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# 1 Charles Sanders Peirce (1839–1914)

## I. INTRODUCTION

Charles Sanders Peirce was the founder of pragmatism – the view that our theories must be linked to experience or practice. His work is staggering in its breadth and much of it lies in a huge bulk of manuscripts and scraps. His few published papers include those of the 1870s series in *Popular Science Monthly* called “Illustrations of the Logic of Science,” most notably “How to Make Our Ideas Clear” and “The Fixation of Belief.” His Lowell Lectures in 1898 and 1903 and his Harvard Pragmatism Lectures in 1903 also contain essential material. But much of what is important is only now being published in the definitive chronological edition: *The Writings of Charles Sanders Peirce*.

Peirce was a difficult man and this was no doubt partly responsible for his being frozen out of what he most desired: a permanent academic position.<sup>1</sup> He worked instead for the U.S. Coast Survey – his scientific and mathematical endeavors there had a significant influence on his logic, on his work in statistical inference, and on his epistemology and metaphysics. He is perhaps best known today for his theory of truth and his semeiotics, as well as for his influence on William James and John Dewey. But because of the scattered nature of his work and because he was always out of the academic mainstream, many of his contributions are just now coming to light.

As Philstrom’s essay in this volume makes clear, one of the most important influences on Peirce was Kant. There is also a strong gust of medieval philosophy blowing throughout his writing. It is from here that Peirce gets his Scholastic realism, which is

set against the nominalism of the British empiricists. (See Boler's contribution to this volume.) But there are also clear affinities between Peirce and the British empiricists. For instance, Peirce credits Berkeley's arguments that all meaningful language should be matched with sensory experience as the precursor of pragmatism:

Berkeley on the whole has more right to be considered the introducer of pragmatism into philosophy than any other one man, though I was more explicit in enunciating it.<sup>2</sup>

It has seemed to many that, despite Peirce's claims to be putting together a grand 'architectonic' system, there are substantial tensions in his work. Goudge (1950) declared that there were two incompatible Peirces. One is a hard-headed epistemologist/philosopher of science and the other is a soft-headed religious thinker prone to metaphysical speculation. Misak and Anderson argue in this volume that the two Peirces can and ought to be brought together.

Whether or not Peirce's work can be brought into a harmonious whole, the reader of this collection will be struck by the enormous range of debates to which Peirce was a serious contributor. In this introductory essay, a whirlwind tour of those contributions will be conducted.<sup>3</sup>

## 2. THE PRAGMATIC MAXIM

Peirce took the 'spirit' of pragmatism to be captured in the following maxim: "we must look to the upshot of our concepts in order rightly to apprehend them" (CP 5.4). There is a connection between understanding a concept and knowing what to expect if sentences containing the concept were true or false. If a concept has no such consequences, then it lacks an important dimension which we would have had to get right were we to fully understand it.

This criterion of legitimacy lies at the heart of Peirce's work. Not only does he criticise certain philosophical positions as pragmatically spurious, but he arrives at many of his own views by focussing on the consequences of, say, "*P* is true" or "*x* is real." The pragmatic maxim, that is, serves both as a standard for determining which expressions are empty and as a methodological principle for formulating philosophical theories of truth, reality, etc.

In “How to Make Our Ideas Clear,” Peirce publically unveils pragmatism and sets out the maxim as follows:

Consider what effects, which might conceivably have practical bearings, we conceive the object of our conception to have. Then, our conception of these is the whole of our conception of the object. (W 3, 266)

Peirce suggests in this paper that knowing the meaning of an expression is exhausted by knowing its “practical” effects, which he characterizes as “effects, direct or indirect, upon our senses” (W 3, 266). These effects can be described by conditionals of the sort: if you were to do A, you would observe B. He says:

We come down to what is tangible and practical, as the root of every real distinction of thought, no matter how subtle it may be; and there is no distinction of meaning so fine as to consist in anything but a possible difference of practice. (W 3, 265)

As an example of how the pragmatic maxim operates, Peirce examines the meaning of “this diamond is hard.” He says that it means that if you try to scratch it, you will find that “it will not be scratched by many other substances” (W 3, 266).

Notice that the practical effect here is formulated as an indicative conditional, as a matter of what *will* happen. Peirce sees that if he formulates practical effects in this manner, it makes little sense to describe a diamond which is in fact never scratched as being hard. He seems to be content with this conclusion in “How to Make Our Ideas Clear.” But when he considers the matter later, he insists on a subjunctive formulation. He chides himself for making the nominalist suggestion that habits, dispositions, or “would-bes” are not real. A Scholastic realism about dispositions and subjunctive conditionals must be adopted: a disposition is more than the total of its realizations and a subjunctive conditional can be correct or incorrect, whether or not the antecedent is fulfilled. The practical effects which concern pragmatism are those which would occur under certain conditions, not those which will actually occur. His considered view about the unscratched diamond is that “it is a real fact that it *would* resist pressure” (CP 8.208).

This was not Peirce’s only amendment to the pragmatic maxim. In his struggle to arrive at a suitable account of understanding,

we sometimes find him suggesting something very similar to what we find later in logical positivism. The positivists' criterion effectively restricted meaning to statements about physical objects – to statements about that which is directly observable or verifiable. Statements about anything else – metaphysics or ethics for example – were literally meaningless. But, in further improvements to the pragmatic maxim, Peirce makes it clear that he is concerned to give a much more generous account of what is involved in understanding.

First, Peirce himself inclined toward metaphysics and he did not want to do away with it altogether. In metaphysics “one finds those questions that at first seem to offer no handle for reason’s clutch, but which readily yield to logical analysis” (CP 6.463). Metaphysics, “in its present condition,” is “a puny, rickety, and scrofulous science” (CP 6.6). But it need not be so, for many of its hypotheses are meaningful and important. It is the job of the pragmatic maxim to sweep “all metaphysical rubbish out of one’s house. Each abstraction is either pronounced to be gibberish or is provided with a plain, practical definition” (CP 8.191).

Second, Peirce frequently claims that the pragmatic maxim captures only *a part* of what it is to know the meaning of an expression. In order to grasp a term, he argues, a threefold competence is required. The interpreter must be able to

- (1) pick out what objects the term refers to or know the term’s denotation,
- (2) give a definition of the term or know the term’s connotation, and
- (3) know what to expect if hypotheses containing the term are true.

He takes these three aspects of understanding to spell out completely what someone must be able to do if she grasps a concept or knows the meaning of an expression.

A much-neglected implication of this view is that definition is not the most important project for philosophers: “Definition can no longer be regarded as the supreme mode of clear Apprehension” (MS 647, p. 2). That is, we must be alert to the fact that what Peirce arrives at when he applies the pragmatic maxim to a concept is not

a definition of the concept, but rather, a pragmatic elucidation. He examines a concept through its relations with practical endeavors. That is one route to understanding a concept, the route Peirce takes as his own contribution to debates about what it is to understand something.

Third, Peirce tries to divert the philosopher from thinking that sensory experience is all-important. A perceptual belief, he argues, is merely a belief that is compelling, surprising, impinging, unchosen, involuntary, or forceful. Such beliefs need not arise from the senses. Peirce, unlike his verificationist successors, wants all hypotheses to be exposed to the pragmatic maxim; he does not exempt formal (or “analytic”) sentences. Logical and mathematical hypotheses can meet the criterion because there is a kind of experience relevant to them – you can make manipulations in proofs or diagrams and observe unexpected results. And some metaphysical hypotheses meet the criterion as well. They must have consequences, Peirce argues, for ordinary, everyday experience. See the contributions here from Wiggins and Misak for a discussion of how mathematics and morals fit in this picture.

### 3. TRUTH AND REALITY

Peirce applies the pragmatic maxim to the debate on the nature of truth and reality. The philosopher must look to our practices and see what account of truth would be best suited for them: “We must not begin by talking of pure ideas, – vagabond thoughts that tramp the public roads without any human habitation, – but must begin with men and their conversation” (CP 8.112). As Wiggins’s essay in this volume makes so clear, the upshot is a subtle and compelling view. Peirce’s route to the concept of truth is through belief, inquiry, and deliberation: the practices linked to truth and to the seeking of truth. Peirce suggests that we concern ourselves with propositions we have arrived at, expressed, affirmed, or believed and those we shall arrive at, express, affirm, or believe.<sup>4</sup> By making this our focus, we will discover something about what it is at which we aim: truth. This does not mean that truth is an epistemological notion. Rather, this exemplifies one route to finding out something about truth: the route through our epistemological practices of believing, inquiring, and deliberating.

The correspondence theory, Peirce argues, can have no consequences for our practices. It holds that a true hypothesis is one which is in agreement with an unknowable “thing-in-itself.” But:

You only puzzle yourself by talking of this metaphysical “truth” and metaphysical “falsity” that you know nothing about. All you have any dealings with are your doubts and beliefs. . . . If your terms “truth” and “falsity” are taken in such senses as to be definable in terms of doubt and belief and the course of experience . . . well and good: in that case, you are only talking about doubt and belief. But if by truth and falsity you mean something not definable in terms of doubt and belief in any way, then you are talking of entities of whose existence you can know nothing, and which Ockham’s razor would clean shave off. Your problems would be greatly simplified, if, instead of saying that you want to know the “Truth,” you were simply to say that you want to attain a state of belief unassailable by doubt. (CP 5.416)

Peirce’s thought here is that if one offered an account of “*P* is true” in terms of its consequences for doubt, belief, and perceptual disappointment, one would be offering a pragmatic elucidation of truth. That, if it were a correct specification of the consequences, would tell us something about truth. But a definition of truth which makes no reference to belief, doubt, and experience is empty. It is a mere definition – useful only to those who have never encountered the notion of truth.

Peirce sometimes states this objection to the correspondence theory by labeling it a “transcendental” account of truth (CP 5.572). Such accounts regard truth “as the subject of metaphysics exclusively” – spurious metaphysics, not pragmatically legitimate metaphysics. On the correspondence definition, truth transcends (and thus has no consequences for) belief, experience, and inquiry. He says:

The *Ding an sich* . . . can neither be indicated nor found. Consequently, no proposition can refer to it, and nothing true or false can be predicated of it. Therefore, all references to it must be thrown out as meaningless surplusage. (CP 5.525)

The correspondence theory has it that there is an unbridgeable gap between a belief which is supported by experience and a belief that corresponds to reality. We could have the best possible evidence for a hypothesis and yet that hypothesis might fail to be true. The

correspondence theory does not tell us what we can expect of a true hypothesis and so it is not capable of guiding us in our actions and inquiries. If truth is the aim of inquiry, then the correspondence theory leaves inquirers completely in the dark as to how they should conduct their investigations. The aim is not, Peirce says, “readily comprehensible” (CP 1.578). How could anyone aim for a sort of truth that transcends experience? How could an inquirer come up with a means for achieving that aim?

In anticipation of certain kinds of minimalist accounts of truth, Peirce focuses on what he thinks the transcendentalist has lost sight of – the unseverable link between truth on the one hand and assertion (and belief) on the other. To assert *P* is to assert that *P* is true and to assert that *P* is true is to assert *P*. (Alternatively, to believe *P* is to believe that *P* is true and to believe that *P* is true is to believe *P*.) The notion of truth is bound up with the notions of assertion and belief. But Peirce takes a step further than the minimalist. Once we see the internal connection between truth and assertion/belief, we must look to the practice of assertion/belief and to the commitments incurred in it, so that we can say something more. What we know about truth is that it is what we aim at when we assert, believe, or deliberate. Were we to forever achieve all of our local aims in assertion, belief, and deliberation (prediction, explanatory power, and so on), then the belief in question would be true. There is nothing over and above the fulfillment of those local aims, nothing metaphysical, to which we aspire. Were we to get a belief which would be as good as it could be, that would be a true belief.

Peirce sums up the matter thus: “A true proposition is a proposition belief in which would never lead to . . . disappointment” (CP 5.569). This is an account of what we can expect of a true belief: if we were to inquire into *P*, we would find that *P* would encounter no recalcitrant experience. We can predict that if we were diligently to inquire, it would not, in the end, be overturned by experience or argument. An alternative way of making the point is to say that we would expect the following: if inquiry with respect to *P* were to be pursued as far as it could fruitfully go (i.e., far enough so that the hypothesis would no longer be improved upon), *P* would be believed. A true belief is a permanently settled or indefeasible belief.

Peirce’s view of reality is connected to his view of truth in that he often says that reality is the “object” of true beliefs – it is what

true beliefs are about. Chris Hookway has recently improved our understanding of how Peirce saw this connection and the reader is advised to turn to his contribution to this volume for a summary of that new understanding.

#### 4. SEMEIOTICS

Peirce was a pioneer in semeiotics. Not only is he responsible for the distinction between type ('human' as a general term) and token ('human' as applied to various individuals), but he developed a complex map of sixty-six kinds of signs, from which sprout 59,049 varieties. The details of this map are still of great interest to semeioticians, but they will not concern me here. Short's and Skagested's papers in this volume convey many of the important points. Short shows how Peirce eventually abandoned his early theory of signs and substituted for it a much less paradoxical one and Skagested shows how Peirce's theory of signs connects to issues about intentionality and the philosophy of mind.

It is important to notice for this broad overview of Peirce's work that his theory of signs has interpretation at its center. Peirce holds that the sign-referent relation is not able, on its own, to sustain a complete account of representation. Representation is triadic: it involves a sign, an object, and an interpreter. Each aspect of this representation relation corresponds to one of the elements in Peirce's division of signs into icons, indices, and symbols. And in each of these, one or another aspect of the linguistic competence alluded to in Section 2 is most prominent.

Icons are signs that exhibit their objects by virtue of similarity or resemblance. A portrait is an icon of the person it portrays and a map is an icon of a certain geographical area. Peirce argues that the meaning of iconic signs lies mostly in their connotation: what makes a painting or a map an icon is that its qualities or attributes resemble the qualities or attributes of its object.

Indices are signs that indicate their objects in a causal manner: an index "signifies its object solely by virtue of being really connected with it" (CP 3.360). A symptom is an index of a disease and smoke is an index of fire. The essential quality of an index is its ability to compel attention. A pointing finger, a knock on the door, or a



demonstrative pronoun, such as ‘there’ or ‘that,’ draws attention to its object by getting the interpreter to focus on the object. So an index, by being object-directed, has its denotation or extension as its “most prominent feature” (CP 8.119). An index picks out or indicates its object; it points to ‘that, that, and that’ as its extension.

A symbol is a word, hypothesis, or argument which depends on a conventional or habitual rule: a symbol is a sign “because it is used and understood as such” (CP 2.307). Symbols have “principle” or pragmatic meaning; they have “intellectual purport.”

Peirce contrasts pragmatic meaning with “internal” meaning (which he relates to icons and connotation) and with “external” meaning (which he relates to indices and denotation). He suggests that the pragmatic meaning of symbols has to do with a “purpose” (CP 8.119). A symbol has pragmatic meaning because if the utterer knows how interpreters habitually interpret a sign, she can use the sign to cause a specific effect in the interpreter. And Peirce calls this effect the “interpretant” of the sign. If, for instance, I write ‘dog,’ I intend the sign to cause a certain effect in the interpreter (perhaps I want the interpreter to think of a dog), whereas if I write ‘odg,’ I do not, as ‘odg’ is not a conventional sign. Or if I assert ‘That bridge has a loose plank,’ I might want the interpreter to be careful when crossing the bridge. Peirce characterizes an assertion as the attempt to produce a disposition in an interpreter; it is “the deliberate exercise, in uttering the proposition, of a force tending to determine a belief in it in the mind of an interpreter” (NE 4, 249).

Notice that if pragmatic meaning is about this sort of effect (having an effect on the beliefs of the interpreter), it is no longer about “effects, direct or indirect, upon our senses.” Pragmatic meaning, rather, involves consequences for action or thought. In 1905 we find Peirce offering this version of the pragmatic maxim:

The entire intellectual purport of any symbol consists in the total of all general modes of rational conduct which, conditionally upon all the possible different circumstances and desires, would ensue upon the acceptance of the symbol. (CP 5.438)

Peirce thinks that “rational conduct” will eventually manifest itself in a modification of the interpreter’s disposition to behave. And “rational conduct” includes the conduct of one’s thought.

This twist in the pragmatic maxim – that the acceptance of a hypothesis must have effects on an interpreter's train of thought – coincides with a development in the early 1900s in Peirce's theory of signs. Here Peirce arrived at a complex theory of interpretants and he locates pragmatic meaning within this theory.

He distinguishes three types of interpretants. The "immediate" interpretant is the fitness of a sign to be understood in a certain way; the "dynamical" interpretant is the actual effect a sign has on an interpreter; and the "final" interpretant is the effect which eventually would be decided to be the correct interpretation. Pragmatic meaning, Peirce says, lies in a kind of dynamical interpretant: the "ultimate logical interpretant". A sign, Peirce argues, sparks a subsequent sign (an interpretant) in the mind of the interpreter, and since an interpretant is itself a sign, an infinite chain of interpretation, development, or thought is begun. Peirce stops the regress by introducing the notion of an "ultimate logical interpretant" or a "habit-change". He follows Alexander Bain in taking a belief to be a habit or a disposition to behave. And so this new habit is a belief or a modification of the interpreter's tendencies towards action. The pragmatic meaning of an expression, according to Peirce's theory of signs, is the action (which includes the action of subsequent thought, and which ends in a disposition to behave) that arises after an interpreter accepts it.

##### 5. THEORY OF INQUIRY

The notion of inquiry occupies a central place in Peirce's thought. Philosophy, he insisted, must get along with other branches of inquiry. Indeed, the following motto "deserves to be inscribed upon every wall of the city of philosophy: Do not block the path of inquiry" (CP 1.135).

In "The Fixation of Belief," Peirce characterizes inquiry as the struggle to rid ourselves of doubt and achieve a state of belief. An inquirer has a body of settled beliefs – beliefs which are, in fact, not doubted. These beliefs, however, are susceptible to doubt, if it is prompted by some "positive reason," such as a surprising experience (CP 5.51). We have seen that Peirce takes experience to be that which impinges upon us – experience, he says, teaches us "by practical