hand, it is allowable to suppose that science has no essential affinity with the philosophical views with which it seems to be every year more associated. History cannot be held to exclude this supposition; and science as it exists is certainly much less nominalistic than the nominalists think it should be. Whewell represents it quite as well as Mill. Yet a man who enters into the scientific thought of the day and has not materialistic tendencies, is getting to be an impossibility. So long as there is a dispute between nominalism and realism, so long as the position we hold on the question is not determined by any proof indisputable, but is more or less a matter of inclination, a man as he gradually comes to feel the profound hostility of the two tendencies will, if he is not less than man, become engaged with one or other and can no more obey both than he can serve God and Mammon. If the two impulses are neutralized within him, the result simply is that he is left without any great intellectual motive. There is, indeed, no reason to suppose the logical question is in its own nature unsuceptible of solution. But that path out of the difficulty lies through the thorniest mazes of a science as dry as mathematics. Now there is a demand for mathematics; it helps to build bridges and drive engines, and therefore it becomes somebody's business to study it severely. But to have a philosophy is a matter of luxury; the only use of that is to make us feel comfortable and easy. It is a study for leisure hours; and we want it supplied in an elegant, an agreeable, an interesting form. The law of natural selection, which is the precise analogue in another realm of the law of supply and demand, has the most immediate effect in fostering the other faculties of the understanding, for the men of mental power succeed in the struggle for life; but the faculty of philosophizing, except in the literary way, is not called for; and therefore a difficult question cannot be expected to reach solution until it takes some practical form. If anybody should have the good luck to find out the solution, nobody else would take the trouble to understand it. But though the question of realism and nominalism has its roots in the technicalities of logic, its branches reach about our life. The question whether the *genus homo* has any existence except as individuals, is the question whether there is anything of any more dignity, worth, and importance than individual happiness, individual aspirations, and individual life. Whether men really have anything in common, so that the *community* is to be considered as an end in itself, and if so, what the relative value of the two factors is, is the most fundamental practical question in regard to every public institution the constitution of which we have it in our power to influence.

On the Nature of Signs

In the following brief manuscript, written in 1873, Peirce makes it as clear as anywhere in his writings that he is not one of those semioticians who emphasize the arbitrariness of signs. Every sign, even a prediction of a future event, has a "physical connection" to the object it represents. The three characters—material quality, pure demonstrative application, and appeal to a mind—that he here attributes to signs also correspond to the three categories in his "New List" of 1867 that he eventually generalized into firstness, secondness, and thirdness. The manuscript concludes with a reaffirmation of the main point of Peirce's 1868 essay "Questions concerning Certain Faculties Claimed for Man," in which he held that even our thoughts ("ideas") have the characters of signs.


A sign is an object which stands for another to some mind. I propose to describe the characters of a sign. In the first place like any other thing it must have qualities which belong to it whether it be regarded as a sign or not. Thus a printed word is black, has a certain number of letters and those letters have certain shapes. Such characters of a sign I call its material quality. In the next place a sign must have some real connection with the thing it signifies so that when the object is present or is so as the sign signifies it to be, the sign shall so signify it and otherwise not. What I mean will best be understood by illustration. A weathercock is a sign of the direction of the wind. It would not be so unless the wind made it turn round. There is to be such a physical connection between every sign and its object. Take a painted portrait. It is the sign of the person for whom it is intended. It is a sign of that person in virtue of its likeness to that person: but this is not enough—it cannot be said of any
two things that are alike one is a sign of the other but the portrait is a sign of
that person because it was painted after that person and represents him. The
connection here is an indirect one. The appearance of the person made a
certain impression upon the painter’s mind and that acted to cause the painter
to make such a picture as he did do so that the appearance of the portrait is
really an effect of the appearance of the person for whom it was intended.
The one caused the other through the medium of the painter’s mind. Take any
statement which is made concerning a matter of fact. It is caused or deter-
mined by the fact. The fact has been observed & the perception of the fact
which was caused by it in its turn causes the statement to be made. Perhaps
however the fact was not directly perceived. The statement may be a predic-
tion. In that case it cannot be said that that which follows after has caused
that which precedes it, the prediction, but if the event has been predicted it
has been through some knowledge of its cause and this same cause which
precedes the event also precedes some cognition of the mind which gave rise
to the prediction so that there is a real causal connection between the sign and
the thing signified although it does not consist in one’s being the effect of the
other but in both being the effect of the same cause. I shall term this character
of signs their pure demonstrative application. In the 3rd place it is necessary
for a sign to be a sign that it should be regarded as a sign for it is only a sign
to that mind which so considers and if it is not a sign to any mind it is not a
sign at all. It must be known to the mind first in its material qualities but also
in its pure demonstrative application. That mind must conceive it to be con-
ected with its object so that it is possible to reason from the sign to the thing.
Let us now see what the appeal of a sign to the mind amounts to. It produces
a certain idea in the mind which is the idea that it is a sign of the thing it
signifies and an idea is itself a sign, for an idea is an object and it represents
an object. The idea itself has its material quality which is the feeling which
there is in thinking. Thus the red and blue are different in the mere sensation.
This difference in no way resembles the distinction which there is between
those things in the outward world which are called red and those things which
are called blue. Those things differ only in the rapidity with which their par-
ticles vibrate. In order that the senses discriminate between the two cases it is
necessary that there should be some differences in the sensation but it is enti-
rely indifferent so far as the difference of sensation is concerned whether it
be a shorter or a longer vibration which produces that peculiar sensation
which red things do. Whatever looks red might look blue or vice versa and
the representation would be equally true to the facts. Thus our mere sensations
are only the material quality of our ideas considered as signs. Our ideas have
also a causal connection with the things that they represent without which
there would be no real knowledge. It is not so clear at first sight that our ideas
resemble their signs in necessarily appealing to some mind. That appeal could
amount to nothing except the production of certain other ideas in which the
first one should be virtually reproduced and according to the ordinary concep-
tion of the mind when the idea has once reached consciousness the correlation
is complete. Nevertheless I regard this as an error of a very important
character.