The Pragmatist Maxim and the Proof of Pragmatism

A Máxima Pragmatista e a Prova do Pragmatismo

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Abstract: Peirce's pragmatic maxim has been very influential in the development of the pragmatist tradition. He claimed that his version of pragmatism was better than others because it could receive a strict proof. The paper compares some different accounts of the content of the maxim, showing that Peirce thinks we won't know its exact content until we know how it can be proved. Against this background, I shall explore some of the ways in which he tried to argue for its correctness, including some ("seductive persuasions" and "scientific proofs") which, although useful, did not meet his needs. I then try to explain why he thought that a strict and rigorous proof was required.

Keywords: Pragmatism. Pragmatist maxim. Verificationism. Scientific proof.

Resumo: *A máxima pragmática de Peirce tem sido extremamente influente no desenvolvimento da tradição pragmatista. Ele sustentou que sua versão de pragmatismo era melhor que as outras porque podia ser submetida a uma prova rigorosa. Este trabalho compara alguns relatos diferentes do conteúdo da máxima, mostrando que, segundo Peirce, não conheceremos seu conteúdo exato até que saibamos como poderá ser provado. Contra esse pano de fundo, explorarei algumas das formas pelas quais ele tentou defender sua justeza, inclusive algumas ("persuasões sedutoras" e "provas científicas") que, embora úteis, não atenderam às suas necessidades. Tento, então, explicar por que ele acreditava na necessidade de uma prova rigorosa e perfeita.*

Palavras-chave: *Pragmatismo. Máxima pragmatista. Verificacionismo. Prova científica.*

1. Introduction

In his later writings, Peirce emphasized the differences between his own version of pragmatism and the versions defended by philosophers such as William James, John Dewey, F.C.S. Schiller and others. These were the philosophers who had made the name "pragmatism" famous. James traced his own pragmatism back to the views that Peirce defended at the Metaphysical Club in the early 1870s, and he even conceded that his friend invented the name "pragmatism" for their common philosophical outlook. But, once James had embraced "pragmatism", Peirce became insistent that his own version was far superior to those of other self-styled pragmatists. Most importantly, he said that his own version of pragmatism was a precise "logical principle" in contrast to

the "philosophical attitudes" that it became in the work of these later thinkers (cf. HOOKWAY, 1997). Moreover, in *What Pragmatism Is* (1905), Peirce insisted that the "capital merit" of his version was that "it more readily connects itself with a critical proof of its truth" (EP2: 335).

It is clear from *What Pragmatism Is* that when Peirce says that his pragmatism can be *proved*, he does not mean simply that he can argue for it. Commenting on the obstacles he was facing in seeking his proof in 1907, he observed that "[i]t has not been that I could not furnish forth an ample supply of seductive persuasions to pragmatism, or even two or three scientific proofs of its truth" (CP 5.468). And he makes clear that he needs something better than that: he needs what he elsewhere called a "strict proof", and he compared such proofs with those that we find in mathematics.

For some time now, I have been interested in (and puzzled by) Peirce's insistent search for a strict proof for his pragmaticism. Some of the puzzles concern just how the proof is meant to work (and also, of course, whether, in Peirce's own mind, it was ever more than work in progress.) Others concern just how much of his philosophical architectonic forms part of that proof: once finalized, would the proof be a short detailed argument or would it involve the presentation of his entire philosophical system. But the issues that interest me most are more fundamental than this:

> a) When Peirce says he needs a "strict proof" of pragmatism, exactly what does this mean? How do "strict proofs" differ from other kinds of arguments for pragmatism?

> b) Why was it so important for Peirce to find a strict proof of the correctness of the maxim? His fellow pragmatists (for example William James) apparently saw no need to construct such a proof. Are there distinctive features of Peirce's position that make it imperative for him to prove it?

The details and adequacy of Peirce's attempts at proof are not my prime concern here. We can identify some different argumentative strategies that he proposed using for the proof at different times (cf. HOOKWAY, 1998, and section six, below) but the execution of these strategies was always a complex matter, calling for ideas drawn from most areas of Peirce's thought and, most likely, never completed to his satisfaction. Of more immediate interest is the question of just what the proof had to establish (HOOKWAY, 2000, chapter twelve).

Peirce's writings contain many attempts to formulate and defend his pragmatism. *How to Make Our Ideas Clear* (1877) was one of the first of these, and, in this paper, Peirce tries to show that the correctness of pragmatism can be derived from his theory that beliefs are habits of action. This, he later thought, "left too many questions unanswered". The Harvard Lectures of 1903 contains another more ambitious and extended attempt to provide a proof, one that, he thought, convinced him of the correctness of the doctrine. And there are a number of different attempts to set out the proof in detail in papers from the 1905 *Monist* series and afterwards. The arguments of these different papers differ in the materials they give central importance too, and one task for Peirce scholarship is to understand just why he was not fully satisfied with his earlier treatments and to identify the challenges that the later attempts were intended to meet. These later arguments are clearly steps towards a strict proof. I suspect that the 1878 paper, relying upon his account of belief is, at best, one of the scientific proofs. This search for a proof of his pragmatist maxim is a dominating theme in Peirce's writings from after 1900, and

it is clear that working it out will not be easy: He adds that "all the real proofs of pragmatism that I know" require "just as close and laborious exertion of attention as any but the very most difficult of mathematical theorems" (CP 5.468). "Seductive persuasions", "scientific proofs", "strict proofs": what does Peirce have in mind in these differences?; and why are "seductive persuasions" and "scientific proofs" not enough for a defence of the position?[1]

In the next section, I shall give a brief introduction to the content of the pragmatic maxim, the doctrine that is to be proved. Then (section 3) I shall make a conjecture about just what sorts of arguments may be included among the seductive persuasions, and begin to explore why Peirce supposes that they are insufficient. I shall then (section 4) turn to the argument from the dispositional theory of belief in *How to Make Our Ideas Clear* and try to make a case for saying that although this may count as a "scientific proof", it will not satisfy Peirce, and identify some different themes that may be involved in his search for a strict proof (section 5). The final section explores the strategy involved in one of his attempts to construct a proof, that which is presented in his 1903 "Lectures on Pragmatism".

2. The Pragmatist Maxim

The first step towards clarification is to examine the function that the maxim is supposed to serve. In 1878, Peirce offered it as a rule for clarifying the content of ideas, concepts, propositions, beliefs, hypotheses etc: applying the principle should enable us to understand what we are talking and thinking about. According to Peirce, one of the first things that logic should provide is a lesson in how to ensure that our ideas are clear: "To know what we think, to be masters of our own meaning, will make a solid foundation for great and weighty thought" (W3: 260). Explicit definitions of hard concepts may help with this, but they will only provide real clarity if we are already clear about the words or concepts used in formulating the definition. The pragmatist maxim offers us a "far higher grade" of clarity of thought than this: a clarification that contains nothing unclear, that will somehow make fully explicit how the concept is to be employed in thought and inquiry.

A method of clarification can be useful in different ways. Peirce's chief concern in 1878 was to clarify the concepts of *truth* and *reality*: these concepts are of fundamental importance within logic and philosophy, and misconceptions about them can be a source of philosophical error. A pragmatist clarification of truth may show us how to escape such confusions. The principle also enables us to identify supposed concepts that lack content, that are empty. If pragmatism enables us to avoid depending on such concepts, then it is a force for progress in philosophy. Without a method for clarifying ideas, we may never escape such errors. Finally the clarification of hypotheses enables us better to understand their strengths and weaknesses. It puts us in a position to decide whether they are worth taking seriously and to see how we should go about testing them. In all

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[1] Peirce's use of "seductive persuasion", "scientific proof" etc. is a rhetorical flourish and he does not explain his terminology. I have borrowed it as a suggestive way of drawing some important distinctions and, while the terminology fits what I have in mind, I have no evidence that this was Peirce's intention.

these ways, and more, clear ideas are essential to success in understanding our surrounding. Through applying the maxim to clarify propositions, we arrive at a clear grasp of just how the proposition (or whatever other kind of intellectual sign we are concerned with) can be used in reasoning and inquiry.

The best-known formulation of the maxim appeared in *How to Make Our Ideas Clear* (1878) and Peirce returned to it both in the 1903 Lectures on Pragmatism, and using it yet again in *Issues of Pragmaticism* (1905). This runs:

> Consider what effects, which might conceivably have practical bearings, we conceive the object of our conception to have. Then our conception of those effects is the whole of our conception of the object. (1878, W3: 266; 1903, EP2: 135; 1905, EP2: 346)

Although Peirce was so loyal to this formulation, its interpretation is not easy: The primary difficulty is to see what "effects, which might conceivably have practical bearings" could mean. The context of Peirce's use of this formulation in the 1903 lectures is particularly interesting. In the first lecture, setting out his aims for the whole series, Peirce tells us that "I suppose that I may take it for granted that you all know what *pragmatism* is. I have met with a number of definitions of it lately, against none of which I am much disposed to raise any violent protest" (EP 2:134). But he immediately continues: "Yet to say exactly what pragmatism is describes pretty well what you and I have to puzzle out together." Indeed, "we must start with some rough approximation of it", and he proposes to begin with his own 1878 formulation as "the most useful one to adopt as matter to work on". So the formulation is valued as a "rough approximation" and one function of the search for a proof is to replace this imprecise formulation with a more precise one. In the course of his search for a proof, he hopes to enhance his understanding of "effects that have practical bearings".[2]

Indeed, it is interesting that, both in 1903 and in 1905, having presented his original statement of the pragmatist maxim, he immediately offers alternative formulations.

> **1903:** Pragmatism is the principle that every theoretical judgment expressible in a sentence in the indicative mood is a confused form of thought whose 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 (1903, EP2: 134-5).

> **1905:** 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 on the symbol (1905, EP2: 346).[3]

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[2] This is in line with Max Fisch's observation that "Peirce did not finish revising his pragmaticism and then proceed to prove it. His every attempt to construct the proof led him into further revisions of the pragmaticism" (FISCH, 1986: 268-9).

[3] Nathan Houser has made an interesting suggestion about these reformulations. The original maxim was just that, a rule that should guide us in our inquiries. Since a rule cannot be assessed as true or false (although it can be assessed as correct or incorrect); it cannot be the conclusion of a *proof*. The reformulations are indicative sentences: they do not formulate a maxim but, instead, purport to identify truths from which the correctness of the maxim would follow immediately. And as indicative sentences, they can, indeed, be proved (HOUSER, 1998: xxxiv).

I have explored such formulations before (HOOKWAY, 2004) and am not going to offer a detailed analysis of these passages. But a brief discussion of an example ("the simplest one possible", EP1: 132) might help us to understand both the original formulation and these two. Consider Peirce's 1878 use of his maxim to answer the question "what we mean by calling a thing *hard*": "Evidently that it will not be scratched by many other substances. The whole conception of this quality, as of every other, lies in its conceived effects" (EP1: 132).

How is this to be understood in terms of the formulations that Peirce gives? Suppose that we want to clarify the judgement:

> This piece of wood is hard?

The object of the judgment is the piece of wood. So, by the 1878 formulation, we are to look for the effects that piece of wood has: i.e. we are to ask about what would happen when that piece of wood has (causal) interactions with things. If we scrape it with a knife, then, hopefully, it will not be damaged; if lots of objects are placed upon it, it is not likely to be damaged and so on.

Why should these effects have "practical bearings"? Well, the knowledge that the piece of wood has these properties may make a difference to what we do with it (and don't do with it). And how is that idea captured by the other formulations? Consider the 1903 formulation first. Once I know the wood is hard, then I can work out:

> If you want to make a table on which you will store lots of heavy sharp objects, then use this piece of wood. (1903 formulation)

> If you want to make a table on which you will store lots of heavy sharp objects, it would be rational to use this piece of wood. (1905 formulation)

These formulations help us to see how to understand the reference to "practical bearings" in the original one: effects have practical bearings when they can make a difference to what it is rational to do. The pragmatist maxim tells us that everything that is relevant to a complete clarification of a concept would be included in a list of propositions of these kinds that can be derived from our understanding of it.

Before we continue our examination of why we should accept pragmatism, I should note one other theme that Peirce mentions in connection with pragmatism. Alongside the "pragmatist" theme that I have just described, there is also a *verificationist* theme, found in Peirce's pragmatism when he links pragmatism to a recognition of "how impossible it is that we have an idea in our minds which relates to anything but conceived sensible effects of things. Our idea of anything *is* our idea of its sensible effects…" (W3: 266). Sometimes Peirce speaks of "effects that have a practical bearing", and sometimes he talks about "sensible effects". Both of these kinds of formulations seem to be important to him. All I want to do here is note that they are different: he will need an argument that will show that effects can have a practical bearing only if they are sensible. Those that are familiar with *How to Make Our Ideas Clear* may recall that his argument for pragmatism in that paper relies on some views about action; these help us to see the connection between sensible effects and effects that have a practical bearing.

So we now have some grasp of what Peirce is trying to do. First, he wants to arrive at a precise formulation of this principle; and, second, he wants a proof of its correctness. But before we consider what a strict proof would involve, let us return to the passage in

which he admitted to having "seductive persuasions" and "scientific proofs" of pragmatism, but insisted that he needed more than either could provide. He does not really tell us what he means by "seductive persuasion" or "scientific proof" and the choice of terms may have been little more than a rhetorical flourish. But there is a natural way to interpret them and it will be useful to use them in organizing our discussion.

3. Seductive Persuasions

Peirce's discussion began by claiming that "It has not been that I could not furnish forth an ample supply of seductive persuasions to pragmatism, or even two or three scientific proofs of its truth." And he even allows that these proofs and persuasions are very important:

> Without a recognition of the chief moments, or points, of these latter it is quite impossible that the power and heart's blood of any variety of doctrine or tendency that ought to be classified among the different species of pragmatism should be really comprehended. A man may very well feel advantages in applications of pragmatism without anything of that. He may even make new applications of the method, himself-with much risk of blundering…

Yet this is not enough:

> …but it appears very plain, both to reason and to observation of experience, that he cannot know in what interior eye, what pineal gland its soul and power reside, unless he understands the chief conditions of its truth. (CP 5.468)

Our first task is to identify a kind of argument for the correctness of the pragmatist maxim which is naturally described as a "seductive persuasion", which has the kind of value described here, but which is inadequate because it does not explain the "chief conditions" of the truth of the maxim. It is easy to see how some styles of argument may make pragmatism attractive without giving much reason for thinking it is true. For example we might recommend pragmatism by pointing to the consequences of accepting it. When we read James's *Pragmatism: a New Name for Some Old Ways of Thinking*, the argumentative strategy is very clear. As Patricia Turrisi has put it, James's pragmatism "was not grounded on any greater justification than efficacy" (TURRISI, 1997: 29). He offers illustrations of how the application of pragmatist techniques enables us to avoid apparently insoluble metaphysical problems. He shows us how we can stop worrying about realism, free will, and the movements of squirrels. Such are these advantages that it makes good practical sense to adopt the pragmatist strategy in the hope that such benefits will continue to accrue. There is, of course, no guarantee that they will: adoption of pragmatism is a strategic, regulative matter, to be judged by the consequences of doing so. It is possible that experience of living with pragmatism will eventually show that the costs are too high: too much that is important to us has to be abandoned. Had it turned out that pragmatism encouraged a positivistic rejection of religion, for example, James himself may have begun to worry about its viability.

Although the defence of pragmatism in Peirce's *How to Make Our Ideas Clear* does not explicitly take this form, some of the considerations he offers in its defence may have a similar character to these. The official argument relies upon a distinctive

account of belief (as a habit of action) and urges that the pragmatist principle is designed to give an explicit description of the habit of action involved in believing any given proposition. But it is interesting that sections II and III of the paper provide a series of illustrations of the maxim in operation: Peirce shows us how to clarify *hard*, *weight*, *force* as well as showing how the search for such a clarification enables us to dismiss a literal interpretation of *transubstantiation*. It is absurd to think that there is any real disagreement between Catholics and Protestants about "the elements of the sacrament" if "they agree in regard to all their sensible effects, here or hereafter" (EP1: 132). Such examples build up our confidence in the techniques being proposed, and it is very plausible that this was their intended effect. If so, the examples serve as a "seductive persuasion". We may also note that the account of belief as a habit of action is not worked out in any detail in papers such as *Fixation of Belief* and *How to Make Our Ideas Clear*: it emerges as a valuable and tempting abductive suggestion, one that promises great insights but will need to be developed and clarified in detail as we go along. "Beliefs are habits of action" is, at this stage, a *research project* rather than a detailed and well-confirmed scientific view. Peirce's arguments depend upon our sharing his optimism about the prospects for this research project.

I suggested that, for James, acceptance of pragmatism was a sort of regulative strategy: we try pragmatism out in the *hope* that its benefits will continue and the doctrine will serve as well. Peirce's sense that seductive persuasions are not enough may seem surprising when we recall that he often argued that all the laws of logic, all logical principles, function as hopes. I am not aware of anywhere that he talks about the pragmatic maxim as grounded in hopes. Anyway, we have already seen indications that he wants something more than that, in his complaint that we need to know the "chief conditions of [pragmatism's] truth" if we are to know where "its soul and power reside" (CP 5.468). The rhetoric here is not very clear, but a reasonable conjecture is that, for some reason, we need to know *why pragmatism is true*, and it is clear that the sort of "seductive persuasion" we have been describing does not provide that.

Why should Peirce see such an urgent need for an explanation of why pragmatism is true? As we saw in the last section, by 1906 Peirce was aware that his 1878 formulation of his maxim gave only a rough indication of the doctrine and that we would need to make it precise before we could apply it with confidence. Moreover that formulation did not do much to distinguish Peirce's version of pragmatism from those that were adopted by other pragmatists. Peirce sought an argument for pragmatism which would enable him to replace the rough formulation with a more precise one; and he needed a proof that would help him to explain what was wrong with the pragmatisms of James and others. The proof should enable us to understand both how pragmatism is to be applied in particular cases and also why James's version of pragmatism is wrong. The proof of pragmatism guides us in obtaining a clearer grasp of the understanding just what the content of the maxim.

4. Scientific Proofs

We have now seen why one kind of argument for pragmatism, while valuable in motivating people to take the doctrine seriously, fails to meet Peirce's needs. We can

now move onto a second kind of argument – the kind that, I suspect, Peirce has called a "scientific proof". If we want an explanation of why the pragmatist maxim is correct, then we might expect a scientific explanation to provide what is required. In this section, we shall explore why Peirce might think this is not the case.

As we have seen, the argument for pragmatism that Peirce offered in *How to Make Our Ideas Clear* relied upon his claim that beliefs are habits of action. The aim of inquiry is to reach a settled belief in some proposition, and thus we can clarify a representation by identifying what would be involved in believing it. We can do this by describing the habit of action that is associated with acceptance of the proposition in question. Hence we explain the correctness of the maxim of pragmatism by showing that using it will enable us to provide explicit descriptions of the habits of action associated with representations. The proof is "scientific" because the theory that beliefs are habits of action seems to be one that belongs to Psychology: it is a scientific hypothesis about the functions of beliefs. So understood, the claim is similar to many of the hypotheses found in William James's *Principles of Psychology*. James's own pragmatism reflects his psychological theory that beliefs, concepts and theories function as instruments, and we can clarify them by describing how they serve this function.

Are there any clues to the difference between a scientific proof and the kind of proof that Peirce is looking for? There are some passages that suggest that the crucial difference is epistemological: scientific results are fallible and provisional; and the proof that Peirce seeks has the kind of certainty normally associated with mathematics. In the passage we have been discussing from 1906, Peirce continues:

> …all the real proofs of pragmatism that I know – and, I hardly doubt, all there are to be known – require just as close and laborious exertion of attention as any but the very most difficult of mathematical theorems, while they add to that all those difficulties of logical analysis which force the mathematician to creep with exceeding caution, if not timorously. (CP 5.468)

When we examine the history of science, we will notice that progress normally involves refining hypotheses, to accommodate evidence that fails to accord with them. Hypotheses will often be rejected after a period of success and then replaced by further hypothesis which may, or may not, retain important elements of their predecessors. As Peirce points out, the atomic theory initially proposed that atoms were indivisible particles and, with time, that suggestion was abandoned and atoms were viewed as "systems" (CP 7.216). Since experimental psychology was still at an early stage of development, it would be rash to be confident that the hypothesis that beliefs were habits of action would not, in turn, be extensively refined or replaced. The hypothesis should be treated as provisional, as should any other proposals that depend upon it. Since the 1878 argument for the maxim of pragmatism depends upon this view about belief, then, surely, we should treat that as provisional too.

We now have to ask what is so unsatisfactory about a defence of the pragmatist principle that leads it to share the provisional and fallible character of scientific beliefs. We can gain some help with this from two passages. The first is from Peirce's *A Neglected Argument for the Reality of God*. Having considered the use of the method of science in the "humble argument" for God's reality, he notes that this needs to be supplemented by an inquiry which yields "not merely scientific belief, which is always provisional, but also a living, practical belief, logically justified in crossing the Rubicon with all the freightage

of eternity" (EP 2.449). Science provides provisional belief, and we now look for a form of inquiry that produces a much higher level of certainty. With high rhetoric, he claims that this new form of inquiry will require "the establishment of several principle of logic that the logicians have hardly dreamed of". And these include "a strict proof of the correctness of pragmaticism". Once we have this strict proof of pragmatism, we will be able to move beyond provisional "scientific" belief in God's reality to this much higher grade of certainty. And it seems obvious that, for this purpose, provisional scientific belief in the correctness of pragmatism will not suffice to provide "living practical belief" in conclusions that depend upon it: the *strict* proof must give us more than *scientific* belief in pragmatism. If the pragmatist principle is accepted only provisionally, then any belief that depends upon it can itself be accepted only provisionally. So if we are to use it in support of a full living belief in God's reality, its acceptance must not be provisional.

It is interesting to compare this account of the failings of the 1878 argument with diagnosis offered by Peirce himself in the first of his 1903 Harvard lectures. After reminding us that his original argument rested on the claim that "belief consists mainly in being deliberately prepared to adopt the formula believed in as the guide to action" (EP 2:139), he pointed out that this claim depended upon "an original impulse to act consistently, to have a definite intention". This is unacceptable as a basis for a logical principle since "all attempts to ground the fundamentals of logic on psychology are […] essentially shallow" (EP2: 140). The two diagnoses have it in common that they identify psychological assumptions on which the argument rests: the answer to the question how we know that a belief is a habit of action supposedly appeals to a fundamental impulse to "have a definite intention". But, as Peirce immediately acknowledges, "this was not very clearly made out" in the original paper.

Elsewhere, Peirce expressed the anxiety that this argument "might with some justice be said to beg the question" (EP2: 450). Background to this can be found in the 1906 manuscript that we have been discussing. Having commented on the values of pragmatism "if only it can be proved to be true", he asks how such a proof can be found "in the teeth of Messrs. Bradley, Taylor and other high metaphysicians, on the one hand, and of the entire nominalistic nation, with its Wundts, its Haeckels, its Karl Pearsons, and many other regiments, in their divers uniforms, on the other" (CP5.468). In another version of this manuscript, the worry about begging the question is even clearer: the pragmatist principle "seems to be in violent contrast to what one will read, let us say, for example, in Mr. Bradley's *Appearance and Reality*, and in the work of other high metaphysicians; as it no less decidedly conflicts with the simpler doctrines of Haeckel, Karl Pearson, and other nominalists" (EP2: 402). And, Peirce laments, "[a]t this difficulty I have halted for weeks and weeks" (CP 5.468).

The passage from the *A Neglected Argument for the Reality of God* suggested that the reason a scientific proof would not serve Peirce's purposes was that it would not provide a "living belief"; it would be altogether too tentative. Science yields tentative provisional conclusions. We must always take account of the possibility that further evidence will show that our inductions have been based on insufficient evidence. Perhaps our abductive sense has led us to ignore the surprising hypotheses that will eventually turn out to be true. How does this relate to the passage just cited? What is the threat that comes from the "high metaphysicians" and the "entire nominalistic nation"? How does this threat link to this point about the tentative, provisional character of scientific belief?

First, let us think about the High Metaphysicians. It is reasonable to expect that

these philosophers hold that real a priori knowledge is available to us: the method of science is not the only adequate method of inquiry. A scientific investigation of how we can clarify scientific concepts will be irrelevant to questions about what sorts of concepts can be used in a priori metaphysics. Metaphysicians will have no reason to abandon their practices in the light of criticisms based on the fallible method of science.

Nominalists may follow Peirce in his adherence to the method of science, but they will interpret science in a more austere manner than Peirce does. For Peirce, science is to be understood realistically: there is real thirdness, and this is present to experience. Perhaps they will be persuaded by a scientific demonstration of the correctness of pragmatism. But, since the argument for pragmatism is expected to take us to a better understanding of the *content* of the pragmatist maxim, the nominalists will be persuaded of the truth of a different version of pragmatism from the one that Peirce favours. Nominalists will have different views about what sorts of effects have a practical bearing and, perhaps, about what a "practical bearing" is.

The pragmatist maxim can be used to criticize both metaphysicians and nominalists: the former accept hypotheses that, according to the pragmatist, lack cognitive meaning; and the latter reject hypothesis that *can* be clarified using the pragmatist maxim. In each case, the argument for pragmatism must explain how they went wrong. If metaphysicians assert "propositions" to which no habits of action correspond, then why does this show that the metaphysicians are in error rather then showing that our provisional acceptance of the idea that beliefs are habits of action should be reconsidered? And if nominalists question the Peircean pragmatist's "realist" understanding of the nature of habits of action, why should we decide that the error lies with the nominalists rather than with the Peircean pragmatist?

The fundamental point here is that the maxim of pragmatism is a *logical* law, and the laws of logic are, somehow, more fundamental than the discoveries of the natural sciences which are regulated by those logical laws. This is reflected in Peirce's classification of the sciences: the normative sciences, which include logic and speculative grammar, are more fundamental than the special sciences. The latter depend upon the former, but the former do not depend upon the latter. A real proof will reflect these facts about the relations between different kinds of sciences. The maxim must possess a kind of certainty that ensures that we can use it to criticize those who reject it: even metaphysicians and nominalists should be able to appreciate the proof's force.

5. Strict Proof

The discussion so far has concluded that Peirce is looking for an argument for his maxim of pragmatism that meets a number of conditions:

1. As well as *concluding* that it is *good to adopt* the maxim of pragmatism, it *explains* why the maxim is *correct*.
2. It enables us to arrive at a more precise version of the maxim that will enable us to distinguish different versions of pragmatism.
3. It offers rigour and certainty of a sort that is characteristic of mathematical proof: the argument belongs within the normative science of logic and it does not depend upon provisional conclusions drawn in the special sciences. Most importantly, it does not beg the question.

We should bear these conditions in mind when examining the different attempts at a proof that we find in Peirce's later writings. The kind of argument that I have labeled using Peirce's phrase "seductive persuasion" fails to meet all three conditions. The argument from the dispositional account of belief meets that condition, but it appears to have problems satisfying the second and third.

I lack the space here to explore any of these attempts at a proof in detail: this paper is a prolegomenon to such an exploration.[4] I am most interested in how the third condition constrains Peirce's search for a proof. How is this rigour and certainty to be obtained? What is the force of his describing the proof as similar to a mathematical one? As we have seen, Peirce wrote, in a manuscript from 1907, that proofs of pragmatism "require just as close and laborious exertion of attention as any but the most difficult of mathematical theorems" (*CP* 5.468). Later in another draft of the same piece, he added that, of the "two or three" "conclusive" proofs that he knew:

> [They] are one and all of a pretty intricate structure, as much so, for example, as is that of Euclid for his 47th proposition (the Pythagorean theorem), and what is worse, are decidedly "technical", that is to say, call for as exact thought as do the average of the major theorems of mathematics, which in some respects they considerably resemble. In addition to that inconvenience, the very briefest of them is intolerably long. (EP2: 423)

The first passage merely emphasizes that a mastery of the proof of pragmatism requires cognitive virtues and capacities similar to those required for working with mathematical ones; the second goes much further suggesting similarities in the structure and contents of these different proofs. The proof will be "intricate", "technical" and long.

The relation between philosophical proof and mathematical proof is a complex matter. As Max Fisch has pointed out, Peirce believed that mathematical claims have a hypothetical character; they are concerned with what *would be* true under an arbitrary hypothesis, whereas the proof of pragmatism has to establish what *is* actually true (FISCH, 1986: 363). But it is compatible with this that something very similar to mathematical demonstration has a role in the proof he seeks; the proof may be an exercise in applied mathematics. Mathematical techniques can be involved in several ways. First the proof will require an exercise in logical analysis, classifying different kinds of arguments, and exploring the structure of representation. In later attempts at a proof, this involved Peirce's work on his Existential Graphs, designed to provide iconic representations of *all* of the different kinds of thought; even in earlier work, formal logic has much to contribute.

A second link emerges when we remember that phenomenology employs mathematical techniques in studying the categories and thus in providing foundations for the normative sciences. Unlike the positive sciences which attempt to describe and understand how things actually are, the normative sciences are concerned with how they ought to be; and in doing this, they must exploit mathematics' concern with "how [things] might be supposed to be, if not in our universe, then in some other" (CP 5.40, EP2: 144, 1903; cf. TURRISI, 1997: 34-5). In order to formulate and evaluate normative standards, we must understand how they enable us to evaluate all possible situations, not just the actual one; and mathematical attention and generalization are required if we are to understand this full range of possibilities.

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[4]   Nathan Houser's introduction to volume II of the *The Essential Peirce* provides a useful survey of the strategies involved in at least some of the later attempts to find a proof.

The question of how the emphasis on mathematical rigour constrains the proof is important, because it limits the role of *common-sense* in the proof of pragmatism. Common-sense beliefs are characteristically certain; but this certainty depends upon their being *vague*. No one could doubt the common-sense belief view that our beliefs guide our actions, for example: everyone shares it, and it is hard to imagine what could count against it. But the common-sense claim says little about *how* our beliefs guide our actions, about whether all beliefs guide actions, about whether some beliefs have functions other than guiding actions, and so on. Common-sense has an important role in Peirce's account of scientific inquiry, but the fact that their certainty is accompanied by vagueness means that they cannot serve as premises for a rigorous, logically precise defence of pragmatism. Some of the arguments for pragmatism seem to depend on the fact that there *are* common-sense beliefs, but these arguments are not intended to derive their certainty from the use of such beliefs as premises.[5]

Picking up on Peirce's claim that we should not accept pragmatism "until it has passed through the fire of a drastic analysis", Houser takes a stand on what a proof of pragmatism should look like:

> Peirce literally meant to "prove" pragmatism – but in the sense called for by philosophy. Philosophical proofs strive to prove *truths*, not just *theorems* (they strive to be *sound*, not just *valid*), and must therefore be concerned with establishing the truth of their premises. Only rarely is the deductive form of a philosophical argument in dispute; the crucial questions almost always have to do with the legitimacy and strength of the premises. (EP2: xxxiii)

He thinks that the proof must be deductively valid – the maxim "strictly follows from a given set of premises", and, furthermore, "each of the premises is either a common assumption or can otherwise be shown to be admissible." The crucial questions concern where the premises come from.

Peirce's writings from after 1900 contain a number of attempts to present his strict proof of pragmatism. How should we deal with this variety? One possibility is that throughout this period, Peirce had a reasonably clear idea of how the proof should go, and the differences are ones of presentation and execution. Another is that, while he was confident that his work in semiotic would provide a proof, the successive attempts reflect different ideas about how the proof should work. Is there a common strategy of proof with different approaches to the execution of the strategy, or did he employ a number of different strategies? At present, what is required is a detailed understanding of the different attempts, focusing primarily on what we can learn about the general strategies that are endorsed rather than on the details of execution, and postponing close examination of the relations between them. In the next section, we can survey some of Peirce's statements about the strategy of his proof.

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[5]   Pragmatism may depend upon common-sense beliefs in several different ways. A shared background of common-sense certainties (the "*commens*") may be required to explain how we come to agree in how a particular representation is to be clarified through application of the pragmatist maxim (EP2: 478); and we can appeal to common-sense to explain how certainties which we cannot see how to clarify in pragmatist terms may not serve as counterexamples to the doctrine.

6. Strategies of Proof (1903)

We have already considered the strategy employed in the argument for pragmatism in 1877. We clarify a proposition by describing what would be involved in *believing* it and the pragmatist maxim makes such clarification in the light of the theory that belief are habits of action. Execution of this strategy would require an uncontroversial, non question-begging demonstration of that claim about beliefs and then a further proof that, if this theory of belief is correct, then using the pragmatic maxim will provide a *complete* clarification of a proposition.

What can we learn about the strategy employed in the 1903 Harvard Lectures? In the first lecture, having introduced his maxim, Peirce acknowledges that while it "opens a very easy road to the solution of an immense variety of questions", "it does not at all follow from that that it is true" (EP2: 139).[6] How can we prove that "the possible practical consequences of a concept constitute the sum total of the concept?" In his lecture, he first considers a way to rescue the argument from belief: he begins from the idea that *belief* and *judgment* are closely related and he observes that "judgment is closely allied to *assertion*" (EP2: 140). Since "it is a fairly easy problem to analyze the nature of *assertion*", perhaps this offers the way forward. The discussion of this proposal yields an important conclusion:

> [We] cannot expect that any analysis of what assertion is or any analysis of what *judgment* of *belief* is, if that act is at all allied to assertion, should throw any light at all on the widely different question of what the apprehension of the meaning of a proposition is. (EP2: 140)

If that is right, then we cannot advance from such an account of belief to a defence of the maxim of pragmatism. Peirce's argument here is both brief and puzzling. He takes an "easily dissected example", a formal assertion such as an affidavit:

> Here a man goes before a notary or magistrate and takes such action that if what he says is not true, evil consequences will be visited upon him, and this he does with a view to thus causing other men to be affected just as they would if the proposition sworn to had presented itself to them as a perceptual fact. (EP2: 140)

And he then observes that ("we thus see that") "the act of assertion is an act of a totally different nature from the act of apprehending a proposition" so we should not expect an analysis of the former to cast any light on the latter.

One thing he says here is clear. We can do many things with propositions: we can believe them, assert them, doubt them, put them as questions, reflect on their meanings, and so on. An analysis of assertion is an explanation of just one thing we can do with propositions, and it is clear that we can assert propositions of which whose meaning we have a very poor grasp. The analysis of assertion is not *itself* an explanation of what is involved in clarifying a proposition. But it does not follow from this that the former can

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[6] There are two major sources for the texts of these lectures. V. 2 of *The Essential Peirce* contains versions of all seven lectures (p. 133-241), and TURRISI (1997) also contains careful and scholarly versions of all of the lectures together with a detailed commentary. For simplicity and consistency of references, page references are given to the *The Essential Peirce*.

cast no light on the latter at all. We can ask what kind of clarification of a proposition would equip us to take responsibility for our practice of asserting it. Since a primary aim in assertion is to avoid the risk of suffering "evil consequences", our needs as assertors may lead us to seek a clarification that indicates the experiential circumstances in which we, and those who judge us, would recognize that the assertion was mistaken. If that is all the clarification that is required for responsible assertion, then this might provide support for the pragmatist maxim: it requires us to employ just such a clarification.

Even if this accepted, however, it would not provide a strong argument for pragmatism. Assertion is one thing we do with propositions, but there are others too. Perhaps the pragmatic maxim would be valuable as a guide to the practice of assertion, as described by Peirce, even if it does not provide a clarification that meets all of our cognitive needs. And indeed, Peirce himself makes a similar point, although in connection with *belief.* There can be no doubt that someone will act in the light of their beliefs "so far as his belief has any practical consequences". The matter for doubt is "whether this is *all* that belief is, whether belief is a mere nullity so far as it does not influence conduct" (EP2: 141). We may do more with propositions than assert or believe them; and we may do more with beliefs than act on them. This is the challenge that the 1903 argument must meet.

The 1903 lectures range widely over many themes that are central to Peirce's philosophy and, for present purposes, we want to step back and identify the abstract strategy of the proof. The extensive discussions of phenomenology, the categories, realism, the normative sciences are all relevant to the execution of his strategy, but it would be good to find a description of what he is trying to do that abstracts from this. Once we see what he is trying to do, we will be able to understand how these discussions contribute to his doing it. We should therefore leap forward to lecture five when he announces that he is now beginning "to get upon the trail of pragmatism, after a long and apparently aimless beating about the bush" (EP2: 200). The ensuring discussion yields the conclusion that "logical goodness is simply the excellence of argument". The most fundamental kind of logical goodness ("negative goodness") is the soundness and weight of an argument, "its really having the force that it pretends to have and that force being great." And when we then ask "what the soundness of an argument consists in", we have to begin by recognizing "three radically different kinds of arguments", Abduction, Induction, and Deduction (EP2: 205). It is natural to take from this that the key to establishing the correctness of pragmatism lies in paying attention to the role of propositions, not in belief or assertion, but in formulating and defending good arguments.

By the final lecture, Peirce claims that "the question of pragmatism […] is nothing else than the question of the logic of abduction": the maxim "must render needless any further rule as to the admissibility of hypotheses to rank as hypotheses, that is to say, as explanations of phenomena held as hopeful suggestions" (EP2: 234). Once this is established, the only basis for doubt about the correctness of the maxim would be that it is inconsistent with some of the other roles that propositions and concepts serve. And since the only other roles we need to take account of are those in inductive and deductive arguments, the next stage is clear:

1. That pragmatism cannot interfere with induction is evident: because induction simply teaches us what we have to expect as a result of experimentation and it is plain that such expectation *may* conceivably concern practical conduct. (EP2: 235)

2. While the pragmatist maxim will affect the results that can be achieved by deductive reasoning, it does so only by influencing the range of propositions that are available through abduction as *premises* for deductions. But, first, this does not affect the *logic* of deduction; and, second, since this effect of pragmatism is "*consequent upon its effects on abductio*", this does not alter the general claim that the normative impact of pragmatism lies in abduction. (EP2: 235)

So it is only in connection with abduction that we can see how pragmatism can have a normative impact, only in connection with abduction that pragmatism makes a difference. In that case, it seems, once we have shown that abduction conforms to the pragmatist maxim, the correctness of pragmatism has been proved. There is no possibility that there are other areas of the intellectual life where pragmatism would be an obstacle on the road to truth.

So the overall structure of the proof seems clear:

1. In order to defend pragmatism we have to show that it is a correct norm to use in exercising logical self-control.

2. Logical norms are fundamentally concerned with determining which *arguments* are good.

3. There are just three kinds of arguments: deduction, induction and abduction.

4. The pragmatic maxim is the fundamental norm that determines whether abductions are good.

5. Whether pragmatism is correct makes no difference to the soundness of deductive or inductive arguments that is not a consequence of its effects on abductive ones.

So: the pragmatist maxim is correct.

Each of the five premises is controversial, and Peirce must establish that each possesses the sort of certainty that is required for a "strict proof".

Some who are familiar with the 1903 Harvard lectures may be surprised by this description of the strategy: I have seized on a very few scattered passages from a text that takes up ninety pages in *The Essential Peirce*. Most of the lectures deal with topics apparently unrelated to these issues about logic, so that Nathan Houser can observe that the proof depended on "a new theory of perception, grounded in his theory of categories and on results from phenomenology, esthetics, and ethics", as well as on extensive discussions of realism and semeiotic (EP2: xxv). However, there is no inconsistency between Houser's description and the account of the strategy that I have just offered. And in concluding this paper, I want to indicate two of the ways in which these different concerns are connected.[7]

First we can consider the importance of investigations in "phenomenology, esthetics and ethics" to the proof. This emphasis reflects Peirce's philosophical architectonic: the

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[7] This means that, like TURRISI (1997: 32), I reject McCARTHY's claim (1900: 67) that the material in Lectures II-IV was "intended more to familiarize the audience with Peirce's modes of thought than to contribute anything directly to the proof."

techniques employed in these philosophical discipline are more like the techniques employed in mathematics than they are like those employed in the special sciences such as psychology. Peirce says of phenomenology that "I will not restrict it to the observation and analysis of experience but extend it to describing all the features that are common to whatever is experienced or might conceivably be experienced, or become an object of study in any way, direct or indirect" (CP 5.37). It is irrelevant to the correctness of the results obtained whether the phenomena examined are real or fictitious, imagined or observed. And the techniques employed in studying the phenomena are ones of mathematical analysis and abstraction. Similar techniques are employed when we work in the normative sciences of esthetics, ethics and logic. The use of these disciplines to the premises of the argument we have described promises an explanation of how the proofs he arrives at can be strict, can possess the rigour and certainty that we associate with mathematics. So the claim that a strict proof of pragmatism can be constructed depends here upon Peirce's views about the distinctive epistemological status of the results of inquiries in mathematics, phenomenology and the normative sciences.

Second, then, what is the role of Peirce's account of perception in his proof? This theory has three important implications about the *content* of perception and its relations to the meaning or content of thought.

1. First: nothing can be part of the meaning of a thought that was not originally present in perceptual judgments: this is Peirce's interpretation of the slogan *Nihil est in intellectu quin prius fuerit in sensu.* (EP2: 226-227)
2. Perceptual judgments contain *general elements*; universal propositions can be inferred from them.
3. Abductive inference "shades into perceptual judgement without any sharp demarcation between them; or in our other words our first premises can be regarded as an extreme case of abductive inferences, from which they differ in being absolutely beyond criticism" (EP2: 227).

Leaving aside Peirce's reasons for accepting these claims (which are elaborated in part II of the final lecture), we can ask how these views feed into his defence of pragmatism. We can make three observations:

1. We noted earlier that Peirce's discussion begins with a vague formulation of the pragmatist maxim that he proposes to make more precise in the course of his proof. Given the role of experience in guiding conduct, it is clear that we need an account of the content of perceptual experience if we are to give a clear statement of what "practical effects" are. If we decide that perceptual experience has a very *rich* content, then this means that the maxim has more resources for clarifying our content that some nominalists and positivists might have supposed.
2. If the first of these claims is right, that all the concepts that we make use of in thought have their origins in judgments of perceptual experience, then this is inconsistent with the "high metaphysician" claim that we must make use of concepts and principles that can only be known a priori.
3. If the second of these claims is right and perception (as revealed in perceptual judgments) has a general character, then the nominalists' typical claim that general concepts are inventions, devised to enable us to deal with experiences that are wholly singular, cannot be sustained.
4. If a perceptual judgment is an extreme case of an abductive inference, then,

once we have shown that the pragmatist maxim makes sense of the use of concepts in abduction, we face no additional task of explaining how we employ concepts to elements of experience. The role of experience in cognition does not provide a challenge to the claim that logical goodness is always a matter of the goodness of an argument.

This paper has explored some of the background to Peirce's search for a proof of his maxim of pragmatism. I have concentrated upon identifying different kinds of arguments and proofs that could be offered in defence of the maxim, and in comparing strategies of proof that he adopted at some different stages of his career. The discussion is preliminary in at least two ways. First, although I have talked about the general strategy employ in the 1903 Harvard Lectures, I have not explored the details of how that strategy was executed. Thus I have not attempted to evaluate this proof or even the strategy employed. Second, this discussion needs to be supplemented by a comparison of the 1903 lectures with some later discussions of the topic. When Peirce returned to proving pragmatism, and employed different ideas, did this represent a change of strategy, or did it reflect some new ideas about just what strategy should be adopted?[8]

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[8]   An earlier version of this paper was presented at the 7th International Meeting on Pragmatism, Pontifical Catholic University of São Paulo (PUC-SP) in November 2004. The final version has benefited greatly from the discussion on that occasion, as well as from the advice of Ivo Assad Ibri during the period of rewriting.

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