an indication. Still, the offices of these orders of signs are totally different. It may be objected that likenesses as much as indices (3) are founded on experience, that an image of red is meaningless to the color blind, as is that of erotic passion to the child. But these are truly objections which help the distinction; for it is *not* experience, but the *capacity* for experience, which they show is requisite for a likeness; and this is requisite, not in order that the likeness should be interpreted, but in order that it should at all be presented to the sense. Very different is the case of the inexperienced and the experienced person meeting the same man and noticing the same peculiarities, which to the experienced man indicate a whole history, but to the inexperienced reveal nothing.

Let us examine some examples of indications. I see a man with a rolling gait. This is a probable indication that he is a sailor. I see a bowlegged man in corduroys, gaiters, and a jacket. These are probable indications that he is a jockey or something of the sort. A weathercock *indicates* the direction of

the wind. A sun-dial or a clock *indicates* the time of day. Geometricians mark letters against the different parts of their diagrams and then use those letters to indicate those parts. Letters are similarly used by lawyers and others. Thus, we may say: If *A* and *B* are married to one another and *C* is their child while *D* is brother of *A*, then *D* is uncle of *C*. Here *A*, *B*, *C*, and *D* fulfill the office of relative pronouns, but are more convenient since they require no special collocation of words. A rap on the door is an indication. Anything which focuses the attention is an indication. Anything which startles us is an indication, in so far as it marks the junction between two portions of experience. Thus a tremendous thunderbolt indicates that something considerable happened, though we may not know precisely what the event was. But it may be expected to connect itself with some other experience.

§6. *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. Etymologically, it should mean a thing thrown together, just as *εμβολον* (embolum) is a thing thrown into something, a bolt, and *παραβολον* (parabolum) is a thing thrown besides, collateral security, and *υποβολον* (hypobolum) is a thing thrown underneath, an antenuptial gift. It is usually said that in the word *symbol*, the throwing together is to be understood in the sense of to conjecture; but were that the case, we ought to find that *sometimes*, at least, it meant a conjecture, a meaning for which literature may be searched in vain. But the Greeks used "throw together" (*συμβαλλειν*) very frequently to signify the making of a contract or convention. Now, we do find *symbol* (*συμβολον*) early and often used to mean a convention or contract. Aristotle calls a noun a "symbol," that is, a conventional sign. (4) In Greek, (5) 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.

Any ordinary word, as "give," "bird," "marriage," is an example of a symbol. It is *applicable to whatever may be found to realize the idea connected with the word*; it does not, in itself, identify those things. It does not show us a bird, nor enact before our eyes a giving or a marriage, but supposes that we are able to imagine those things, and have associated the word with them.

§7. A regular progression of one, two, three may be remarked in the three orders of signs, Likeness, Index, Symbol. The likeness has no dynamical connection with the object it represents; it simply happens that its qualities resemble those of that object, and excite analogous sensations in the mind for which it is a likeness. But it really stands unconnected with them. The index is physically connected with its object; they make an organic pair. But the interpreting mind has nothing to do with this connection, except remarking it, after it is established. The symbol is connected with its object by virtue of the idea of the symbol-using mind, without which no such connection would exist.

Every physical force reacts between a pair of particles, either

of which may serve as an index of the other. On the other hand, we shall find that every intellectual operation involves a triad of symbols.

§8. 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. You can write down the word "star"; but that does not make you the creator of the word, nor if you erase it have you destroyed the word. The word lives in the minds of those who use it. Even if they are all asleep, it exists in their memory. So we may admit, if there be reason to do so, that generals are mere words without at all saying, as Ockham supposed, (6) that they are really individuals.

Symbols grow. They come into being by development out of other signs, particularly from likenesses or from mixed signs partaking of the nature of likenesses and symbols. We think only in signs. These mental signs are of mixed nature; the symbol-parts of them are called concepts. If a man makes a new symbol, it is by thoughts involving concepts. So it is only out of symbols that a new symbol can grow. *Omne symbolum de symbolo.* (7) A symbol, once in being, spreads among the peoples. In use and in experience, its meaning grows. Such words as *force, law, wealth, marriage*, bear for us very different meanings from those they bore to our barbarous ancestors. The symbol may, with Emerson's sphynx, (8) say to man,

Of thine eye I am eyebeam.

§9. In all reasoning, we have to use a mixture of *likenesses, indices, and symbols*. We cannot dispense with any of them. The complex whole may be called a *symbol*; for its symbolic, living character is the prevailing one. A metaphor is not always to be despised: though a man may be said to be composed of living tissues, yet portions of his nails, teeth, hair, and bones, which are most necessary to him, have ceased to undergo the metabolic processes which constitute life, and there are liquids in his body which are not alive. Now, we may liken the indices we use in reasoning to the hard parts of the body, and the likenesses we use to the blood: the one holds us stiffly up to the realities, the other with its swift changes supplies the nutriment for the main body of thought.

Suppose a man to reason as follows: The Bible says that Enoch and Elijah were caught up into heaven; then, either the Bible errs, or else it is not strictly true that all men are mortal. What the Bible is, and what the historic world of men is, to which this reasoning relates, must be shown by indices. The reasoner makes some sort of mental diagram by which he sees that his alternative conclusion must be true, if the premise is so; and this diagram is an *icon* or likeness. The rest is symbols; and the whole may be considered as a modified symbol. It is not a dead thing, but carries the mind from one point to another. The art of reasoning is the art of marshalling such signs, and of finding out the truth.

Notes

1. Section numbers, which in the manuscript begin with ¶31, here begin with ¶1, since the first chapter of Peirce's projected book is not included.
2. Book II of Jonathan Swift's *Gulliver's Travels* opens on a fanciful map of Brobdingnag merged into a map of the North American Pacific coast.
3. Peirce wrote "signs" instead of "indices," a mistake given the preceding context. Some early writings, however, do refer to indices as "signs" (see EP1:7).
4. *De interpretatione*, II.16a.12.
5. Peirce wrote "in Greek" rather than "in Greece" because he is working through the list of alternative translations provided by Liddell and Scott's *Greek-English Lexicon* under the entry *συμβολον*.
6. Cf. William of Ockham's *Summa totius logicae*, part i, ch. 14.
7. "Every symbol follows from a symbol."
8. Peirce often quotes this verse from the fourteenth stanza of Emerson's poem "The Sphinx" (*Dial*, Jan. 1841).