The Pragmatic Maxim

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Abstract:

What is the pragmatic maxim? The aim here is to present in an elementary and intuitive way what the pragmatic maxim was originally intended to convey, at least in Peirce's earliest statements, and to briefly discuss some of the consequences of this maxim for philosophical method.

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What is the pragmatic maxim? There are many statements of this principle in the works of Charles Peirce and William James. It is actually a family of principles, not all equivalent at least on the surface. A good deal of scholarly work has addressed logical and historical relations among these various statements, examining numerous subtle variations and their implications. These implications indeed reach into every corner of philosophical thought. But such scholarship often belies the fact that the pragmatic maxim is a rather simple if powerful principle. The aim here is to present in an elementary and intuitive way what the pragmatic maxim was originally intended to convey, at least in Peirce's earliest statements, and to briefly discuss some of the consequences of this maxim for philosophical method.

Perhaps the best way to begin is with an example. Suppose that you are travelling and check into a hotel where you have made a reservation. You square away the billing procedures, and then the attendant hands you a metal object and says that it will open the door to your room. But then she corrects you when you refer to it as a key. It is not actually a key, she asserts. How odd. You can see that it is not one of those digital cards, but a familiar key-shaped metal object with the usual slot guides and jagged edge. It surely looks and feels like a key. Apparently it will do what a key does. You take it to your room, insert it into the door lock, and sure enough, it gets you into your room just like a key should. If the attendant does not think that this thing is a key, then so be it.

But the story continues. A short while later as you are leaving your room, another luggage-laden traveler is fumbling with a door lock a ways down the hallway, apparently having trouble getting into his room. As you pass by he asks you if you have had problems with your key. You say no; but then you hesitantly ask if the attendant had indicated that the key was not actually a "key." The look on his face justifies your hesitance. His key was *obviously* a key—it just didn't open the door the way it was

supposed to. You persist and ask if she had explicitly referred to it as a key. She had. So this fellow's key is a key whereas yours is not? They look quite similar, and yours actually unlocks your door. You accompany the fellow back to the front desk to deal with his key problem, and you hear both parties refer to the troublesome "key" (without correction from the attendant) as you leave the lobby.

On your return a while later, you decide to question the attendant further as to why she thinks your key in particular is not a key. You find her at the registration desk just as she is giving a key (she calls it) to someone else. You greet her and remind her of your earlier conversation about your key. These other people were being given keys, but not you? You suggest to her that it *is* a key, though you may mutually agree not to call it that. No, she insists, yours is not a key at all though the others are. You ask about the other key-shaped metal objects hanging on the hooks behind her desk. Which of these are keys and which are not? All of them are keys, she says. Only *yours* is not actually a key. You ask how this could be, and she explains.

What is her explanation? If convincing, perhaps when you leave the hotel you will ask her if you could purchase it as a souvenir, given its special nature. It looks very much like a key in size, shape, heft, metallic constitution, etc.; and you could vouch for the fact that it repeatedly unlocked the door to your hotel room: it is a key that is not a key. So what might she have said? She obviously believes this object is not really a key. Perhaps she has an unusual conception of keys. What would have to be the case for her for something to be a key or not?

Peirce's famous early article "The Fixation of Belief" (1877) suggests some ways the attendant might have formulated her belief (not that this example necessarily illustrates the deeper import of that article). Perhaps she just got it into her head somewhere along the line that your key (alone) was not a key and she simply held to that belief come what may. "Because I insist," she might have finally said, and nothing you could say would dislodge her belief. Maybe it was the last of an older set of keys sold to the hotel, deemed non-keys by this individual in order to distinguish them in her own mind from the newer ones. That should be unnecessarily contrary to prevailing word usage, given that the phrases "old key" and "new key" would safely distinguish the sets of keys. Or perhaps she mistakenly took the word "key" to denote a brand name, where the newer keys came from what she wrongly regarded as the "Key" company while the older ones (of which mine was the sole remaining specimen at this hotel) were made by "Acme" and could be called "acmes." She might have unflaggingly insisted on distinguishing xerox copies from canon copies or kleenexes from puffs on similar grounds. This would

constitute an understandable if not justifiable explanation. But it would not make this object worth having as a souvenir. That could not have been her explanation.

It could be that this was the hotel management's doing, insisting on distinguishing keys from acmes in an effort to track which rooms still had acme locks versus key locks. Or this usage may have contingently evolved within the in-house hotel culture, for whatever reason. It seems like you would not have been the first person to interrupt this comfortable convention if this were the case. Innocently or not, and despite external pressures otherwise, this attendant may have simply acquiesced to this odd word usage in order to get along in her job, perhaps oblivious to its impropriety in the larger world. In any case, this still would not have made your key worth having as a souvenir.

Your ersatz-key must not have been a key for more significant reasons. Did the hotel attendant have certain philosophical proclivities inclining her to base her judgments of key-hood on carefully reasoned principles not beholding to cultural conventions or staunchly held idiosyncratic opinions? The physical appearance and functionality of the object seemed to be inadequate if not irrelevant. Perhaps her explanation would rest solely on the power of ideas. This would involve some scheme for classifying things that would allow her to distinguish keys from non-keys and to apply that scheme in particular to the lock-opening implement she had given to you. How would that work? Would she say that something has been added to this object, some key-negating property or substance that we are unable to detect? Or is something missing, some key-sanctioning essence whose absence is not obvious in our limited experience? Might some divine decree have invalidated its key-hood irrespective of its functioning easily and reliably as a key? Perhaps it was a zombie-key manufactured over in the next town by a company owned and operated by zombies.

If the hotel attendant could supply this third kind of explanation in a convincing way, then this door-opening implement would surely be a souvenir worth having. This kind of explanation implies a key-reality (or lack of it) beyond all appearances; and the hotel attendant's reasoning must have been a remarkable metaphysical feat that would lift the veil of appearances hiding the bare non-key-reality in itself. She would have offered a probing *explanation*, not just a systematic representation of relations among appearances and abstract ideas about appearances. Pierre Duhem (1906) would have been surprised—perhaps pleasantly—but surprised nonetheless because this kind of explanation is simply not forthcoming in a way that can withstand critical scrutiny.

So we come to the crux of the matter. We are challenged to supply an explanation that is convincing enough to make anyone sufficiently critical and knowledgeable of the

history of philosophy to want to purchase that key as a souvenir. But it cannot be done. This brings us to the alleged dilemma that the pragmatic maxim was specifically intended to address.

All of the explanations that we so far might have attributed to the hotel attendant exemplify common ways that people try to justify their beliefs. Peirce recommends a fourth method of fixing beliefs, superior to the previous three. This is the scientific or experiential method. This fourth method is the one that compels us to consider what a key does and what can be done with it to ascertain that it is or is not a key independent of our opinions about it—a method that considers the sensible effects of things and "though our sensations are as different as our relation to the objects, yet, by taking advantage of the laws of perception, we can [hope to] ascertain by reasoning how things really are" (Peirce 1877, EP 1:120). This latter method is superior insofar as it is the only one of the four that explicitly "presents any distinction of a right and wrong way" of settling opinion within the specifications of the method itself—in effect by reflexive, self-corrective questioning and application of the method to itself. As Peirce puts it, "[t]he test of whether I am truly following the method is not an immediate appeal to my feelings and purposes, but, on the contrary, itself involves the application of the method" (121).

It is in this context that Peirce introduces the pragmatic maxim. In this case the question does not regard methods of fixing belief so much as standards by which we distinguish clear ideas from confused ones. Clarifying our terms is of course an integral, necessary feature of justifying beliefs couched in such terms. The pragmatic maxim is a *maxim* concerning how to clarify ideas in the course of formulating and justifying our beliefs in the most reasonable and reliable way. Thus it is best regarded as a cornerstone for a theory (or a class of theories) of meaning—a principle concerning how best to define our terms. In a commonly quoted version, Peirce states the maxim this way:

> I only desire to point out how impossible it is that we should have an idea in our minds which relates to anything but conceivable sensible effects of things. Our idea of anything *is* our idea of its sensible effects; and if we fancy that we have any other we deceive ourselves. ... It appears, then, that the rule for attaining the third grade of clearness of apprehension is 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 effects is the whole of our conception of the object. (Peirce 1878, EP 1:132)

According to this maxim, there is no way to determine that an object is or is not a key

except by considering the possible effects of what it does or what can be done with it. We would best define what a key is in terms of a range of certain actions and expected results of those actions. If keys and acmes were indistinguishable on such grounds, then there would be no justifiable grounds for asserting that they are two different kinds of things. (Of course, in the hotel attendant's sense of these terms, keys and acmes *could be* practically distinguishable, specifically in terms of who manufactures them. But in common parlance, acmes are keys after all, since brand names are not a relevant distinguishing factor for keys.) If someone tells you that an X is not a Y but also that there is no conceivable way in fact or in principle to *practically* distinguish an X from a Y, then they are talking nonsense—or so says the pragmatic maxim (and that is all it says).

According to this way of thinking, we may try to peer behind the veil of appearances into the bare reality of a thing, but we would lose all grasp of what that thing may be insofar as it has any bearing on us as a real object. Peirce was very much a realist in this sense. He states: "That whose characters are independent of how you or I think is an external reality. ... [W]e may define the real as that whose characters are independent of what anybody may think them to be" (1878, EP 1:136–137). This definition, says Peirce, does not offer an entirely clear conception of reality, insofar as it does not yet make full use of the rules of a theory of meaning based on the pragmatic maxim, but it does undoubtably indicate the realist element in Peirce's brand of pragmatism. Where Peirce differs from Duhem lies in how we think of the relation of reality to appearances (i.e., to sensible effects and the ideas and beliefs to which they give rise).

For Duhem, appearances constitute a veil in which reality is shrouded, except that what's behind the veil immediately evaporates in the very act of lifting the veil. On this account, reality as such is not amenable to scientific methods. For Peirce, if appearances constitute a veil, then it would seem that attending to the fabric and flux of this veil in reactive contact with the world is precisely how we begin to discern the contours of reality. This veil is not to be lifted but rather pressed, prodded, and molded against anything that offers resistance.

This in itself presents an interesting challenge for a pragmatist theory of meaning. Putting keys aside, what of the meaning of the word "reality" itself? To clarify our conception of reality along pragmatist lines (to clarify the *concept* of reality, to clearly define the *term* "reality," so that we may safely use the term), we should do so in terms of its sensible effects and practical bearings. The concept of reality is quite broad, and its effects should be stated in respectively broad terms. On Peirce's account, reality may

consist of that whose characters are independent of our thought of them, but, he says, "[t]he only effect which real things have is to cause belief, for all sensations which they excite emerge into consciousness in the form of beliefs" (1878, EP 1:137). Reality generates appearances and ultimately beliefs. We should be able to articulate what we mean by the word "reality" in terms of such effects.

A complication immediately arises from the fact that beliefs may have various sources. So further clarification of the concept of reality will rely on distinguishing true belief (belief in the real) and false belief (belief in fiction). Defining the term "reality" thus hinges on definitions of the terms "truth" and "falsity." As applied to opinions, truth and falsity are defined in terms of methods by which opinions are formed and maintained. Here Peirce draws on his earlier discussion of different methods of settling belief. While the methods of tenacity, authority, or *a priori* reasoning are unreliable, "the ideas of truth and falsehood, in their full development, appertain exclusively to the scientific [or experiential] method" (137).

On this basis, still aiming to clarify the term "reality," Peirce offers his infamous definition of the term "truth" (also by recourse to the pragmatic maxim). Truth is defined in terms of processes of investigation (actions) in response to questions or doubts, and the resulting solutions (effects) that these processes yield. What we *mean* by the term "truth" or "true opinion" is just what would result if such investigations would be carried out to the *n*th degree for any given *n* until no further resolutions were possible. So "[t]he opinion that is fated [or is unavoidably] to be ultimately agreed to by all who investigate, is what we mean by the truth." This is what we *mean* by the term "truth" even when we cannot actually carry out such processes of investigation indefinitely.

With this, we can complete our definition of the term "reality," namely: "the object represented in this [unavoidable] opinion is the real" (Peirce 1878, EP 1:138–139). We thus achieve a conception of reality as being what we would come to represent in an infinite resolution of appearances (particularly through use of scientific methods), rather than as something behind a veil of appearances. We could be rid of the veil metaphor altogether. This puts science and practical processes of intelligently guided experience in the limelight as our best hope for grasping reality and dispelling erroneous opinions.

The interesting point here is how Peirce has used the pragmatic maxim to articulate these concepts. This view of course does not define the term "truth" in terms of any particular results of any particular processes of actual investigation, but rather in terms of an idealization of such processes and results, as if they could be pursued without

limits on time and resources. Such an ideal limit is conceivable though not obviously practicable in every given situation, if any. The idea of a true opinion is clearly defined in this way even if most if not all true opinions themselves are somewhat elusive, ever beyond our present grasp. Similarly for the term "reality." The idea of reality in this view is clear enough—as that which is independent of what we may think but which can be investigated indefinitely—even if we do not investigate matters indefinitely in actual practice. It is what we would come to not by lifting the veil of processes and results of scientific or experiential method but by pursuing those practices without limits. This of course is just a definition (a clarification of meaning, defined in terms of investigatory practices), not a criterion that can actually be applied if we are not able to actually investigate matters to a point of infinite resolution.

This method of defining terms should apply to all substantial philosophical concepts. We have looked at how Peirce addressed the notions of "reality" and "truth" in particular. If his theory of meaning is at all acceptable, we should be able as well to give clear practical meaning to notions like "good" or "right" or "virtuous." How would we define "know" or "knowledge" in this view? Even Peirce's definitions of "truth" and "reality" remain unclear until we are able to do the same for many of the notions employed in *their* definitions, such as "opinion," "belief," "object," "characters," "appearance," "sensation," or "consciousness," to name just a few. The statement of the pragmatic maxim itself is in need of closer analysis, through clarification of terms like "concept," "practical," "conceivable," "possible," "sensory effect," and so forth.

In any such case, the first move, by no means trivial, is to ask what kinds of actions and results would be pertinent to defining the given term. It is equally important to eliminate superfluous considerations as it is to determine what is necessary to characterizing the given concept. One then assembles these elements in some way to formulate an adequate definition that allows one to distinguish things that fit the given concept from those that do not. There is no general recipe for doing this, and the method does not guarantee unique results. This procedure may be carried out in a rigorous way (as in defining the terms of a scientific theory, geared to careful prediction and experimentation), or less formally (in defining common sense terms); but in basic outline the method is the same in all cases. We can sequentially or recursively define concepts in terms of other concepts, but sooner or later the process must be anchored in terms of possible effects of conceivable actions. Otherwise we are just juggling a mass of words with no clear practical bearings.

On this account, philosophy is prone to irrelevance if it is not anchored in this way. It is

not just that philosophy *ought* to have a practical function over and above its theoretical abstractions, but that it cannot proceed properly—that philosophers do not and cannot know what they are doing as philosophers, that they cannot know what they mean—without being rooted in experiential activities (if only of a broad sort attuned to ongoing developments in the arts and sciences, in social, economic, and political spheres, etc.). Philosophy has its origins and thus its background in experiential activities no less than does any science or abstract discipline otherwise. This cannot be just a matter of following out implications of certain axioms or posited propositions. Such external consequences may be rich and yet ungrounded in anything concrete. Eventually the relevance of such consequences rests on a pragmatic analysis of the terms in which those basic propositions are themselves couched, and that is accomplished by reference to appropriately selected arrays of possible effects of one or another collection of relevant conceivable actions.

One likely objection to this view is that it is merely a kind of verificationism, perhaps in an early logical-positivistic vein. Peirce's emphasis on practical effects of actions in a pragmatic account of meaning (and thus meaningfulness) warrants such a concern. Note his careful qualification when he says that "[a]ny hypothesis, therefore, may be admissible, in the absence of any special reasons to the contrary, provided it be capable of verification, and only insofar as it is capable of such verification. This is approximately the doctrine of pragmatism. But just here a broad question opens out before us. What are we to understand by experimental verification? The answer to that involves the whole logic of induction" (EP 2:235). It is worth pointing out that Peirce was an experienced experimentalist—experienced as a designer and user of scientific instrumentation, having worked over a thirty year time period for the U. S. Coast and Geodetic Survey (1859–1891), having worked at the Harvard Observatory (1869), having headed the U. S. Office of Weights and Measures for a time (1884), and having served twice (in 1875 and 1877) as the U.S. representative at International Geodetic Association conferences. So it is not surprising that he should suggest that a theory of meaning at bottom should look directly to conceivable actions and their possible effects as the most basic concrete grounds we have for rationally clarifying our terms. Such is the gist of Peirce's theory of meaning, ultimately resting on operational and empirical considerations as the final court of appeal in attempts to resolve meanings.

But it would be a mistake to read early twentieth-century logical positivism into this view. There is verificationism, and then there is verificationism. We can agree that Peirce's theory is verificationist, but a study of what Waismann, Schlick, or Carnap

formulated in the early days of logical positivism will not fully explain what that amounts to (though later positivistic views were perhaps closer to the mark—see Hempel 1950). Early logical positivism was largely obligated to the elaboration of a certain view of formal logic that countenanced and relied heavily on a notion of basic independent propositions (protocol sentences). Verifiability and hence meaningfulness of a hypothesis required that its logical consequences include certain sentences that would be empirically testable. In effect, the meaningfulness of a sentence was to be measured by its ability to generate other sentences—protocol sentences—capable of being directly confirmed or disconfirmed. If we leave it at that, and especially if we are prone to think of protocol sentences in terms of atomistic sense data (as with Russell's early logical atomism), then we run into the problems that assailed early logical positivism. This position fails for much the same reason that a functionalist philosophy of mind fails to handle the "inverted spectrum" problem. Namely, deductive axiom systems may be interpreted in numerous ways, and their consequences are essentially products of deductive relations, not uniquely specific to facts in the world without further elaboration of some sort. Peirce was quick to add that this is a point where "the whole logic of induction" become most pertinent. There need be nothing simple, much less atomic, about protocol sentences, if we may use such language to describe Peirce's views. The direct verifiability of protocol sentences has little if anything to do with deductive consequences beyond the fact that they themselves are deductive consequences of hypotheses we wish to test. Rather we finally have to address experimental results of *actions* properly composed and implemented to test the truth or falsity of deduced protocol sentences (with appropriate levels of confidence, margins of error, correlation coefficients, significance levels, etc., in cases wherever quantifiable controls are feasible). All of the deducible consequences in the world are for nothing if we cannot extend logical analysis into this realm of practical activities. In 1902, Peirce wrote the following definition of "verification" for the *Dictionary of Philosophy and Psychology*:

> 89. Verification: It is desirable to understand by a verifiable hypothesis one which presents an abundance of necessary consequences open to experimental tests, and which involves no more than is necessary to furnish a source of those consequences. The verification will not consist in searching the facts in order to find features that accord or disagree with the hypothesis. That is to no purpose whatsoever. The verification, on the contrary, must consist in basing upon the hypothesis predictions as to the results of experiments, especially those of such predictions as appear to be otherwise least likely to be true, and in instituting experiments in order to ascertain whether they will be true or not.

90. These experiments need not be experiments in the narrow and technical sense, involving considerable preparation. That preparation may be as simple as it may. The essential thing is that it shall not be known beforehand, otherwise than through conviction of the truth of the hypothesis, how these experiments will turn out. It does not need any long series of experiments, so long as every feature of the hypothesis is covered, to render it worthy of positive scientific credence. What is of much greater importance is that the experiments should be independent, that is, such that from the results of some, the result of no other should be capable of reasonable surmise, except through the hypothesis. But throughout the process of verification the exigencies of the economy of research should be carefully studied from the point of view of its abstract theory. (Peirce 1902)

Where some might criticize early logical positivism for not appreciating Duhem's thesis (1906) that even the simplest protocol sentences are *theory-laden* or are meaningful only holistically relative to some system of general and particular beliefs, Peirce's note of caution about what we mean by verification is aimed rather differently. He wishes to stress rather that positivism historically has not been sufficiently articulate about how our hypothetical and observational terms must be *practice-laden* or *practice-anchored* in order to be meaningful. Carnap, Hempel, and company would hardly disagree. The emphasis, according to Peirce, should be on proper experimental design and implementation, appropriate to the case at hand, whereas direct observability of basic independent events or holistic verifiability of singular hypotheses are not the crucial issues.

In this light, consider again Peirce's definitions of the terms "reality" and "truth." A robust concrete version of verificationism is present here—the pragmatic maxim has been applied sufficiently well—without recourse to atomistic or reductionist empiricism. "Practical bearings" and "sensible effects" need not be reduced to atomic simple ideas or sensory data. Even the full power of inductive methods are left implicit at best, but the definitions themselves are cast in terms of concretizable activities (inquiry, judgment, applying scientific methods) and their results (appearances, the formation of opinions and beliefs). These elements of the definition are too general and diffuse to submit to precise inductive methods (or a least it is not obvious on the face of it how that would be done), but everything is in order here so far as the pragmatic maxim goes. We are able to understand what we mean by "reality" and "truth" in terms of concretely implementable activities and their results.

Another common objection to a pragmatist theory of meaning is that it is or involves or presupposes or entails a kind of short-sighted utilitarianism. The emphasis on effects of actions surely warrants at least some concern in this direction. The fear is that

pragmatism affords no room for higher ideals but instead is geared too much to worldly matters grounded in possibly crass payoffs only in the here and now. In particular, this has possibly dire consequences for how we formulate standards of good and bad, right and wrong. What is lacking, it may seem, is an objective sense of rationality that should not be swayed or bent by short-term contingencies of good and bad fortune.

But this worry is ill founded. We can see this by applying the pragmatic maxim to the notion of "rationality" itself. That is, if we want to appeal to standards of rationality here, then we should clarify what such an appeal amounts to. We cannot simply apply a notion of rationality that implicitly rejects pragmatism out right, as the criticism then becomes trivial and useless: "I reject pragmatism, hence pragmatism should be rejected." A better test is to analyze the notion of rationality along pragmatist lines and then evaluate the results, specifically to determine if rationality can be only badly conceived from a pragmatist perspective. One may of course try to use pragmatist principles to tie pragmatism up in knots, specifically by applying the pragmatic maxim badly, or by using it well to yield absurd results. But it says nothing of the *acceptability* of a concept that one is able to clarify that concept using the pragmatic maxim. The pragmatic maxim is like any other tool in this regard. It is designed to accomplish certain intended results, but it can also be used in various ways to accomplish undesirable ends or ends that it was not designed for—none of which reduces the value of the tool unless it can be shown that such pernicious effects are generally unavoidable in virtually all of its uses. What a critic would have to do is show that the pragmatic maxim, however it may be used, is unable at all to generate an acceptable notion of rationality. On the other side of the issue, a pragmatist need not show that the maxim cannot be used unsuccessfully or in odd ways, but must nevertheless show how to use it well and properly to characterize rationality in a way that acceptably alleviates concerns that pragmatist moral theory may be crass, too worldly, too short-sighted, or too malleable in the face of immediate contingencies (espousing merely a flexible "situation ethic," so to speak).

So what is rationality? Building on Peirce's earlier results, we would say that it is a notion that applies to procedures of inquiry, namely, investigatory procedures for solving problems or for securing beliefs or opinions which alleviate doubts. Inquirers are said to be rational or not insofar as their methods and habits of inquiry are rational or not. This generally involves not just reflective or intellectual thought but also experimental and/or observational investigations. One does not become more rational simply by becoming more intellectual—we are not rational beings just because we are

capable of intellectual deliberation.

The notion of rationality is concerned, we should say, with procedures for evaluating methods and results of inquiry—with the aim of identifying those methods that are most promising in their ability to yield true opinions (opinions which reflect reality). One can thus be rational but fail to achieve true opinions. Indeed our previous definition of truth will almost guarantee that this failure will generally be the case. Nevertheless truth (properly conceived) stands as an objective standard of achievement.

So minimally we have to define rationality in terms of (1) methods and results of inquiry and (2) (meta-)methods for evaluating better and worse methods of inquiry in terms of their general capacity to promote true opinions. The next question is: how do we now assemble these concerns into an acceptable definition of rationality, especially one that does not condone crass utilitarian decision procedures?

Here is one candidate definition: To be rational is to value and to be able to reliably employ methods of inquiry that are guaranteed to achieve true beliefs. This would be fine if we could practicalize the notions of *true beliefs* and of *guaranteeing* such results. In the latter case, procedures of divine revelation or a mystical faculty of intuition or insight may be considered as candidates. In this case, to be rational would require that we hone such faculties or master such procedures such that we are able to employ them regularly in our inquiries. This is a quite practical definition except for the fact that the notions of divine revelation or mystical intuition are yet to receive proper clarification in practicable terms. Until then, this notion of rationality remains ungrounded.

Building on Peirce's previous results, we may instead take advantage of his definitions of "truth" or "true opinion" to come up with a better definition of rationality. The notion of a blanket guarantee is not part of this picture, as much as we may wish to have such guarantees. Rather it is clear from Peirce's definition of truth that any actual opinion is in principle always open to further investigation, despite the unavoidable need to act on the basis of whatever opinions we may now have. Truth is a perfectly valid aim, where what we *mean* by that has already been outlined by Peirce, defined in idealized practical terms. Nevertheless what we can *actually* achieve, when things go well, are best regarded as conclusions of inquiry that are warranted or justified and yet fallible on various grounds, measured against various standards of justifiability. Whatever those standards may be (and it is not clear that they should not always be under review themselves), we are rational beings insofar as we are concerned that such conclusions are maximally warranted (to the best of our actual abilities) not just in solving a given problem but in terms of their promise more broadly. Are these conclusions practically

generalizable to similar problems? Will they exhibit long-term viability and stability as "conclusions" in the face of continued critical review and evaluation? What is their impact on situations other than those that gave rise to them, and is this impact acceptable? We can thus define rationality as a deliberate, critical, questioning, committed concern for long-term stability and validity (1) of our beliefs (opinions, judgments, decisions, solutions), (2) of the concepts in terms of which those beliefs are couched, and (3) of the modes of conduct which such beliefs and concepts give rise to.

In particular, it does little good to resolve a given problem in such a way that the solution only creates other problems elsewhere or at other times. Often apparently good solutions can lead to other problems that are unforeseen, even after we take into consideration everything we can conceive of before implementing a given decision. For example, who would have thought that certain technologies would put us in a position to destroy the ozone layer? If this was unforeseeable, then we could have gotten ourselves into this predicament on perfectly rational grounds. But it would be irrational to continue to endorse those technologies or their current manners of use now that the problem is apparent. Rationality is in a sense an attitude or concern that compels us not to get ourselves into such broader unforeseen predicaments as we solve local problems, and thus to try to foresee every possible consequence of our decisions—not just abstract deductive consequences but *practical* results of actions that follows on the tails of the various decisions we make. To be rational is to be aware of the ultimate impossibility of this task and yet to be compelled to perform it to the greatest extent possible in any given situation with the time and resources available to us then and there.

This clearly undercuts an opportunistic situation ethic. All of our decisions, in this pragmatist view, are subject to ideals which are of the greatest import and which transcend any particular situation. To be rational is to appreciate these ideals and to commit ourselves to their realization to the best of our abilities. If the pragmatic maxim should someday be deemed inadequate or unacceptable as the cornerstone of a theory of meaning, it will not be because it could not be used to formulate a robust and commendable conception of rationality.

References

Duhem, P. M. M. (1906). *La Théorie physique, son objet et sa structure*. Paris: Rivière. Second edition (1914) trans. by P. P. Weiner as *The Aim and Structure of Physical Theory* (Princeton: Princeton University Press, 1954).

Hempel, C. G. (1950). Problems and Changes in the Empiricist Criterion of Meaning. *Revue Internationale*

de Philosophie, *4*(11), 41–63.

Peirce, C. S. (1877). The Fixation of Belief. *Popular Science Monthly*, *12*, 1–15. Reprinted in CP 5:223–247 and EP 1, chap. 7.

Peirce, C. S. (1878). How to Make Our Ideas Clear. *Popular Science Monthly*, *12*, 286–302. Reprinted in CP 5:248–271 and EP 1, chap. 8.

Peirce, C. S. (1902). Verification. In J. M. Baldwin (Ed.), *Dictionary of Philosophy and Psychology, Vol. 2* (pp. 761–762). New York: Macmillan Company. Reprinted in CP 7:88–89.