Peirce's Philosophical Perspectives
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Although Charles Peirce is perhaps most often remembered as the father of the philosophical movement known as pragmatism, he was also, and perhaps especially, a logician, a working scientist, and a mathematician. During his lifetime Peirce most often referred to himself, and was referred to by his colleagues, as a logician. Furthermore, Peirce spent thirty years actively engaged in scientific research for the United States Coast and Geodetic Survey. The National Archives in Washington, D.C., hold some five thousand pages of his reports on this work. Finally, the four volumes of his mathematical papers edited by Professor Carolyn Eisele eloquently testify to his contributions to that field as well.

These facts are important background to what I have to say in this essay. I will talk about Peirce’s philosophy, but what I have to say can be properly appreciated only when Peirce’s philosophy is understood as growing out of his firsthand experience with experimental science and its methodology. Peirce’s pragmatism, I contend, is significantly, even radically, different from that of James or Dewey, because it is the result of his reflections upon his own life in the laboratory and of his thorough, even painstaking, study of logic. Neither James nor Dewey had quite this combination of experiences. James was a physician and experimental psychologist, but not a logician. Dewey was a logician, but not a working scientist. But Peirce, from his boyhood, lived science, logic, and philosophy. From this passionate interest, from this consuming desire to understand the world and our understanding of it, his pragmatism was born.

The British scientific and philosophical tradition played a major

role in shaping Peirce’s thought. I am convinced that his distinctive view of pragmatism is in continuity with an authentic British philosophical tradition which antedates the classical empiricism-triumvirate of Locke, Berkeley, and Hume. We might call this Peirce’s “British Connection.”

Even so, Peirce is not simply a British philosopher who happened to grow up in the Colonies. His pragmatism has a distinctively American spirit about it, although that spirit may be difficult to state succinctly. The so-called “classical” period of American philosophy is usually said to extend from the end of the American Civil War to just before World War II. During that time, according to some, philosophy in America became American Philosophy. Under the umbrella term “pragmatism,” philosophers in America developed a distinctively American “spirit,” if not a philosophical doctrine. That spirit, put roughly, was that ideas, if they are to merit serious attention, must be practical. They must not remain mere abstractions, but must have some payoff or relevance to the problems of men.

Prior to this classical period, however, philosophy in America was largely a repetition of European thought—mostly British Empiricism but with generous doses of Scottish Commonsensism and a dash of French Enlightenment. After the Civil War, German thought began to have a major impact on American thinkers. Kant and Hegel gained influence largely through the St. Louis Hegelians. About that time, too, increasing numbers of Americans were going to Germany to study. Among them, for example, was William James. These students returned marked by that experience and enthusiastic to take the German university as the model for the fledgling American graduate education. Although Peirce never studied in Germany, he traveled there extensively on scientific business, and knew German philosophical thought through his close study of Kant. Peirce’s pragmatism, we might say, was born of British and of German stock. Yet his “bantling,” as he once called it (5.14), has a definite resemblance to its British ancestry in its concern for the empirical. Late in his life, reminiscing about the meetings in Cambridge, Massachusetts, of the “Metaphysical Club” in the early 1870s, Peirce remarked:

The type of our thought was decidedly British. I, alone of our number, had come upon the threshing floor of philosophy through the
doorway of Kant, and even my ideas were acquiring the English accent. (5.12)

Only recently has Peirce's work received recognition within the scientific and academic communities in America and Europe. In fact, there have been testimonials to his genius which, to some, might seem extravagant. Let me cite just one example. In a paper on Peirce's existential graphs read to the Institute of Mathematics and Its Application on January 20, 1981, Professor J. A. Faris, formerly of the Queen's University of Belfast, gave this appraisal of Peirce: "He was a polymath, and because of the extraordinary range of his knowledge and interests, and the great strength and originality of his intellect, I think of him as deserving to be classed along with, for example, Aristotle and Leibniz." This is to put Pierce in no mean company. If such an appraisal is correct, philosophers, at least, ought not to neglect his views, even if only to criticize them.

Recently, the German side of pragmatism's family has recognized its descendant. Contemporary German thinkers have taken a more than passing interest in Peirce's semeiotic theory and in his understanding of the relation of theory and praxis. I have in mind, of course, among others, the Frankfurt school.

While Peirce's recognition by scholarly professionals is perhaps finally assured, still his works are not likely to be read by the general public. William James, Peirce's lifelong friend, once described him as full of flashes of brilliance amid Cimmerian darkness. Anyone who has struggled with Peirce's texts knows what James meant. This obscure quality to much of Peirce's writing explains in part the fact that he was in eclipse until relatively recently. Besides, his published papers were few. His voluminous unpublished writings were for many years virtually unavailable. When in the 1930s Charles Hartshorne and Paul Weiss edited the Collected Papers, their choice of materials represented only a small part of the manuscripts. A new chronological edition, currently in preparation at the Indianapolis campus of Indiana University, will make available a great deal more of the manuscript material. At present at least twenty volumes are projected. Still, Peirce's obscure style and the inherent difficulty of his subject matter will most likely keep him off the best-seller list.

Now that Peirce's papers are being more thoroughly examined
by a growing number of scholars, the close connection between
his personal experience of science and his pragmatic philosophy
is becoming ever more evident. Let us consider, then, how that
connection grew strong and assumed a definite character through
his ties, formed by personal acquaintance and by study of their
work, to Britain's philosophers and men of science.

Peirce visited England five times between 1870 and 1883 and
while there got to know many of the most prominent British scien-
tists, mathematicians, and logicians. He also won their esteem for
his scientific, mathematical, and logical acumen. W. K. Clifford
called him the greatest living logician\(^6\) and this high opinion was
concretely attested to by his election in 1880 to the London Mathe-
matical Society.

Peirce's five journeys to Europe were all connected with his
scientific work with the United States Coast and Geodetic Survey.
His first visit to London was in 1870 when he was sent by the
Survey as an advance party to check sites for the observation of
the solar eclipse due to occur on December 22, 1870. On his
second visit in 1875–1876 he visited the newly built Cavendish
Laboratory at Cambridge University and consulted with Maxwell
concerning the flexure of the pendulum. In 1877 he traveled to
Europe a third time to deliver a paper to the International Geo-
detic Association in Stuttgart. It was during this ocean crossing
that Peirce wrote his best-known article, "How to Make Our Ideas
Clear," in which he formulated the so-called pragmatic maxim. To
practice his French, Peirce composed the article in that language
and later translated it into English. The English version was pub-
lished first, in *Popular Science Monthly*, and about a year later the
French version appeared in *Revue philosophique*. This essay was
the second in a series of six that appeared in *Popular Science
Monthly* under the general title "Illustration of the Logic of Sci-
ence." It seems that Peirce had hoped to publish all six articles in
French and in German as well as in English, but only the first two
articles appeared in French, and none appeared in German.

In 1880 and 1883 Peirce made his final voyages to Europe. Not
only was he then elected to the London Mathematical Society, but
he was also a frequent guest of Clifford, Jevons, Spencer, and other
friends at the Royal Society, the Athenaeum Club, and the Meta-
physical Society.
Peirce thought that to do philosophy well it was absolutely essential to get logic straight. We know from any number of his papers that he greatly esteemed the work of British logicians. One such paper, “Why Study Logic?” (2.119–216), was intended to be part of a book he never published, “Minute Logic.” In it Peirce contrasts what he calls “the English position” on reasoning (for example, Boole, De Morgan, Whewell, J. S. Mill, Jevons, Venn, et al.) with the “German position” (Sigwart, Wundt, Schuppe, Erdmann, Bergmann, Husserl, et al.) and comes down unequivocally on the side of the English. As Peirce sees it, the English consider logic to be objective, while the Germans consider it to be subjective. The English come to logic with their characteristic frame of mind. The “English position” opposes any doctrine that bases the soundness of reasoning on a sense of, or feeling for, rationality. For Peirce, there is not a logical taste or a logical instinct or a logical Gefühl in terms of which we recognize an argument as sound.9 He rejects any attempt to reduce logic to intuition or to psychology. In effect, Peirce sees logic as the science of how one ought to think, not of how one must think. Logic, then, is a normative science, and reasoning is reasoning only if it is subject to critical control. Such critical control is exercised in terms of the purpose of any reasoning, namely, to avoid disappointments and disasters. The hard facts are what we want to know, he writes. The whole motive of one’s reasoning is to prepare for them. Reasoning is to be judged sound, therefore, insofar as those hard facts will not and cannot disappoint what reason promises. How one feels about any mode of reasoning has nothing to do with it. “That is the rationale of the English doctrine. It is as perfect as it is simple” (2.173).

I think it worth noting that Peirce’s preference for the “English position” makes the norm for logical validity empirical in two ways: (l) it makes reasoning to consist in the observation and manipulation of diagrams or “graphs”; and (2) it makes reasoning the means of attaining truth, that is, of discovering what is the case independently of what anyone might think or wish or hope. I am convinced that this objectivist view of logic led to two of Peirce’s most important and original contributions to the field, namely, his system of existential graphs to diagram his logic of relatives10 and his broadening of the notion of logic to include methodology (or a logic of
discovery) by distinguishing inference into adduction, deduction, and induction.

Peirce was influenced in his thinking about science and its methodology not only by Britain's men of science and logicians but also by her philosophers. Since it would be impossible in a brief essay to treat all the British philosophers Peirce studied, I have selected three, each one of whom made a direct and positive contribution to his pragmatism. Two of them, Alexander Bain and William Whewell, were his contemporaries; the third, John Duns Scotus, flourished more than five hundred years earlier. Scotus inspired Peirce's version of realism; Whewell confirmed his interpretation of scientific method; and Bain furnished his logic with a psychological framework. We begin with Scotus.

Peirce considered the nominalist-realist controversy the most important philosophical issue on the solution of which just about everything else depended. In a long letter to Victoria Lady Welby in 1909, after recounting to her his early training, he writes:

By this time the inexactitude of the Germans, and their tottering logic utterly disgusted me. I more and more admired British thought. Its one great and terrible fault, which my severe studies in the schoolmen rescued me from,—or rather, it was because I suspected they were right about this that I took to the study of them & found that they didn't go far enough to satisfy me,—was their extreme Nominalism. To be sure all modern philosophers were nominalists, even Hegel. But I was quite convinced they were absolutely wrong. Modern science, especially physics, is and must be . . . essentially on the side of scholastic realism.¹¹

Scotus defended realism; Ockham championed nominalism. Peirce's account of how the nominalists assumed ascendancy in the universities, casting out the Dunces, as they were called, makes it a political rather than an intellectual matter. However that may have been, the important thing is to recall what was at stake, what the issue was between these two British thinkers. Peirce puts it this way in one place:

Roughly speaking, the nominalists conceived the general element of cognition to be merely a convenience for understanding this and that fact and to amount to nothing except for cognition, while the realists, still more roughly speaking, looked upon the general, not
only as the end and aim of knowledge, but also as the most important element of being. Such was and is the question. (4.1)

The earliest published statement of Peirce’s siding with the realists in this controversy is the 1868 paper “Some Consequences of Four Incapacities” in the *Journal of Speculative Philosophy*. There he develops his notion of Truth and of Reality which, so far as I can tell, he never retracted. Again in 1871 in his critical review of Fraser’s edition of the works of Berkeley in the *North American Review*, he reiterates and develops his convictions about “scholastic realism.” When I say that Peirce opted for “scholastic realism,” I am using his own expression. Whether he thought that his realism was indeed that of Scotus, I am not sure. I rather think, however, that he realized that his version was significantly different, for he says that even Scotus was tinged with nominalism (1.560) in his insistence that *haecceitas* contracts the universal to the particular (8.208). Furthermore, Peirce characterizes his own realism as “extreme” over against Scotus’s more moderate view (5.77, 5.470). Finally, he frequently identifies his realism with that proposed by his friend and colleague Francis E. Abbot in *Scientific Theism*; in that book Abbot consciously modified the realism of the scholastics along the lines of modern scientific systems, calling his view “Relationalism.” Other commentators, such as John Boler, have suggested other differences. All that the phrase need mean is that Peirce was inspired by the Scholastic realists and developed a position something like theirs. They and he held that some general conceptions are real, that is, some are not mere figments of the mind.

According to Peirce, the nominalist would reason something like this. Nothing is immediately present to us but thoughts. Those thoughts are caused by sensations which in turn are constrained by something outside the mind. Because this something is outside the mind, it is independent of how we think, and is, therefore, the real. Whatever these external things be, they produce sensations which can be embraced under some conception. One can say, for example, that one man is like another, but there is no way in which one can justly claim that two real men have anything in common. One knows only the mental term or thought-sign “man” standing indifferently for the sets of sensations caused by the two external
realities. Strictly speaking, the sets of sensations do not have anything at all in common either. Such a view makes reality to consist exclusively in bare particulars which, because they are outside consciousness, are unknowable things-in-themselves.

Peirce, the realist, looks at it in quite another way. Although all human thought contains an arbitrary and accidental element which limits it according to the circumstances and powers of the individuals, still human opinion tends, in the long run, to a definite form. If inquiry is pursued long enough, and information enough is available to the inquirers, no matter how different (or even erroneous) their initial opinion, and no matter how idiosyncratic their initial circumstances, their final conclusions will be identical. A deaf man and a blind man may witness the same event in very different ways but conclude that they witnessed the same event. The realist thinks that there is an answer to every genuine question which is arrived at in the long run, that is, at the end of inquiry. Such an answer consists, not in the particular sensations of singular men, but in the truths about objects expressed in and through general terms. What those truths express is independent, not of thought in general, but of all that is arbitrary and individual in thought. It is quite independent of how you, or I, or any number of men think. This—and nothing else—according to Peirce, is the real.

Peirce opines that such a conception of reality is fatal to the idea of the thing-in-itself. There is no reality that is incognizable, although there may be much that is not yet actually known by you or me or any number of men. Since the thing-in-itself, according to Peirce, is literally unthinkable, Kant must be corrected.

Peirce’s realism is to be understood in terms of his categories, and he arrived at his categorical scheme through logic. He was convinced that all predicates are relations and that those relations are monadic, dyadic, or triadic. Any higher polyadic relation can be analyzed into some combination of those three. Yet those three cannot be resolved into simpler components. Hence, monad, dyad, triad are both necessary and sufficient to account for any more complex predicate (that is, one with more relatives). But this suggests that the fundamental categories of being are also three and only three, which Peirce denominates, respectively, Firstness, Secondness, and Thirdness. Firstness is the category of sheer possibility, a “may-be” or “might-be.” Secondness is the category of
actuality, an “is” or “are.” Thirdness is the category of the necessary (in the sense of the destined), a “would-be” or “would-do.” Each category is really distinct from and irreducible to every other even though they cannot be separated in our experience. We can distinguish them in thought by precise abstraction in a definite, non-reversible order. Thus, one can prescind Secondness (actuality) from Thirdness (the destined), and Firstness (mere possibility) from Secondness. but one cannot experience either Firstness or Secondness without Thirdness. The third category, then, mediates between the airy shadows of mere possibility and the brute force of actuality. It is properly the category of thought, of regularity, or law-likeness, and so is the category of the Real *par excellence*. Peirce’s realism, then, means at least this: “would-be’s” are neither a collection of actuals (no matter how large) nor a mere figment of one’s mind (no matter how convenient). The Real is what would be or what would happen if certain conditions are fulfilled—and that independently of what you or I or anyone else might happen to think.

Finally, then, Peirce distinguishes the real from the existent. General conceptions are real (they are not figments dependent upon anyone’s thinking), but they do not exist. Existence is a distinct category from that of Reality. The former designates brute force, mere action-reaction, while the latter designates regularity, continuity, law. In short, the real is what is destined, that is, what would be in the long run under certain conditions.14

I have dwelt upon Peirce’s realism at length because he considered it essential to his pragmatism. It is pragmatism’s realism which allows it to be empirical but not positivist. Peirce was convinced that the realist interpretation of pragmatism was the only one that would recommend itself to a working scientist familiar with the history of science who had carefully studied logic as method. James, for example, was a working scientist but had steadfastly avoided logic. Mill, on the other hand, had studied logic but was not a working scientist. Both, according to Peirce, were nominalists.

James dedicated his book *Pragmatism* to John Stuart Mill. “To the memory of John Stuart Mill,” he writes, “from whom I first learned the pragmatic openness of mind and whom my fancy likes to picture as our leader were he alive to-day.”15 Peirce would cer-
tainly not fancy Mill as leader of his kind of pragmatism. Were he to have chosen such a leader, it would have been another British scientist and logician, William Whewell. In the 1840s a lively controversy arose between Mill and Whewell precisely on the nature of scientific inquiry and discovery. Peirce definitely sided with Whewell and always thought of him as the one who pointed the way to a correct understanding of the nature of scientific investigation. Max Fisch has summed up the matter well:

Apart from its [Peirce’s Harvard lectures on “British logicians” in the academic year 1868–1869] including Peirce’s first public exposition of the logic of relations, and showing the fruits of a deeper study of Duns Scotus and of Ockham, the course inaugurates Peirce’s lifelong championship of Whewell against Mill in the ‘logic of science’. Whewell was himself a scientist (indeed he coined the word); Mill is not. Whewell was also a historian of science; Mill is not. Whewell followed Kant; Mill does not. Whewell was a realist; Mill is a nominalist.16

The precise point at issue in this celebrated controversy was the nature of induction. Mill contended that induction is simply the tying together of observed facts, while Whewell maintained that such colligation required the introduction of a new idea. Mill seemed to think that facts are quite independent of theory, while Whewell insisted that fact and theory are relative to each other. Mill contended, for example, that in the case of Kepler’s discovering planetary motion to be elliptical, it was simply a matter of Kepler’s reporting an observed fact without adding anything to it. Mill asserted that this fact, found in the motion of Mars, was just the sum of the observations. Whewell held that the elliptical orbit was not simply the sum of observations but rather that the very hypothesis of the orbit’s being an ellipse suggested how the observations might be accounted for. The introduction by Kepler of a new idea provided a new perspective from which to interpret the observations. Whewell did not think that Kepler simply imposed an idea on reality. On the contrary, he suggested that Kepler discovered the fact that Mars’s orbit was elliptical in and through an hypothesis. The point is that Whewell realized that science does not discover facts simply by “reading them off.” Fact in science is more often than not confirmed theory.17
Whewell was accused of being a "mere Kantist" (by Professor Bowen, according to Peirce; W 2: 341) dragging "a priori's" into science in a very rationalistic way. In his Harvard lecture on Whewell, Peirce defended him against this charge (made, he says, out of ignorance). While Whewell's point may fit in with Kant's analysis, it did not arise from Kant's analysis. It arose, rather, from the history of scientific discoveries. The fact is that scientists do their research in this way. Peirce would have been better satisfied if Whewell had explicitly rejected Kant's noumenon, for then the allegation of his being a "mere Kantist" would not have been made.

That James should have adopted Mill, and Peirce, Whewell, as their respective patrons should lead us to suspect that the differences between their understanding of pragmatism involve the difference between a nominalist and a realist understanding of human cognition as inquiry. Below I will try to show that this is indeed the case, but first let us consider Alexander Bain's contribution to Peirce's pragmatic theory.

In the latter half of the nineteenth century Bain's works on psychology were standard treatises. Peirce and James knew them well. Peirce once remarked that pragmatism "is scarce more than a corollary" of Bain's definition of belief (5.12). According to Bain, belief is that upon which one is prepared to act. Peirce adopted Bain's view of belief in his 1878 version of pragmatism. In fact, it served as the psychological framework for Peirce's logic throughout his career. But in the late 1860s and the early 1870s Bain's position was disputed by John Stuart Mill. In 1869 Mill published a new edition of his father's (James Mill's) *Analysis of the Phenomena of the Human Mind* to which he and Bain added essays critical of the elder Mill's theory of belief and of each other's. The details of this controversy need not detain us except to say that James Mill thought belief to consist in indissoluble associative bonds, and John Stuart, in some other mysterious residuum.

Bain's own theory of belief underwent several revisions. These revisions reveal an uncertainty as to whether belief is essentially intellectual or volitional. This waffling is important because it helps to explain, I think, not only the difference Peirce thought he saw between his pragmatism and James's but also some ambiguity in Peirce's own 1878 version of pragmatism.

Bain's problem was to decide whether belief is essentially a fact
of intellect or of will. In his 1869 essay for the James Mill re-edition of *Analysis*, he calls it an error to think of belief as "mainly a fact of the Intellect, with a certain participation of feelings." There he insists that belief is essentially a development of the active nature of our will. Elsewhere around this time he admits that belief always contains intellectual elements, but they do not constitute the attitude of believing, because nothing in mere intellect makes us act or contemplate action, and hence nothing in it makes us believe. In 1872, however, in an appendix to the second edition of his *Mental Science*, Bain admits it to be an error to make the fundamental nature of belief "The Spontaneous Activity of the System." Now belief is "a primitive disposition to follow out any sequence that has been once experienced, and to expect the result." He now calls belief a fact of our intellectual nature and claims only its energy comes from emotions and will. Again in 1875 in the third edition of *The Emotions and the Will*, Bain makes the same move toward intellect, even though the chapter on belief contains expressions like these: belief is "essentially relation to Act, that is, volition . . . ; Action is the basis, and ultimate criterion, of belief. . . ." Peirce criticized James and other pragmatists for making action the be-all and end-all of thought (5.429, 8.256). Without doubt the expressions which gave rise to that criticism are traceable to Bain.

I suspect that Bain's indecision concerning the essence of belief comes from a failure sharply to distinguish the act of believing from what is believed. Belief as an act of adherence to some opinion can plausibly be understood as consisting in one's readiness to act. And it seems unobjectionable to hold that actually acting in a way appropriate to the circumstances is the test of whether one truly believes something or not. But this does not immediately and directly yield a criterion for deciding the meaning of what is believed (or not believed). It is with this second, the meaning of what is believed, that the pragmatic maxim is concerned. The maxim, then, is not simply a restatement of Bain's definition of belief but, as Peirce thought, a conclusion to be drawn from that definition. That conclusion once drawn, however, will be differently understood depending on whether one thinks the act of believing is volitional (James, perhaps) or intellectual (Peirce, for certain).

But just how did Peirce draw the pragmatic maxim as a corollary from Bain's definition of belief in his 1878 article (5.394–402)? He
argues as follows: thinking is stimulated by the irritation of doubt and ceases when that irritation is removed by the fixation of belief. Belief is a conscious appeasement of doubt establishing in us a habit or rule of action. Beliefs are distinguished from one another by the modes of action to which they give rise. To determine what we believe (not that we believe) is to determine what habits the thought in question involves. To determine what habits a thought involves is to determine what sensible result would follow from the action so dictated by the thought under certain specifiable sensible conditions. Hence, Peirce concludes:

Thus our action has exclusive reference to what affects the senses, our habit has the same bearing as our action, our belief the same as our habit, our conception the same as our belief. . . . Our idea of anything is our idea of its sensible effects. . . . (5.401)

But this is the pragmatic maxim.

One final note before bidding Bain farewell. By adopting the doubt-belief framework Peirce shifts the emphasis from thought taken as an isolated cognitive incident, to thought taken as an ongoing process of discovery. In the series of articles published in the *Journal of Speculative Philosophy* in 1868–1869, Peirce argues that there is no intuitive cognition and that all thought is in signs (5.213–357; W 2: 193–272). It follows that there is no first cognition and that a thought is interpreted only by another thought. Peirce never abandoned this position, but after he had adopted Bain’s psychology of belief, the cognitive continuum was understood as a continuum of inquiry, that is, a continuum of doubt-inquiry-belief.¹⁹

We have considered the influence on Peirce’s pragmatism of Scotus’s “scholastic realism,” Whewell’s logic of discovery, and Bain’s analysis of belief. But just how is Peirce’s understanding of pragmatism different from other versions which proliferated after James had made the maxim popular? That Peirce thought his was significantly different is clear from the fact that he adopted another term for it, namely, “pragmaticism,” a term he says is ugly enough to be safe from kidnappers (5.414).

There are at least three points of difference between James’s and Peirce’s formulation of the pragmatic maxim: (1) perfect clarity in contrast to relative clarity of conceptions, (2) sensations and
particulars in contrast to conceptions and generals as interpretants of thought, and (3) practicalism in contrast to pragmatism or pragmaticism. The significance of these differences seems to me to be the following. James's supposition that there is "perfect" clarity of conceptions entails that they be perfectly definite and determinate. If an idea's definiteness and determinateness were perfect, the idea would have no generality and, hence, would be reduced to a sensation. For Peirce, every general conception, as general, is intrinsically vague, that is, in some respect indefinite and indeterminate. A perfectly clear and distinct general idea is a contradiction in terms. To think that an idea's meaning is nothing but the sum total of the particulars for which it actually stands is, according to Peirce, a nominalistic error, because no number of actual particulars exhaust a concept's meaning. If there are general ideas, therefore, they must be to some degree indeterminate and indefinite. Furthermore, what those ideas represent must be real (not mere mental figments); otherwise, Peirce argues, scientific prediction could not be explained.

James's insistence on "what sensations we are to expect" and on "some particular turn to our experience" also implies a nominalistic view. In his article on pragmatism in Baldwin's Dictionary of Philosophy and Psychology (1902), Pierce remarks that James pushed the pragmatic method "to such extremes as must tend to give us pause." He continues:

The doctrine appears to assume that the end of man is action. . . . If it be admitted, on the contrary, that action wants an end, and that that end must be something of a general description, then the spirit of the maxim itself, which is that we must look to the upshot of our concepts in order rightly to apprehend them, would direct us toward something different from practical facts, namely, to general ideas, as the true interpreters of our thought. . . . the meaning of the concept does not lie in any individual reactions at all, but in the manner in which those reactions contribute to that development [of concrete reasonableness]. (5.3)

For Peirce, action cannot be an interpretant of thought, because action, that is, the acting itself, is concrete and singular. No one acts in general; one performs this or that action. Thought, on the other hand, always has an element of generality. Hence, thought and action cannot be identified; nor can thought be interpreted
by action. Thought and action are certainly intimately related. Thought no doubt applies to action, in the sense that it is to be interpreted in terms of the habits or behavior or action which call for certain kinds of action under certain conditions. But then this is action as conceived, or thought about, and so generalized.

Finally, the significance of Peirce’s insistence on the term “pragmatism” over against James’s interchanging it with “practicalism” is to be found in Peirce’s efforts to eliminate an ambiguity in the whole notion of practical bearings or effects. Certainly, the term “practical” has several meanings. In one sense it simply means action or behavior, and in that sense all human action is practical. In a second sense it means the immediate relevance of means to ends—in effect “what works.” In a third sense it refers to some purpose we have in mind, some end we wish to achieve, which specifies the kind of behavior that is appropriate. If two thoughts make no practical difference to the purpose one has in mind, then they can be considered to mean the same thing with respect to that purpose. Thus, a carpenter can consider two boards to be of equal length if whatever small difference there is between them makes no difference to what he intends to make. Peirce seems to think that James slides from the second to the third sense and back again. Peirce wants to make it clear that he means the third sense and so uses Kant’s term “pragmatic.” The sum total of all the conceivable practical bearings upon conduct is what a conception means. Hence, Peirce thinks it essential to consider what ends or purposes are general and to interpret our thought insofar as they become in use dispositions to act (habits or beliefs). If, as James suggests, we must anticipate the sensations we would experience or the particular turn our experience would take if certain thoughts were acted upon, this anticipation would be of kinds of sensations and of kinds of experience and, hence, general ideas about those sensations and experiences. Action, and so the sensations which constitute the particular experience as particular, are the upshot of thought, not its interpretant or its purpose.

Consider these restatements of the maxim. In 1903 in his Harvard lectures on pragmatism, Peirce puts it this way (perhaps with tongue in cheek);

Pragmatism is the principle that every theoretical judgment expressible in a sentence in the indicative mood is a confused form of
thought whose only meaning, if it has any, lies in its tendency to enforce a corresponding practical maxim expressible as a conditional sentence having its apodosis in the imperative mood. (5.18)

In 1905 in a Monist article, “Issues of Pragmaticism,” Peirce restates his maxim in a way he hopes would make clear once for all what he means:

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. (5.438)

Pierce, then, thought James to be nominalistic in that he made action the purpose of thought, not merely its outcome or upshot. In that case James implicitly makes some non-thought the ultimate logical interpretant of thought and, hence, implicitly subscribes to an incognizable (the sensuous flux of experience as proposed in his “radical empiricism”). For Peirce, this is the one great sin against logic as method, because it blocks the road to inquiry (6.171, 6.273).23

To be fair to James, however, I must say that in 1906, Peirce, while still insisting on the differences between his understanding of pragmatism and James’s, writes in a more irenic vein:

The most prominent of all our school and the most respected, William James, defines pragmatism as the doctrine that the whole “meaning” of a concept expresses itself either in the shape of conduct to be recommended or of experience to be expected. Between this definition and mine there certainly appears to be no slight theoretical divergence, which, for the most part, becomes evanescent in practice. (5.466)

Much more could and, no doubt, should be said both about British influences on Peirce and about his pragmatism. I have not said a word about the influence of Herbert Spencer, negative though it was, on Peirce’s evolutionary cosmology. I have passed over in silence the positive influence of Charles Darwin whose scientific work Peirce more than admired. I have not touched Peirce’s doctrine of the normative sciences and their essential role in understanding pragmaticism. Finally, I have no more than hinted at Peirce’s system of categories, which he considered to be
his one lasting contribution to philosophy and as the correction of Kant which a serious study of logic, as understood by the English, demands. Oddly enough, Peirce thought that his corrections of Kant made his own views a resuscitation of Hegel "in a strange costume" (1.42). Such considerations would bring us to Peirce's tychistic views of cosmology and to the synechistic ontology which grounds his "scholastic realism." But all of this will have to wait for another occasion.

NOTES


6. Thus, for example, in 1976 a two-volume German translation of Peirce by Gerd Wartenberg appeared in Frankfurt. Karl-Otto Apel edited that edition and wrote extensive introductory material. In 1981 an English translation of Apel's book on Peirce, From Pragmatism to Pragmaticism, appeared in the United States. Finally, it may be surprising that the President of the C. S. Peirce Society for the year 1982–1983 was Klaus Oehler of Hamburg University, himself a translator of Peirce. No doubt there are many and varied reasons why Peirce has attracted the attention of German thinkers. Apel's reason I find fascinating. He sees Peirce's pragmatism, as distinct from James's and Dewey's, as a dialogue partner.
for Marxism and from which Marxism has something important to learn. He uses the unusual term “logical Socialism” to characterize Peirce’s theory of inquiry, emphasizing as it does the community of investigators. One wonders whether Apel is searching for an alternative to Marxist “dogmatic” and unconditioned predictions about the course of history. It might surprise some Americans, I dare say, to think that some aspects of their indigenous philosophy are close enough to Marxism to be an interesting alternative for “a public, emancipatory mediation of theory and praxis.” Hegel, through Kant, however, is pragmatism’s and Marxism’s common ancestor. See Charles Sanders Peirce: Schriften zum Pragmatismus und Pragmatizismus, trans. Gerd Wartenberg, ed. Karl-Otto Apel, 2nd ed. (Frankfurt: Suhrkamp, 1976); Karl-Otto Apel, Charles S. Peirce: From Pragmatism to Pragmaticism, trans. M. Krois (Amherst: University of Massachusetts Press, 1981); Charles S. Peirce: Über die Klarheit unserer Gedanken, ed. and trans. Klaus Oehler (Frankfurt: Vittorio Klostermann, 1968).


9. One would infer that Peirce would not have much sympathy with James’s “Sentiment of Rationality.”


12. (Boston: Little, Brown, 1885).


15. P. 14.


17. Whewell’s major works on inductive method were History of the
Inductive Sciences, first published in 1837, and The Philosophy of the Inductive Sciences Founded upon Their History first published in 1840. Both went through several editions. For good accounts of Whewell's controversy with Mill, see E. W. Strong, "William Whewell and John Stuart Mill: Their Controversy about Scientific Knowledge," Journal of the History of Ideas, 16 (1955), 209–31; C. J. Ducasse, "Whewell's Philosophy of Scientific Discovery," Philosophical Review, 60 (1951), 56–69, 213–34. 18. Those treatises are The Senses and the Intellect (1855) and The Emotions and the Will (1859). A one-volume abridgment appeared in 1868 under the title Mental Science. For a careful historical study of what and how the members of the "Metaphysical Club" at Cambridge, at whose meetings Pierce first formulated pragmatism, knew about Bain's definition of Belief, see Max H. Fisch, "Alexander Bain and the Genealogy of Pragmatism," Journal of the History of Ideas, 13 (1954), 413–44, on which I heavily depend for my presentation. 19. Fisch, "Alexander Bain," pp. 438–42, for discussion of Peirce's pre-and post-Bain approach to knowing. 20. I discuss vagueness in chapter 12 of the present collection and in On Norms and Ideals, pp. 89–90. See 5.505–509, 5.447–448; 3.93–94; 2.357. 21. See 5.475–493. Peirce gives here a long explanation of what he means by "interpretant." He distinguishes three interpretants: emotional, energetic, and logical. The emotional is the feeling produced by the sign; the energetic is the effort, mental or physical, elicited by the sign; and the logical is the sign's rational purport. The pragmatic maxim is meant to clarify a sign's rational purport. Peirce concludes that the final logical interpretant of a concept can only be a habit (not another concept, not a desire, not an expectation). Action is not a logical interpretant either. It is thought's energetic interpretant (hence, there is a connection between thought and action) but it is not thought's rational purport precisely because it lacks generality. 22. See Smith, Spirit of American Philosophy, pp. 13–17. 23. Even if we suppose this assessment is correct, to be fair to James we should admit that Peirce's first exposition of pragmatism in the 1878 article "How to Make Our Ideas Clear" was open to such an interpretation. There he analyzed "hardness" according to the pragmatic maxim (5.403ff.) The results were misleading and later rejected. Imagine a diamond crystallized within soft cotton where it remains until completely burned up. No other substance is ever rubbed against it. Would it be false to say that the diamond was soft? Pierce answers that it would not be incorrect or even false to call it soft, because nothing prevents us from saying that all bodies remain soft until they are touched, when their
hardness increases with the pressure until they are scratched. Such modes of speech "would involve a modification of our present usage of speech with respect to the words 'hard' and 'soft', but not their meanings. For they represent no fact to be different from what it is" (5.403). This passage might be understood in a nominalist or even positivist sense. Again writing to Calderoni, Peirce admits: "I myself went too far in the direction of nominalism when I said that it was a mere question of the convenience of speech whether we say that a diamond is hard when it is not pressed upon, or whether we say that it is soft until it is pressed upon. I now say that experiment will provide that the diamond is hard, as a positive fact. That is, it is a real fact that it would resist pressure, which amounts to extreme scholastic realism. I deny that pragmatism as originally defined by me made the intellectual purport of symbols to consist in our conduct. On the contrary, I was most careful to say that it consists in our concept of what our conduct would be upon conceivable occasions" (8.208). The passage is nominalistic, then, because it tends to identify the real with the actual. The meaning of "hardness" is in the actual resistance of the diamond to pressure. Potentiality in the diamond to resist pressure is only a linguistic usage, not a matter of a real fact where "real" means not a figment of mind. Peirce would later (after 1903) put the matter this way, that "would-be's" are real even though they cannot be reesse in futuro, as Peirce would say) and as such are general. and no number of actual cases exhausts their meaning. Even though Peirce maintains in his letter to Calderoni that he did not intend to fall back into nominalism, nonetheless the example was unfortunate and could easily have been so understood. And if, mind you, James was in fact a nominalist already, it is understandable why he attributed to Peirce his own interpretation, which Peirce found unacceptable.

24. Yet see 5.38 for a passage in which Peirce denies any conscious influence of Hegel upon his thought.