INTRODUCTION

Charles Sanders Peirce once said¹ that the task before him was
to outline a theory so comprehensive that, for a long
time to come, the entire work of human reason, in the
philosophy of every school and kind, in mathematics, in
psychology, in physical science, in history, in sociology,
and in whatever other department there may be, shall
appear as the filling up of its details. (1.1)

It may come as a surprise to some, then, that one of the
major problems of Peircean scholarship has been to discover
the essential outlines of his system of philosophy. Manley
Thompson has cited two important reasons² for this predicament:
1) Peirce is a difficult and obscure writer, and we have no
work of his which presents a unified, systematic account of
his philosophy; 2) contemporary philosophy is divided on funda-
mental issues, and it is therefore understandable that this

¹C.S. Peirce, Vol. I of Collected Papers of Charles
Sanders Peirce, paragraph 1. [All references to Peirce's
Collected Papers will appear in the text using the conven-
tional volume and paragraph numbers within parentheses. And
often I will add within the parentheses the date of the passage,
e.g., (1.11 c.1890),/ Vols. I-VII edited by O. Hartshorne and
VII and VIII edited by A. Burks (Harvard University Press,
1958).

²M. Thompson, The Pragmatic Philosophy of C.S. Peirce
disagreement should carry over into the various evaluations of Peirce's philosophy by commentators.

The subject of this dissertation concerns one of the fundamental questions in theory of knowledge—which is also one of the fundamental issues in Peirce's philosophy: whether or not knowledge is to be viewed as an exact and certain system based on some form of intuitive insight.

Peirce's critique of intuition is presented chiefly within the framework of his anti-Cartesianism. W.B. Gallie, in his book, *Peirce and Pragmatism*, devotes his third chapter to this topic, saying that "Peirce's criticisms of Descartes provide, both logically and historically, the best possible introduction to his own developed theory of knowledge".¹ I would add that not only is Peirce's criticism of Descartes important for an understanding of Peirce's theory of knowledge, but it is of real help in revealing more clearly some of the issues of his general system of philosophy. Following Gallie's lead, I will attempt a somewhat more extended treatment of several of the issues involved in Peirce's critique of intuition; for example, Peirce's paradoxical rejection of Cartesian doubt.

It is a measure of the systematic nature of Peirce's thinking that any attempt to deal adequately with only one major topic in isolation from other important themes in Peirce's philosophy would be an impossible task. But along with the study of Peirce's philosophy as a system, will go a need for a critical evaluation of its inconsistencies.

Finally, I do not wish to imply that Peirce's critique of intuition is the essential theme in any study of his philosophy. Peirce's architectonic philosophy can be viewed from a variety of perspectives. Others have probed his philosophy from the perspectives of his pragmatism, his realism, and his concept of law, to mention only three examples of possible approaches.

Among the very earliest publications of Peirce was a series of articles he wrote for the *Journal of Speculative Philosophy* (1868-69). In these articles he argued against intuitive knowledge.

The first article ("Questions concerning Certain Faculties Claimed for Man") undertook a critical analysis.

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1Thompson, *The Pragmatist Philosophy of C.S. Peirce*.


of the claim for intuitive and introspective faculties of the
mind. Though neither Descartes nor Cartesianism is referred
to specifically, Peirce later states that this paper was
written in the spirit of opposition to Cartesianism. (5.265)

The second article ("Some Consequences of Four
Incapacities") expressly criticizes Cartesianism, particularly
the famous method of doubt.

I must make it clear here that in this thesis I will
not be considering the historical accuracy of Peirce's
understanding of the full range of Descartes' thought. I
will be quoting passages from Descartes' well-known works
only in order to give substance to what we may reasonably
suspect Peirce to have had in mind as the object of his
criticisms.¹

What is at issue between Peirce and Descartes (as,
for example, the latter expresses himself in his "Discourse
on Method") is the method of philosophizing—the method of
reasoning. Peirce's criticism of this particular position of
Descartes¹ is profound. It attacks the Cartesian method at
its roots.

For well over two thousand years—that is, from the
days of the early Greek philosophers up through the 19th
century, the method of philosophy in the West has largely

¹See, for example, 5.382a1.
been influenced by the method of mathematics which was presented so enduringly to the world in Euclid's *Elements*. As Peirce puts it:

> It is historical fact, I believe, that it was the mathematicians Thales, Pythagoras, and Plato who created metaphysics, and that metaphysics has always been the ape of mathematics. Seeing how the propositions of geometry flowed demonstratively from a few postulates, men got the notion that the same must be true in philosophy. (1.130)

There are several characteristics of the mathematical method which must be emphasized here. (The model is usually geometry.) First, is the axiomatic form of thinking. The mathematician tries to establish any of a multitude of propositions by means of a chain of strictly necessary reasoning which, because it must start somewhere, rests on the foundation of a few basic, unproved propositions called axioms or postulates. Second, it was assumed that these basic propositions are simple enough so that any normally intelligent person could grasp them. Third, up till the 19th century it was almost universally assumed that one of the characteristics which qualify a proposition to rank as an axiom or postulate is that its truth should be self-evident. In other words, the mere understanding of the meaning of such a proposition brings with it the knowledge of its truth. It was thus assumed that knowledge of self-evident propositions is direct, absolute, and infallible.
The following two axioms and two postulates are examples of such self-evident propositions in Euclidean geometry:

**Axiom:** Things which are equal to the same thing are equal to one another.

**Axiom:** The whole is greater than the part.

**Postulate:** A straight line can be drawn between any two points.

**Postulate:** All right angles are equal to one another.

Descartes' method of philosophizing, as he himself analyzes it, is very close in its form to that of mathematics. It is axiomatic. And it rests on a supposedly ultimate, self-evident foundation.

Peirce attacks the Achilles heel of Descartes' method: the claimed infallibility. There is a rule, Peirce says, "which deserves to be inscribed upon every wall of the city of philosophy:

*Do not block the way of inquiry.*" (1.135)

Of the ways listed by Peirce in which inquiry is blocked, two apply directly to Descartes' method. The first block, Peirce says, is in "the shape of absolute assertion." (1.137)
The other block "consists in maintaining that this, that, or the other element of science is basic, ultimate, independent of aught else, and utterly inexplicable." (1.139)
I propose to examine the details of Peirce’s critique of Cartesianism with respect to these issues in Chapter One. Chapter Two will be devoted, first, to an exploration of the differences between Peirce’s and Descartes’ methods of inquiry, and then to an enlargement upon some of the basic issues raised within Peirce’s method of inquiry, itself. My chief concern in the third chapter will be to explore briefly the interrelations which can be discerned in Peirce’s thought when several of his major doctrines are viewed from the perspective established in the first two chapters.

My attempt, in some small measure, to help in the search for a solution to the “riddle” of Peirce, then, involves three stages: through an examination (in Chapter One) of the development of his thought in reaction to Cartesianism—especially its intuitionism, to arrive at (in Chapter Two) an analysis of his method of inquiry. The perspective thereby attained will be put to the test (in Chapter Three). And whatever power that perspective has to discover consistency—or to establish inconsistencies—in Peirce’s thought will constitute its confirmation.
I. Cartesianism Attacked

In dealing with Peirce's critique of Cartesianism, the first section of this chapter will give a brief account of Descartes' Method of Doubt; the second section, Peirce's criticism; the third, a presentation of Cartesian Intuition; and the fourth, Peirce's objections. The fifth section will consider what Peirce says about intuition in connection with Kant. And the final section will give a brief summary of the chapter.

1. The Cartesian Method of Doubt

Descartes claims that at one point in his intellectual development he was driven to formulate his method of doubt because of the great diversity of opinions among learned men:

I had been taught, even in my College days, that there is nothing imaginable so strange or so little credible that it has not been maintained by one philosopher or another, and I further recognized in the course of travels that all these whose sentiments are very contrary to ours are yet not necessarily barbarians or savages, but may be possessed of reason in as great or even greater degree than ourselves.†

Descartes concludes by saying:

I could not . . . put my finger on a single person whose opinions seemed preferable to those of others, and I found that I was, so to speak, constrained myself to undertake the direction of my procedure.¹

This procedure's first step was to submit to doubt all the opinions which up to that time he had accepted as true.

I could not do better than endeavour once for all to sweep them completely away, so that they might later on be replaced, either by others which were better, or by the same, when I had made them conform to the uniformity of a rational scheme.²

Descartes believed that by this method of doubt he would find a solid foundation for his whole system of knowledge, for he says he did not imitate the sceptics, who only doubt for the sake of doubting, and pretend to be always uncertain; for, on the contrary, my design was only to provide myself with good ground for assurance, and to reject the quicksand and mud in order to find the rock.³

In the "Principles", Descartes shows that he means to apply his method of doubt in a thorough, but progressive, manner:

It will even be useful to reject as false all those things as to which we can imagine the least doubt to exist, so that we may discover with greater clearness which are absolutely true, and most easy to know.⁴

¹Ibid., p. 91.  ²Ibid., p. 89.  
But Descartes' thoroughness in this matter is restricted to "theory", not practice: "We ought not to make use of this doubt for conduct of our life meantime." 1

Descartes' contemplation of truth via the method of doubt is described by him in the famous passages of the "Meditations". The first area of knowledge which he submits to the scrutiny of doubt is knowledge which comes from, or through, the senses. Descartes relates how he was seated by the fire, attired in a dressing gown, paper in hand, considering how he could be sure that he was not dreaming. His conclusion was that he could not be absolutely sure he was really awake.

[When] I see manifestly that there are not certain indications by which we may clearly distinguish wakefulness from sleep, I am lost in astonishment. And my astonishment is almost capable of persuading me that I now dream. 2

In addition to matters concerning the senses, Descartes is ready to doubt even "Arithmetic, Geometry and other sciences of that kind which only treat of things that are very simple and very general." 3 Mathematical knowledge must have been among the most certain and indubitable types of knowledge for this great mathematician. Therefore, his

1Ibid.
2Ibid., Meditations, p. 146.
3Ibid., p. 147.
admission of the possibility of doubting mathematics indicates how far he wants to go with the question of dubitability:

I shall not be acting amiss, if, taking of set purpose a contrary belief, I allow myself to be deceived, and for a certain time pretend that all these opinions are entirely false and imaginary.¹

After being persuaded that there is no certain knowledge either from the senses or even in such exact sciences as mathematics, Descartes comes to the “definite conclusion that this proposition: I am, I exist, is necessarily true each time that I pronounce it, or that I mentally conceive it.”²

Descartes’ Principle VII states: “We cannot doubt our existence without existing while we doubt; and this is the first knowledge that we obtain when we philosophize in an orderly way.”³

The Cogito ("I think, therefore I am"), then, becomes for Descartes the foundation stone (the fundamental axiom) upon which he will try to build the edifice of genuine knowledge.

2. Peirce’s Criticism

Peirce begins his paper, “Some Consequences of Four

¹Ibid., p. 148.   ²Ibid., p. 150.   ³PWB, Principles, p. 221.
Incapacities", with a brief rundown on what he considers to be the distinctive traits of Cartesianism:

1) It teaches that philosophy must begin with universal doubt....

2) It teaches that the ultimate test of certainty is to be found in the individual consciousness....

3) The multifarious argumentation of the middle ages is replaced by a single thread of inference depending often upon inconspicuous premises.

4) .... there are many facts which Cartesianism not only does not explain but renders absolutely inexplicable, unless to say that "God makes them so" is to be regarded as an explanation. (5.254)

Disagreeing with the first point, Peirce mentions this relevant incapacity:

We cannot begin with complete doubt. We must begin with all the prejudices which we actually have when we enter upon the study of philosophy. These prejudices are not to be dispelled by a maxim, for they are things which it does not occur to us can be questioned. Hence this initial skepticism will be mere self-deception, and not real doubt. (5.265)

Two questions are raised by this criticism: 1) Does Descartes begin with complete doubt?, and 2) What is the role of the Cartesian "maxim"?

(1) Descartes does at times sound as though he wishes to begin with complete doubt,1 as for instance, in

1See R.C. Meyers’ article, "Peirce on Cartesian Doubt", Transations of the Charles S. Peirce Society, XIII (1967), especially pp. 95ff., for another assessment of Peirce's criticism of Cartesian Doubt. For my disagreement with Meyers' orientation, see the end of this section, and also Chapter Five of this thesis.
the passage where, speaking of his former opinions, he says "I could not do better than endeavour once for all to sweep them completely away."¹ But Peirce's objection, here, is leveled against Cartesian hyperbole. Nowhere does Descartes begin with complete doubt. Rather, his aim is to arrive at genuine, indubitable knowledge. He is determined to enlarge progressively the scope of possible doubt in search of a firm foundation. Before he reaches the state of doubting everything, he is "saved" by theCogito.

(2) Descartes' statement about sweeping away his former opinions is, in different forms, the maxims which Peirce is objected to. In the "Meditations" it is worded thus:

I must once for all seriously undertake to rid myself of all the opinions which I had formerly accepted.²

It is more opinions, the quicksand and mud, which he wants to rid himself of in the search for rock-like foundations. His method of doubt does not compromise the valid questions concerning the indubitability of knowledge derived from, or through, the senses, or of knowledge of mathematical truths, or of the self.³ Descartes' method of doubt would not have

¹PFD, Discourse, p. 89. ²PFD, Meditations, p. 144.

³I would say that Mears is right, when, on p. 19 of his paper, he says: "That Descartes is claiming the possibility of doubt rather than doubt itself is clear."
been essentially altered if he had never mentioned ridding himself of all his previous opinions. He might just as well have restricted himself to the bare bones of his method by classifying types of alleged knowledge under two headings: certain, and uncertain—"certainty" here being used in an exceedingly strict sense. Descartes examines empirical knowledge and classifies it uncertain. He considers mathematical knowledge and also classifies it uncertain. Having classified these types of knowledge as uncertain, he does not go around doubting them in any practical way. He is, it would appear, treating them in a manner compatible with Peirce's doctrine of Fallibilism.

Peirce's real quarrel with Descartes, then, is not over a "maxim", but over the Cartesian assumption that there is absolutely certain knowledge.

In a fragment of his writing, dated c.1897, Peirce says:

I used . . . to collect my ideas under the designation fallibilism; and indeed the first step toward finding out is to acknowledge you do not satisfactorily know already. (1.13)

Or again, in a passage on such topics as Fallibilism, Continuity, and Evolution, he says: "We can never be absolutely sure of anything." (1.147)
Surely Peirce, prima facie, seems unjustified in criticizing Descartes' method of doubt if Descartes is, in fact, trying to determine whether empirical knowledge is uncertain—and concludes with Peirce that it is uncertain. However, the moment Descartes thinks that he has arrived at perfectly certain or absolutely necessary knowledge (in theCogito), then Peirce can consistently criticize him on the grounds of his doctrine of fallibilism.

It is difficult to see how Peirce can be consistent when he implies that those things which Descartes chooses to question are "things which it does not occur to us can be questioned." (5.265) How could Peirce reconcile such an attitude with this passage in his article "How to Make Our Ideas Clear"?

*Feigned hesitancy, whether feigned for mere amusement or with a lofty purpose, plays a great part in the production of scientific inquiry. However the doubt may originate, it stimulates the mind to . . . activity.* (5.394)

That Peirce, however, did not, over the years, change his opinion about the illegitimacy of Descartes' method of doubt can be seen in the following passage from an article he published about forty years after the 1868-69 series. With Descartes obviously in mind, he says:
One [philosopher] proposes that you shall begin by doubting everything, and says that there is only one thing that you cannot doubt. . . . But in truth, there is but one state of mind from which you can "set out," namely, the very state of mind in which you find yourself at the time you do "set out"—a state in which you are laden with an immense mass of cognition already formed, of which you cannot divest yourself if you would. (3.416)

And in the same article his polemic reaches a climax in the following passage:

Do you call it doubting to write down on a piece of paper that you doubt? If so, doubt has nothing to do with any serious business. . . . Recognize, as you must, that there is much that you do not doubt, in the least. Know that which you do not at all doubt, you must and do regard as infallible, absolute truth. (Ibid.)

Against the last sentence of this passage I juxtapose the following quotations. Speaking, in 1902, of men like himself, Peirce says that

there still live men who talk of experience not yielding absolute certainty, absolute universality, absolute necessity, absolute precision. . . . [T]here is nothing at all in our knowledge which we have any warrant at all for regarding as absolute in any particular. . . . If I must make any exception, let it be that the assertion that every assertion but this is fallible, is the only one that is absolutely infallible. (2.73)

In a passage dated c. 1897:

Only once, as far as I remember, in all my lifetime have I experienced the pleasure of praise. . . . It was that a critic said of me that I did not seem to be absolutely sure of my own conclusions. (1.90)

And three paragraphs later in the same manuscript, which was
intended as a lecture, there is an amazing passage. Peirce takes up the question whether even our simple mathematical knowledge (for instance, that twice two is four) is fallible. His answer is reminiscent of Descartes' passage about the possibility of doubting mathematical truths because there might be a powerful, evil demon capable of confusing him—mentally—so reminiscent that we might accuse Peirce of plagiarising the idea from Descartes' method of doubt! Peirce, in addressing his audience, asks whether any individual here present thinks there is room for possible doubt that twice two is four? What do you think? You know that about one man in twenty is capable of being put into a condition in which he holds the most ridiculous nonsense for unquestionable truth. How does any individual here know but that I am a hypnotist and that when he comes out of my influence he may see that twice two is four is merely his distorted idea; that in fact everybody knows it isn't so? (1.150)

Is it possible to reconcile these inconsistent remarks of Peirce which span his years of philosophical inquiry? Or must we simply dismiss them as the inconsistencies of a great mind?

It is my view that the paradox of Peirce's attack against the Cartesian method of doubt (considering his own doctrine of doubt) can be satisfactorily resolved if we keep in mind the context of doubt—that is, the method of inquiry within which doubt functions. The context of doubt (the
method of inquiry) for Peirce is radically different from Descartes'. Not all the inconsistencies will vanish, but from the broader perspective of methods of inquiry, at least, Peirce did not appear so inconsistent. It will be seen that what makes Cartesian doubt "paper" doubt in Peirce's eyes is Descartes' "paper" method of inquiry. Peirce's doubt. (F fallibilism), on the other hand, is the "genuine article" because his method of inquiry is.

The point I am making here is in direct opposition to Robert G. Meyers' contention on page 14 of his paper on Peirce's criticism of Cartesian Doubt:

The central question here is the meaning of 'doubt.' For we cannot very well tell whether a given inquiry is genuine or not unless we know the criteria of "real and living doubt." 1

Now, as important as this question may be, if it is made central, it prejudices the issue against Peirce. Therefore I would defend the following transformation of Meyers' statement:

The central question here is the meaning of 'genuine inquiry'. For we cannot very well tell whether a given doubt is genuine or not unless we know the criteria of "genuine inquiry".

Peirce may never have made such an observation, but it will allow, I feel, a more just assessment of his writings. And

one of the aims of the present study is to make it explicit.

In the second chapter of this thesis, I will attempt to show that there are actually two distinguishable stages of Peircean doubt. It is the initial stage which may vary from the most imaginary of hesitations to the severest of shocks. Whereas, the second stage of doubt (often the result of prolonged intellectual or scientific search) is really the best representative of what Peirce means by genuine doubt.

As indicated in the Introduction, I have chosen to approach the examination of Peirce’s method of inquiry through an analysis of the development of his thought in reaction to Cartesianism. The next stage of my analysis deals with the foundation of Descartes’ philosophy: his faith in introspective, intuitive cognition.

3. Cartesian Intuition

To understand Descartes’ use of the term ‘intuition’ (or ‘inspection’), one should consider its place within the wider scheme of the method he proposes in the "Rules" and "Discourse".

The goal of his method is stated in the first rule:

‘The term 'intuition' is peculiar to the "Rules"; in his later writings Descartes replaces it with the term 'inspection'.
The end of study should be to direct the mind towards the enunciation of sound and correct judgments on all matters that come before it.\(^1\)

The means necessary for attaining this goal of 'sound and correct judgments' is an orderly set of rules for employing correctly our mental faculties.

Only those objects should engage our attention, to the sure and indubitable knowledge of which our mental powers seem to be adequate.\(^2\)

It might appear that there is a conflict between the all-inclusive goal of the Cartesian method and the limited focus of 'our attention'. The question is how are we to pass 'judgment on all matters that come before us', and yet at the same time attend only to what can be indubitably known? Descartes' answer is that when we have genuine knowledge, we can know that we do have it; and when we don't have genuine knowledge, we can know that we don't.

Two passages from Descartes' writings state that in some cases our judgment will be, in fact, an affirmation of ignorance: (1) we shall encounter

nothing so dubious that [we] could not draw from it some conclusion that was tolerably secure, if this were no more than the inference that it contained in it nothing that was certain;\(^3\)

\(^1\)FWD, Rules, p. 1.  
\(^2\)Ibid., p. 3.  
\(^3\)FWD, Discourse, p. 99.
and (2) in other cases, that we can even

know for certainty that no amount of application will enable [us] to attain to the knowledge desired, and that not owing to a defect in [our] intelligence, but because the nature of the problem itself, or the fact that [we are] human, prevents [us].

To recapitulate: the goal of Descartes' method is correct judgment; and by means of an orderly set of rules, correct judgment is attained, whether it takes the form of being able to say that we can or that we can't know something.

In the third and fourth rules, Descartes introduces the two types of cognition which are fundamental to his whole program: 'intuition' and 'deduction'.

Rule 5 states clearly the place that intuition and deduction are to have within the recommended method:

Method consists entirely in the order and disposition of the objects towards which our mental vision must be directed if we would find out any truth. We shall comply with it exactly if we reduce involved and obscure propositions step by step to those that are simpler, and then starting with the intuitive apprehension of all those that are absolutely simple, attempt to ascend to the knowledge of all others by precisely similar steps.

Intuition and deduction are to have a basically important place in his method because

1PrB, Rules, p. 23.
of all those mental operations by which we are able, wholly without fear of illusion, to arrive at the knowledge of things... I admit only two, viz. intuition and [deduction].

We should note the characteristics of Cartesian intuition. First, it is simple. As we have seen above, Descartes' method begins "with the intuitive apprehension of all those [propositions] that are absolutely simple..." Second, intuition is indubitable, infallible:

By intuition I understand, not the fluctuating testimony of the senses, nor the misleading judgment that proceeds from the blundering construction of imagination, but the conception which an unclouded and attentive mind gives us so readily and distinctly that we are wholly freed from doubt about that which we understand.

Descartes gives us examples of such intuitions:

(1) when a person knows he exists, (2) that he thinks,
(3) that a triangle is bounded by three lines only, and
(4) that a sphere is bounded by a single surface.

Third, intuition is 'clear'—that is, direct and self-evident, as can be gathered from the following analogy:

I term that clear which is present and apparent to an attentive mind, in the same way as we assert that we see objects clearly when, being present to the regarding eye, they operate upon it with sufficient strength.

Fourth, intuition is 'distinct'—that is, determinate.

1Ibid., p. 7.  
2Ibid.  
3PWD, Principles, p. 237.
for the distinct is that which is so precise and different from all other objects that it contains within itself nothing but what is clear. ¹

And Principle 46 reads:

Then, for instance, a severe pain is felt, the perception of this pain may be very clear, and yet for all that not distinct, because it is usually confused by the sufferers with the obscure judgment that they form upon its nature, assuming as they do that something exists in the part affected, similar to the sensation of pain of which they are alone clearly conscious. In this way perception may be clear without being distinct, [but] cannot be distinct without being also clear.²

These characteristics of Descartes' intuition are almost precisely those traditionally claimed for the axioms of Euclidean geometry. And the parallel between Descartes' method and the mathematical method is further seen in his explanation of the relation between intuition and deduction:

Many things are known with certainty, though not by themselves evident, but only deduced from true and known principles by the continuous and uninterrupted action of a mind that has a clear vision of each step in the process.³

Deduction, then, in Descartes' method, is a process in which truths which are not self-evident are derived from truths which are self-evident, step by step—each step being intuitively guaranteed.

¹Ibid. ²Ibid. ³FPVD, Rules, p. 8.
Finally, it should be recognised that intuitions (called 'first causes' in the following quotation) will provide the foundation for the whole realm of genuine knowledge, both theoretical and practical. Although intuitive cognitions are not, by nature, empirical, yet somehow they are to become the basis of the practical 'fruits' of philosophy (which are empirical). Descartes says that the word philosophy signifies the study of wisdom, and that by wisdom we not only understand prudence in affairs, but also a perfect knowledge of all things that man can know, both for the conduct of his life and for the conservation of his health and the invention of all the arts; and that in order that this knowledge should subservce these ends, it is essential that it should be derived from first causes.¹

Or again:

I should in the next place have caused the utility of this philosophy to be considered, and shown that since it extends over the whole range of human knowledge, we are entitled to hold that it alone in what distinguishes us from savages and barbarians. . . .²

Descartes illustrates the organic relationship among all areas of knowledge by the following metaphor:

Philosophy as a whole is like a tree whose roots are metaphysics, whose trunk is physics, and whose branches, which issue from this trunk, are all the other sciences.³

¹Ibid., pp. 203-204.
²Ibid.
³Ibid., p. 211.
So much for the main methodological consequences of the Cartesian doctrine of Intuition, which, as Gallie puts it, "are among the most famous theses of modern philosophy."¹

In this dissertation I am not attempting to tackle the problem of whether these theses can be said to represent fairly the breadth and depth of Descartes' thought. I do believe, however, that these theses very clearly represent the type of philosophising which moved Peirce (rather over-severely) to comment:

One singular consequence of the notion which prevailed during the greater part of the history of philosophy, that metaphysical reasoning ought to be similar to that of mathematics, only more so, has been that sundry mathematicians have thought themselves, as mathematicians, qualified to discuss philosophy; and no worse metaphysic than theirs is to be found. (4.231)

4. Peirce's Criticism

We have seen how closely Descartes' method of philosophy, as represented in his well-known works, is modelled on that of mathematics, and how intuitions are the 'axioms' of the Cartesian system. The following characteristics of Cartesian intuition were emphasised:

1) It is simple, ultimate.
2) It is indubitable, infallible.
3) It is 'clear', that is, direct and self-evident.
4) It is 'distinct', that is, determinate.

¹Gallie, p. 73.
In his paper "Questions concerning Certain Faculties Claimed for Man", Peirce's criticism of Cartesianism begins with a curious definition of 'intuition':

Throughout this paper, the term intuition will be taken as signifying a cognition not determined by a previous cognition of the same object. . . . (5, 215)

What this definition amounts to is a selection by Peirce—of the particular characteristic of intuition he wants to challenge.¹ This particular characteristic is the very heart of the axiomatic method: as I put it earlier, the mathematician tries to establish any of a multitude of propositions by means of a chain of strictly necessary reasoning which, because it must start somewhere, rests on the foundation of a few basic, unproved propositions called axioms or postulates. Peirce, rather surprisingly, is challenging the claim that reasoning "must start somewhere"—that is, with some particular 'first premise'. And Peirce's challenge will succeed if he manages to show that there can be no such thing as a "cognition not determined by a previous cognition". Success here by Peirce

¹Murray Murphy, in his book, The Development of Peirce's Philosophy (Cambridge: Harvard University Press, 1961), points out that the "spirit of Cartesianism" which Peirce challenges in his 1866 papers is really nominalism, and thus, "it would be a mistake to believe that Peirce is concerned only with the medieval controversy or with Descartes' own work. For among the spiritual progeny of Descartes, Peirce included all the British empiricists. . . ." (p. 107).
would subvert the other characteristics of intuition which are listed above.

Here is another version of Peirce's definition of 'intuition' given in the same paper:

Intuition here will be nearly the same as "premise not itself a conclusion"; the only difference being that premises and conclusions are judgments, whereas an - intuition may, as far as its definition states, be any kind of cognition whatever. (5.219)

Now, Peirce's claim that there is no such thing as intuition, and its consequence that reasoning has no first premises seem to be paradoxical at two levels. First, in a general way, the common sense of traditional logic rebels at the claim that there are no first premises, for that would mean that the chain of reasoning extends backwards without end! Peirce must take this first objection seriously because, as we shall later see, he is a champion of common sense (within a critical framework). Secondly, another objection to the regressus ad infinitum can be formulated in the following way: an individual lives for only a finite time, therefore how could a chain of his reasoning extend backwards

¹See 6.177ff. for an illustration of the difficulty that some men have had with what Peirce considers an analogous problem: Zeno's paradox of Achilles and the Tortoise.
infinitely in time? Peirce introduces his doctrine of Continuity in an effort to answer this 'temporal' objection:

Suppose an inverted triangle \( \triangle \) to be gradually dipped into water. At any date or instant, the surface of the water makes a horizontal line across that triangle. [Let this line represent] a cognition. At a subsequent date, there is a sectional line so made, higher upon the triangle. This represents another cognition of the same object determined by the former, and having a livelier consciousness. The apex of the triangle represents the object external to the mind which determines both these cognitions. The state of the triangle before it reaches the water, represents a state of cognition which contains nothing which determines these subsequent cognitions. . . . But draw the horizontal line where you will, as many horizontal lines as you please can be assigned at finite distances below it and below one another. For any such section is at some distance above the apex, otherwise it is not a line. Let this distance be \( a \). Then there have been similar sections at the distances \( \frac{1}{2}a, \frac{3}{4}a, \frac{7}{8}a, \frac{15}{16}a \), above the apex, and so on as far as you please. So that it is not true that there must be a first. . . . The point being insisted on is . . . that cognition arises by a process of beginning, as any other change comes to pass. (5.263)

To give a concrete example: let us say that a person hears a loud explosion. Retrospectively analyzing his own sequence of thoughts (cognitions) fifteen seconds after the explosion, Peirce would agree with common sense that fifteen hours ago there need be no thought of that person which determined his present line of thought. What Peirce is claiming is that within the previous fifteen seconds there was, in fact, an infinite series of thoughts—the instant fifteen seconds ago
being the limit towards which a regressive analysis of his thoughts would approach, but never reach in the form of a first thought (first cognition, or first premise).

Peirce's argument is an argument by analogy—an analogy between the process of thought and the mathematical concept of certain infinite series. Needless to say, this argument is highly speculative. We are not aware of any such infinite series of cognitions when we try to analyse some particular thought process.

According to David Savan (in his 1952 paper "On the Origins of Peirce's Phenomenology"), Peirce's treatment of the meaning and truth of empirical statements is caught in that time-honored philosophic difficulty, the infinite regress. . . . This [infinite regress] seems to me to be quite vicious, because it removes from our reach in any finite time not only the establishing of meaning and truth for perceptual judgments, but the evidence for judging the probable meaning and the probable truth of such judgments.¹

Savan goes on to remark that Peirce introduces the analogy of Zeno's paradox of motion in order to answer the kind of objection which Savan, himself, has expressed. But Savan maintains that "neither Peirce's account nor his metaphor of

motion helps in the analysis of how this [that is, how empirical statements can have meaning or truth] can be the case in any finite time."1

In the same publication, George Gentry, in his paper, "Habit and the Logical Interpretant", expresses the problem thus:

The question is this: since Peirce assumed that the interpretant of a sign is itself a sign of the same category, and, that any sign must be interpreted or translated by a subsequent one, can it be legitimately denied that the theory entails an "infinite progressus"? . . . Actually Peirce's theory implies not merely an infinite progressus but such a regressus as well. . . .2

And Gentry's response is to emphasize the point that "since every sign process does begin and end, one of the major assumptions of the early theory, namely that every interpretant of a sign is itself a sign or that there is no interpretant not a sign, is clearly erroneous."3

In the 1964, second series of Studies in the Philosophy of Charles Sanders Peirce, John Diler takes up in some detail this issue of Peirce's theory of signs and the question of infinite series. He makes the useful distinc-

1Ibid., pp. 190-191.


3Ibid., p. 84.
tion between 'divisibility' and 'extendibility', and says:

I will argue that Peirce has made a case for taking thoughts and signs as elements in indefinitely divisible processes. Given his reasons for putting it just this way, his point becomes an important and suggestive one. On the other hand, the extendibility he claims for such processes seems to me both independent of these reasons and highly suspect.¹

On Boler's view, Peirce's claim that the thought process is indefinitely divisible is important and suggestive because of its parallel with the case of the 'would-be'

revealed by Peirce's pragmaticist maxims:

That is to typical in Peirce's approach is the initial insistence on describing Achilles' motion in terms of the points traversed (5.179). Starting with what would be the conclusion of an 'atomistic' account, Peirce shows why a further analysis is required. The important step is the uncovering of a latent appeal to the possible in his opponents' account.²

And then Boler spells out the parallel:

The most notorious instance of this kind of reasoning is the 'would-be' revealed by his pragmaticist maxims. The first step is an analysis of the meaning of conceptions in terms of actions and reactions: individual events of experience. For example, the meaning of hardness is to be found in the results that would ensue upon a certain test. . . . The next step, however, is to show that no character can be reduced to any set of actual events. For example, the hardness of a diamond does not consist in any tests that were performed, are being performed, or will be performed. It consists rather in what would happen under certain specified conditions (5.467, 8.26)

²Ibid., p. 384.
³Ibid.
That what Peirce has to say here is relevant to Feirce's criticism of Cartesianism (and the question of infinite series analysis) is made perfectly clear in the following passage:

The locus classicus for Peirce's treatment of the continuity of thinking as an instance of the sign process is his attack upon the Cartesian theory of knowledge.

The burden of Peirce's argument—and in this respect it parallels that for the would-be—is that while we must describe thinking in terms of units of thought (impressions, ideas, etc.), we cannot reduce thinking to such units. Here again, Peirce wants to show why an appeal must be made to the possible in the sense that shows the presence of a true continuum. 

Now, I do not believe that the parallel drawn will hold at this specific point. First, the two steps of the argument for the Pragmatist's "would-be" were separated by many years in the course of Peirce's development: the first step, the analysis of the meaning of conceptions in terms of actions and reactions, comes early. The second step, to show that no conception can be reduced to any set of actual events, comes late. But—and this is the important point—the second step is a development of the first step in Peirce's thought. In contrast, there is no parallel development of Peirce's treatment of the infinite series analysis of the thought process. As Murray Murphy has emphasized in his book on the development of Peirce's philosophy, Peirce, later in

1Ibid., p. 386.
his career, virtually abandons the infinite series analysis argument with regard to conscious inference. ¹

Apart from Peirce's efforts to get around the "temporal" objection to his view of the thought process as an infinite series, he has not answered the objection of common sense of traditional logic which would continue to find it difficult to accept any theory which holds reasoning to be an infinite series of inferences having no first premise—even though that reasoning should occur during a finite span of time. In his 1863-69 series of papers, Peirce does not resolve this paradox. The attempted resolution will come with the development of his theories of 1) perception, and 2) instinct. However, the direction he will take with regard to perception is evident even in these early papers.

1. Perceptual Judgments

. . . all our conceptions are obtained by abstractions and combinations of cognitions first occurring in judgments of experience. (5.255; 1868)

For all practical purposes, perceptual judgments will be 'first premises' for Peirce. Why does Peirce choose perceptual judgments as candidates for first premises? The reason is to be found in the following quotation in such phrases as 'premise of an arbitrary nature', 'determined by the consti-

¹Murphey, p. 372.
tution of our nature', 'determined by an inexplicable, occult power';

The class of hypothetic inferences which the arising of a sensation resembles, is that of reasoning from definition to definitum, in which the major premise is of an arbitrary nature. Only in this mode of reasoning [from definition to definitum], this premise is determined by the conventions of language . . . [whereas] in the formation of a sensation, [the major premise] is determined by the constitution of our nature. . . . Thus, the sensation, so far as it represents something, is determined, according to a logical law, by previous cognitions. . . . But so far as the sensation is a mere feeling of a particular sort, it is determined only by an inexplicable, occult power. . . . (5.291: 1868)

Logical law is present here in Peirce's account, supposedly determining sensation through an infinite number of previous cognitions. But this law's operation in an infinite series of determinations is hidden from the conscious mind. And when, later, Peirce will insist that logic is a normative affair and is therefore a matter of conscious control, we can understand how Peirce will be left with such *de facto* ultimates as that which is 'determined by the constitution of our nature', or that which is 'determined by an inexplicable, occult power'.

In describing Peirce's 'first premises', the term 'de facto' is used by me for the following reason. In retrogressively analyzing our thought processes, we reach a limit beyond which we are, in fact, unable to go. Perceptual judgments, according to Peirce, represent just such a limit.
Thus perceptual judgments are not first premises by virtue of any title to rationality, but rather, owing to the plain fact of our own incapacities. In this negative sense they are 'de facto' first premises. Peirce believes that there are physiological and psychological processes which precede and determine our perceptual judgments. But these processes are beyond the reach of direct logical analysis. They are hidden, occult.

Richard J. Bernstein, in his essay "Action, Conduct, and Self-Control", describes the issue from another angle:

One of Peirce's most brilliant insights is a careful distinction between compulsion and authority. A failure to make this distinction leads to the paradoxes of intuitionism where the insistency of a percept or perceptual judgment is mistakenly taken as evidence of the validity or authority of the percept or perceptual judgment. A consequence of this misstating of concepts is that there are basic, infallible, self-authenticating epistemological episodes. This is the error that Peirce claims lies at the core of modern intuitionism, whether it is of the rationalist or empiricist variety.¹

In any case, in Peirce's Harvard lectures of 1903,

¹R.J. Bernstein, "Action, Conduct, and Self-Control", Perspectives on Peirce, ed. by R.J. Bernstein (New Haven: Yale University Press, 1969), p. 20. See also Bernstein's discussion of the same issue in Section IV (especially p. 176) of his earlier article, "Peirce's Theory of Perception", Studies in the Philosophy of Charles Sanders Peirce: Second Series. (In further references to articles in these two books, the titles of the books will be shortened to Perspectives and Studies II, respectively.)
we can see the outcome of the conflict between his 1868 account of cognition (denying any first premisses) and the "common sense" demand for first premisses. These lectures reveal the distinctive doctrine of perception which provides for the 'first premisses' which common sense demands:

All that I can mean by a perceptual judgment is a judgment absolutely forced upon my acceptance, and that by a process which I am utterly unable to control and consequently am unable to criticize. (5.137)

Perceptual judgments, then, are first premisses because of our utter inability to control or criticize them. This does not mean—and Bernstein has emphasized this point—that they are therefore infallible. For Peirce immediately goes on in his lecture to say:

Nor can I pretend to absolute certainty about any matter of fact. If with the closest scrutiny I am able to give, a judgment appears to have the characters I have described, I must reckon it among perceptual judgments until I am better advised. (Ibid.)

As mentioned earlier, Peirce, at this later stage, is emphasizing the normative nature of logic, and its consequence that logic is a matter of self-control and criticism:

If you admit the principle that logic stops where self-control stops, you will find yourself obliged to admit that a perceptual fact, a logical origin, may involve generality. (5.149)

Ignoring the question of 'generality', we may justly extract from the context of the above quotation the following two
propositions which Peirce is now advocating:

1) Logic does stop where self-control stops.

2) A perceptual fact is a logical origin (or primitive, or first premise).

Having thus disengaged logic from unconscious processes, we see in a contemporaneous passage (circa 1902) how Peirce is now willing to demote the whole question of the unconscious process preceding perception to the realm of psychology:

You may adopt any theory that seems to you acceptable as to the psychological operations by which perceptual judgments are formed... All that I insist upon is that those operations, whatever they may be, are utterly beyond our control and will go on whether we are pleased with them or not. (5.59)

To return to the Harvard lectures of 1903, we find that Peirce is also ready to disengage logic from his Achillesian infinite series analogy:

Now consider the judgment that one event C appears to be subsequent to another event A. Certainly, I may have inferred this; because I may have remarked that C was subsequent to a third event B which was itself subsequent to A. But then these premises are judgments of the same description. It does not seem possible that I can have performed an infinite series of acts of criticism each of which must require a distinct effort. The case is quite different from that of Achilles and the tortoise because Achilles does not require to make an infinite series of distinct efforts. It therefore appears that I must have made some judgment that one event appeared to be subsequent to another without that judgment having been inferred from any premises... (5.

At this point it should be remarked that the 'judgment not
inferred from any premises mentioned in the last sentence of
the above quotation seems to adequately fulfill Peirce's
1868 definition of 'intuition': i.e., a "premise not itself
a conclusion". (5.273) However, Peirce is not entirely
disengaging from the infinite series analogy. In the next
(7th) lecture, he talks as though we might still be able to
subject the subconscious process leading to the perceptual
judgment to an infinite-series analysis:

If we were to subject this subconscious process to logi-
cal analysis, we should find that it terminated in what
that analysis would represent as an abductive inference,
resting on the result of a similar process which a
similar logical analysis would represent to be terminated
by a similar abductive inference, and so on ad infinitum.
(5.181)

Ultimately, perhaps, the most intelligible perspective of
Peirce's later position is reflected in the following passage
in the same lecture, where Peirce claims that

the entire logical matter of a conclusion must in any
mode of inference be contained, piecemeal, in the premises.
Ultimately therefore it must come from the uncontrolled
part of the mind, because a series of controlled acts must
have a first... But self-control is the character
which distinguishes reasonings from the processes by which
perceptual judgments are formed... (5.194)

Thus, the Zeno-esque infinite-series analysis if it were
possible (and this possibility remains a speculation) would
apply only to the subconscious, uncontrolled mental processes
leading to perception; whereas such an analysis definitely
As not applicable to conscious, controlled reasonings, according to the later Peirce.¹

So then let us note that perceptual judgments are first premises for Peirce:

Our perceptual judgments are the first premises of all our reasonings. (5.116: 1903)

And that they are simple:

. . . all these sensations are in themselves simple. . . . A sensation is a simple predicate taken in place of a complex predicate. . . . (5.294: 1868)

And that they are indubitable (in a special sense, as we shall see later):

. . . abductive inference shades into perceptual judgment without any sharp line of demarcation between them; or, in other words, our first premises, the perceptual judgments, are to be regarded as an extreme case of abductive inferences, from which they differ in being absolutely beyond criticism. (5.181: 1903)

. . . the precise difference between abductive judgment and the perceptual judgment which is its limiting case . . . is that we cannot form the least conception of what it would be to deny the perceptual judgment. (5.186)

We thus come to the test of insenscivability as the only means of distinguishing between an abduction and a perceptual judgment. (5.187)

Simplicity and indubitability are two of the characteristics of Cartesian intuition. However, perceptual judgments (as Peirce's first premises) are so radically distinguished

¹See Murphey, p. 372.
from Cartesian first premises in that there is no presumption
by Peirce that perceptual judgments provide the basis for an
infallible deduction of the rest of knowledge. Quite the
contrary, as the following quotations will indicate:

First, from 1897:

Direct experience is neither certain nor uncertain, because it affirms nothing—it just is. There are delusions, hallucinations, dreams. But there is no mistake that such things really do appear, and direct experience means simply the appearance. It involves no error, because it testifies to nothing but its own appearance. For the same reason, it affords no certainty. It is not exact, because it leaves much vague; though it is not incorrect either; that is, it has no false exactitude. (5.145)

All this is true of direct experience at its first presentation. But when it comes up to be criticized it is past, itself, and is represented by memory. Now the deceptions and inexactitude of memory are proverbial. (5.145)

On the whole, then, we cannot in any way reach perfect certainty nor exactitude. We never can be absolutely sure of anything. . . . (5.147)

And then from 1891:

All our knowledge may be said to rest upon observed facts. It is true that there are psychological states which antecede our observing facts as such. . . . But it is only when the cognition has become worked up into a proposition, or judgment of a fact, that I can exercise any direct control over the process. . . . Observations of fact have, therefore, to be accepted as they occur. . . . They, therefore, do not, in themselves, contain any practical knowledge.

Such knowledge must involve additions to the facts observed. The making of these additions is an operation
which we can control; and it is evidently a process during which error is liable to creep in. (6.522)

11. Instinctive Beliefs

The other subdivision of de facto first premises for Peirce embraces instinctive beliefs. Peirce introduces this view as early as 1878 in the series of articles he wrote for *The Popular Science Monthly*:

It seems incontestable . . . that the mind of man is strongly adapted to the comprehension of the world; at least, so far as this goes, that certain conceptions, highly important for such comprehension, naturally arise in his mind; and, without such a tendency the mind could never have had any development at all. (6.417)

By 1883 this view had developed into a more explicit theory:

. . . not man merely, but all animals derive by inheritance (presumably by natural selection) two classes of ideas which adapt them to their environment. In the first place, they all have from birth some notions, however crude and concrete, of force, matter, space, and time; and in the next place, they have some notion of what sort of objects their fellow-beings are. Our innate mechanical ideas were so nearly correct that they needed but slight correction. . . . The other physical sciences are the results of inquiry based on guesses suggested by the ideas of mechanics. The moral sciences, so far as they can be called sciences, are equally developed out of our instinctive ideas about human nature. (2.753)

Peirce's theory, then, will be that our basic ideas in the physical and social sciences derive from feeding and breeding instincts (he uses just these terms c.1896: 1.116). In the next paragraph, Peirce indicates the position that instinctive
beliefs will have along with perceptual judgments as first premises:

Side by side, then, with the well established proposition that all knowledge is based on experience, and that science is only advanced by the experimental verification of theories, we have to place this other equally important truth, that all human knowledge, up to the highest flights of science, is but the development of our inborn animal instincts. (2.764)

Twenty-three years later (c.1906), in the last decade of his life, Peirce still maintains this view:

Another circumstance which goes toward confirming my view that instinct is the great internal source of all wisdom and of all knowledge is that all the "triumphs of science," . . . have been confined to two directions. They either consist in physical . . . explanations of phenomena, or else in explaining things on the basis of our common sense knowledge of human nature. . . . So it all comes down to common sense in these two branches, of which one is founded on those instincts about physical forces that are required for the feeding impulsion and the other upon those instincts about our fellows that are required for the satisfaction of the reproductive impulse. Thus, then all science is nothing but an outgrowth from these two instincts. (6.500)

One of the most important aspects of instinct, and one which is intimately a part of Peirce's theory of inquiry, is man's instinctive ability to guess the "right" hypothesis from among innumerable contenders. In 1896 he puts it thus:

In examining the reasonings of these physicists who gave to modern science the initial propulsion which has insured its healthful life ever since, we are struck with the great, though not absolutely decisive, weight they allowed to instinctive judgments. (1.80)
It is certain that the only hope of retroductive [hypothetical] reasoning ever reaching the truth is that there may be some natural tendency toward an agreement between the ideas which suggest themselves to the human mind and those which are concerned in the laws of nature. (1.81)

And in 1903:

Abduction is the process of forming an explanatory hypothesis. It is the only logical operation which introduces any new idea. . . . No reason whatsoever can be given for it, as far as I can discover; and it needs no reason, since it merely offers suggestions.¹ (5.171)

An Insight, I call it, because it is to be referred to the same general class of operations to which Perceptive Judgments belong. This Faculty is at the same time of the nature of instinct, resembling the instincts of the animals in its so far surpassing the general powers of our reason and for its directing us as if we were in possession of facts that are entirely beyond the reach of our senses. It resembles instinct too in its small liability to error, for though it goes wrong oftener than right, yet the relative frequency with which it is right is on the whole the most wonderful thing in our constitution. (5.173)

5. Kant

It may be suggested that what Peirce says about

¹Peirce's talk of instinct here may seem to be only representative of some transcendental phase in his philosophy but Paul Weiss, in his article, "The Logic of the Creative Process" (Princeton, pp. 166-182), and Norwood Russell Hanson in "Notes Toward a Logic of Discovery" (Paraphrasing, pp. 42-65), have tried to show (among other things) that Peirce's thought in this area is important for science. See also Robert Sharpe's paper, "Induction, Abduction, and the Evolution of Science", Transactions, vi (1970), pp. 17-33.
intuition in connection with Kant is important—for Peirce says he came to philosophy through a detailed and prolonged study of Kant (1.4; c.1897). And "intuition" is a fundamental concept of Kant's. Given Peirce's intense reaction to Cartesian intuitionism, it should be instructive to examine his assessment of Kantian intuition.

I must note here that I will be concerned with Peirce's understanding of Kant's thought, and not with any direct issue of Kantian scholarship.

Fortunately for my objective, Peirce engaged himself in his maturity in contributing to the Baldwin Dictionary of Philosophy and Psychology (1902) various sections dealing with Kant. In the following quotations—all of which appear in the Collected Papers (6.362)—Peirce has selected and rendered into English certain Kantian passages under the topic, "Matter and Form". These passages deal with intuition:

"In the phenomenon, that which corresponds to the impressions of sense, I call the matter of it; while that which constitutes the fact that manifoldness of the phenomenon is intuited as ordered in certain

Though Peirce's account here of his early study of Kant's Critic of the Pure Reason ("... two hours a day... for more than three years...") varies from the one he gives in 1898 ("... three hours a day for two years..." [4.2]), still the intensiveness of his approach to Kant's philosophy is obvious.
relations, I call the form of the phenomenon" (Krit. d. Reinen Vernunft, 1st ed., p. 20).

The next two passages to deal with 'matter' and 'form', elaborate on Kant's well-known dictum: 'Concepts without intuitions are empty; intuitions without concepts are blind.' Concerning the latter half of the dictum:

"All cognition requires a concept, be it as imperfect and dark as you will, and in this, in respect to its form, is always a universal which serves as a rule" (ibid., p. 106).

And concerning the first part of the dictum:

"There are two factors in cognition: first, the concept by which any object is thought—that is, the category; and secondly, the intuition by which the object is given. For if the concept had had no corresponding intuition, it would be a thought, no doubt, as far as its form goes; but having no object, no cognition whatsoever [he means, whether true or false] of anything would be possible by it; since, so far as I should know, there would be nothing, and perhaps could be nothing, to which such a concept would be applicable" (2d ed. of the Deduction of the Categories, sec. 22). [The interpolation above is Feirce's.]

Thus, for Kant, intuition is the presentation of the matter of phenomena (or object of cognition) within the forms of the 'hereness' and 'nowness' of experience. In his 1868 papers, speaking of the history of the term 'intuition',

'Isabel Stearns' article, "Firstness, Secondness, and Thirdness", Studies I., p. 195, suggests that Feirce's "parallel" dictum, 'The elements of every concept enter into logical thought at the gate of perception and make their exit at the gate of purposive action" (§.212), is possibly the key to Feirce's philosophy.
Peirce puts it this way:

In the middle ages, the term "intuitive cognition" had two principal senses; it meant the knowledge of the present as present [expressed by Kant's term 'sensus'] ; . . . but 2d, as no intuitive cognition was allowed to be determined by a previous cognition, it came to be used as the opposite of discursive cognition. . . . This is also nearly the sense in which Kant uses it. . . . (5.215n)

And in 1902:

. . . it is curious that while with Aristotle it is matter that is the quasi-hypothesis imported into the facts that the mind may synthetize, with Kant, on the other hand, it is form which performs this function. The matter of cognition consists of those elements which are brutally and severally forced upon us by experience. By the form [Kant] means the rational or intelligible elements of cognition, which he wishes, as far as possible, to regard as independent contributions of the mind itself, which we have no right to suppose are duplicated by anything corresponding to them in the thing. (6.358)

This shift, which Kant's view of 'matter' represents in relation to the Aristotelian view, is what Peirce, elsewhere, pinpoints as the heart of Kant's "Copernican revolution".

Indeed, what Kant called his Copernican step was precisely the passage from the nominalistic [that is, epistemologically dualistic] to the realistic view [of a pronounced idealistic type] of reality. It was the essence of his philosophy to regard the real object as determined by the mind. That was nothing else than to consider every conception and intuition which enters necessarily into the experience of an object . . . as having objective validity. In short, it was to regard the reality as the normal product of mental action, and not as the recognizable cause of it. (5.15: 1871)

On this note, let us return to our fourth 1902 passage where Peirce is quoting Kant.
"It is not [any] more surprising that the laws of phenomena in nature must agree with the understanding and its a priori form... than that the phenomena themselves must agree with the a priori form of sensuous intuition. For just as phenomena have no existence in themselves, but are merely relative to the mind, as having senses, so laws do not exist in the phenomena, but are merely relative to the mind in which the phenomena inhere, that mind exercising understanding" (.. . ibid., sec. 26).

The above passages provide a brief survey of Kant's use of 'intuition' as presented by Peirce.

In contrast to his severe assessment of Descartes' general philosophical method, Peirce would appear to hold that Kant's philosophic endeavor was basically sound, but inadequately carried out. It should be noted in this context that Descartes' general philosophic method requires elements such as intuitions which are luminous, clear, and rationally foundational—something which is unacceptable to Peirce; whereas, from the perspective of Kant's method, intuitions are the 'blind' elements of cognition—and the intuitions of Kant are remarkably like Peirce's percepts, from which evolve perceptual judgments, the 'first premises' of knowledge.¹

As Murray Murphy has argued in his book, The Development of Peirce's Philosophy (p. 2), Peirce accepted as a

¹Murray Murphy notes this similarity in his book, The Development of Peirce's Philosophy, p. 370.
major methodological consideration the architectonic concept of system of Kant's philosophy.\footnote{See also David Savan's earlier article, "On the Origins of Peirce's Phenomenology", } The fundamental categories of the mind are to be founded on logical forms\footnote{Murphy says (in his book, p. 4) that the creative factors in Peirce's development should be logical—i.e., the major philosophic changes should follow and be based upon logical discoveries. I wish to make it very clear what I mean by this statement. I do not believe that either logic or mathematics "requires" the adoption of any particular philosophic position. So far as I can see these disciplines are philosophically neutral, and any number of alternative philosophic interpretations of a given logical or mathematical doctrine are possible. But Peirce thought otherwise; like Kant, he believed that logic "requires" a specific philosophic position. Although it is certainly true that much of Peirce's writings is predicated on the belief that "logic requires a specific philosophic position", I will try to show later in this section and in Chapter Five, Section 5, that Peirce's metaphysics actually appears to be more fundamental than his logic in certain important respects—in spite of his remarks to the contrary.}:

Must it not be that \[the categories\] have their origin in the nature of the mind? This is the Kantian form of inference, which has been found so cogent in the hands of that hero of philosophy, and I do not know that modern studies have done anything to discredit it. It is true we no longer regard such a psychological explanation of a conception to be as final as Kant thought. It leaves further questions to be asked; but as far as it goes it seems to be satisfactory. (1.374: c.1890)

While thus agreeing with Kant in his general approach, Peirce felt that Kant, although a man of strong logical powers, nevertheless failed to make a sufficient and accurate analysis of 'formal' logic—the very foundation upon which he
wished to raise his architectonic edifice. Now, in many places Peirce says that Kant's analysis of formal logic remained superficial and inaccurate. For instance:

If Kant had performed all the work which a thorough, scientific application of his method demanded, he would have had to postpone the publication of his *Critique of the Pure Reason* for another century, at least. . . . It is singular that, notwithstanding the gigantic logical strength of the *Critique of the Pure Reason*, and notwithstanding Kant's explicit teaching that this hinges upon the scientific perfection of the underlying formal, or ordinary, logic, yet he never touches this last doctrine without betraying unmistakable marks of hasty, superficial study. (2.91: c.1902)

And the same kind of charge is repeated, e.g.: 4.2: 1903; 4.37: 1893; 4.427: c.1903; 5.11: c.1906; 5.177: 1903.

More specifically, Kant had failed to see that the basic formal structure of thought is revealed in a logic of relations. If Kant had recognized this fact, Peirce thought, his developed system would not have suffered from such superficiality and inaccuracy.

Now Kant's conception of the nature of necessary reasoning is clearly shown by the logic of relations to be utterly mistaken, and his distinction between analytic and synthetic judgments . . . which is based on that conception, is so utterly confused that it is difficult or impossible to do anything with it. (5.176: 1903)

At this point I would like to take up in some detail Peirce's criticism of Kant's distinction between analytical and synthetical judgments.
Though the above quotation may give the impression that Peirce would summarily reject Kant's distinction, yet, as I have tried to emphasize, Peirce is willing to acknowledge the fact that the distinction does rest on a solid basis:

Like much of Kant's thought this [analytic-synthetic distinction] is acute and rests on a solid basis, too; and yet is seriously inaccurate. (4.85: 1893)

What is this 'solid basis'? The answer follows:

[Men in general] frequently have occasion to ask whether something is consistent with their own or somebody else's meaning; and that sort of question they themselves widely separate from a question of how experience, past or possible, is qualified. (Ibid.)

However, according to Peirce, Kant, in presenting his own version of this distinction, errs most seriously when he claims that we necessarily think the predicate of an analytical judgment (though confusedly) whenever we think the subject. Here is the relevant Kantian passage quoted by Peirce:

[Analytical judgments] may also be called explicative ... since ... by their predicates [they] add nothing to the concept of the subject, which is only divided by analysis into partial concepts that were already thought in it though confusedly. ... (4.35: 1895)--emphasis added

"This is monstrous!", Peirce explains (4.36), because "it confuses together a question of psychology with a question of logic. . . ." (4.85)
The question whether a given thing [i.e., the "subject"] is consistent with a hypothesis [the "predicate"], is the question of whether they are logically composable or not. . . . But to say that because the answer is involved in the conception of the subject, it is confusedly thought in it, is a great error. . . . Nobody before Kant ever gave [this relation] such a psychological meaning. (4.36)

But, Peirce asks, how then does this evolution of necessary consequences take place? And he says he will answer for himself (on the basis of having worked on the logic of relatives):

It is not by a simple mental stare or strain of mental vision. It is by manipulating on paper, or in the fancy, formulae or other diagrams—experimenting on them, experiencing the thing. Such experience alone evolves the Reason hidden within us and as utterly hidden as gold ten feet below ground—and this experience only differs from what usually carries that name in that it brings out the reason hidden within and not the reason of Nature, as do the chemist’s or physicist’s experiments. (Ibid.)

The next step in Peirce’s discussion is the presentation (4.67) of his own explication of the distinction which ‘all men’ properly make (distinguishing the question whether something is consistent with somebody’s meaning from the question of how ‘outer’ experience is qualified). To summarize this briefly, . . . here holds that this distinction is based on the differences between Inward and Outward experiences:

1) We can "gut" ourselves with experiments in the Inward realm; whereas experiments are troublesome to obtain in the
2) We have considerable control over the Inward; very little control over the Outward.

3) Phenomena that the Inward force puts together so easily, appear similar; and 'similarity' simulates an intellectually ultimate and rational element. Whereas phenomena that the Outward force puts together, appear continuous; and 'contiguity' is more easily recognized as being occult.

And with all of these contrasts, Peirce declares, it is a question of degree only. For example, in the case of the contrast between 'similarity' and 'contiguity':

We can try experiments establishing similarity so easily, that it seems as if we could see through and through that; while contiguity strikes us as a marvel. The young chemist precipitates Prussian blue from two nearly colorless fluids a hundred times over without ceasing to marvel at it. Yet he finds no marvel in the fact that any one precipitate when compared in color with the other seems similar every time. It is quite as much a mystery, in truth, and you can no more get at the heart of it, than you can get at the heart of an onion. (4.87)

It seems to me that in combating any epistemological foundationalism involving direct, ultimate insight, what Peirce has done here is to replace the 'psychologising' of Kant with his own brand of psychologising. The degree of ease with which we can obtain experiments hardly seems to be a logical criterion. Neither does the degree of control. Actually, Peirce's analysis here is entangled in his own
unacknowledged metaphysical assumptions. For, psychologising, it may be presumed, does rest on metaphysical assumption.

In any case, the contrast that Peirce seeks to establish between the Inner and Outer, taken together with his acknowledgement that the theory of (formal) logic evolves the consequences of its own forms, and that the theory of numbers is even more abstract than logic, would all combine to suggest to him that these considerations are sufficient of themselves to refute Kant's doctrine that the propositions of arithmetic are "synthetical." (4.91)

Thus, for Peirce, arithmetic is "analytical", that is, explicative in the sense of evolving, through experiment and observation, the consequences of its own forms, and not analytic in Kant's psychological sense (rendering explicit what is already thought confusedly in the subject).

As we have seen, then, Peirce, when speaking of those sciences whose peculiar method is to evolve the consequences of their own forms, he characterised their "inward" experimentation as being: 1) easy to obtain, 2) subject to considerable control, and 3) establishing 'similarity', which we feel

1As Murphey remarks, "it is only with respect to mathematics that [an] early Platonism is retained in Peirce's thought after 1885. Mathematical entities therefore form a unique class in Peirce's ontology and are quite distinct from any other sort of entity which his later system contains", p. 239.
we could "see through and through" (that is, 'similarity' simulates an intellectually ultimate, rational element).

Some five years later in his paper on the "Logic of Mathematics", Peirce has this to say about the necessary reasoning of mathematics:

"is performed by means of observation and experiment, and its necessary character is due simply to the circumstance that the subject of this observation and experiment is a diagram of our own creation, the conditions of whose being we know all about." (3.5601 1898)

Peirce's explanation of 'necessity', here, rests on his distinction between objects of "our own creation" and

1Murphey (in his book, p. 288) suggests that although Peirce sometimes speaks of the mathematician as "creating" the objects with which he deals, he did not mean this in Brouwer's sense of "construct" but in the sense in which all ideal entities are products of the mind.

I cannot agree altogether with Murphey's suggestion. Although Peirce and Brouwer may have their own peculiar interpretations of the nature of 'construction' and 'mathematical intuition', yet both men are directly indebted to Kant. Peirce's rather long description of mathematical method in 3.559 culminates in the following claim:

Kant is entirely right in saying that, in drawing those necessary consequences, the mathematician uses what, in geometry, is called a "construction," or in general a diagram or visual array of characters or lines. . . . Thus, the necessary reasoning of mathematics is performed by means of observation and experiment, and its necessary character is due simply to the circumstance that the subject of this observation and experiment is a diagram of our own creation, the conditions of whose being we know all about." (3.5601 emphasis added)

The question of consistency, then, will arise from Peirce's support of Kantian "constructivism" and at the same time his acceptance of "sets and elements which are not constructible in the intuitionist sense" (Murphey, p. 288).
objects which are not so. Once again it must be noted that Peirce's distinction is not a purely logical one, but rather appears to rest on ontological assumptions. As "creation", for Peirce, involves a mental process, he thus hopes to avoid any admission of direct and ultimate rational insight.

There is another Kantian distinction discussed by Peirce which parallels that of the 'analytic-synthetic'. It is Kant's "sharp discrimination of the intuitive and the discursive processes of the mind"¹ (1.35: 1885).

As we have seen that, according to Peirce, Kant's handling of the 'analytic-synthetic' distinction, though seriously inaccurate, did have a solid basis. Similarly, we find Peirce admitting that Kant's 'intuitive-discursive' distinction does have merit, though at the same time it represents the "greatest fault" of his logical theory (ibid.).

Going back to his 1865 paper, "Questions concerning Certain Faculties Claimed for Man", Peirce is there anxious to show, in a footnote, that his theory has not departed too far from Kant's basic position:

*Kant . . . makes space and time intuitions, or rather forms of intuition, but it is not essential to his*

¹See David Savan's article, "On the Origins of Peirce's Phenomenology", Studies I, p. 186f., for his assessment of this distinction.
theory that intuition should mean more than "individual representation." The apprehension of space and time results, according to him, from a mental process—"the "Synthesis der Apprehension in der Anschauung." (See "Kritik d. reinen Vernunft," Ed. 1781, pp. 98 et seq.) My theory is merely an account of this synthesis. (5.223n: 1358)

Peirce next proceeds to present the two basic principles of Kant's argument with which he is in general agreement (in 1868, and throughout his career):

The gist of Kant's Transcendental Aesthetic is contained in two principles. First, that universal and necessary propositions are not given in experience. Second, that universal and necessary facts are determined by the conditions of experience in general. (Ibid.)

As our investigation continues, it will become apparent, however, that, according to Peirce, the dogmatic nature of the conclusions which Kant draws from these principles (taken as premises) is profoundly mistaken. But for the moment, let us follow Peirce's explication of the key terms found in the two "acceptable" principles:

By a universal proposition is meant merely, one which asserts something of all of a sphere—not necessarily one which all men believe. By a necessary proposition, is meant one which asserts what it does, not merely of the actual condition of things, but of every possible state of things; it is not meant that the proposition is one which we cannot help believing. (Ibid.)

The disclaimers attached to the above definitions are aimed at what Peirce calls the a priori philosophers.

To continue with Peirce's explication of Kantian terms:
Experience, in Kant's first principle, cannot be used for a product of the objective understanding, but must be taken for the first impressions of sense with consciousness conjoined and worked up by the imagination into images. . . . In this sense, it may be admitted that universal and necessary propositions are not given in experience. But in that case, neither are any inductive conclusions which might be drawn from experience, given in it. (Ibid.)

The last sentence above indicates Peirce's departure from Kant's conclusion. This difference is reflected in the oft repeated juxtaposition by Peirce of Kant's great question, and his own transmogrification of it:

According to Kant, the central question of philosophy is "How are synthetical judgments a priori possible?" But antecedently to this comes the question how synthetical judgments in general, and still more generally, how synthetical reasoning is possible at all. (5.347; 1868)

This transmogrification amounts to a shift from the realm of the a priori to the more fundamental realm, Peirce thought, of the justification of induction. But, to return to the footnote (5.223n) under discussion, Peirce gives us this account of the shift:

In fact, it is the peculiar function of induction to produce universal and necessary propositions. Kant points out, indeed, that the universality and necessity of scientific inductions are but the analogues (that is,

1One of the more detailed discussions by Peirce of this shift is found in his 1875 paper on "The Probability of Induction" (2.691). See also, "The Logic of Quantity": (4.32; 1893).
were imitations) of philosophic universality and necessity; and this is true, in so far as it is never allowable to accept a scientific conclusion without a certain indefinite drawback. But this limitation is owing to the insufficiency in the number of instances. . . . As for Kant's second principle, that the truth of universal and necessary propositions is dependent upon the conditions of the general experience, it is no more nor less than the principle of Induction. . . . Apply induction not to any limited experience but to all human experience and you have the Kantian philosophy, so far as it is correctly developed.

If we move next to a footnote of "The Fixation of Belief"—a footnote added in 1893, and thus written some 25 years after the above passage—we find it since still agreeing with the two Kantian premises, but dissenting more strongly from Kant's concluding manner of inference:

Many critics have told me that I misrepresent the a priori philosophers, when I represent them as adopting whatever opinion there seems to be a natural inclination to adopt. . . . Perhaps I shall be told however, that since Kant, that vice has been cured. Kant's great boast is that he critically examines into our natural inclinations toward certain opinions. (5, 332n)

Here appears Kant's 'first principle':

An opinion that something is universally true clearly goes further than experience can warrant. An opinion that something is necessarily true (that is, not merely is true in the existing state of things, but would be true in every state of things) equally goes further than experience will warrant. Those remarks . . . can hardly be denied. (Ibid.)

Then follows Kant's 'second principle' (universal and necessary facts are determined by the conditions of experience in general):
Accepting those criteria proceeds to reason and are held to be universal given by experience. An inward necessity of a thing in space. (Hall.

Finally, comes Kant's conclusion, not so much the conclusion, as the inference:

Ergo, the sum of the angles of a triangle to two right angles for all the objects. Just that, and nothing more, is Kant's. But the dry-reed of reason in the salon, the point where such stuff is held to be argumentation. I might go through the Reason, section by section, and show throughout is precisely of this character, shows that ordinary objects, such as the pieces, involve elements not contained in impressions. (True enough, Peirce would not persuade ourselves to give up the and gold-pieces. There is a general law still true enough, according to Peirce's insistence) is the warrant for swallowing bolus of general belief about them. (Th.

Now, a 'bolus' is a large lump of medicine—larger than a pill, and as an expression rather effective—Peirce's distaste for Kant's unwarranted (in his eyes) conclusiveness:

Had Kant merely said, I shall adopt for the present belief that the three angles of a triangle are equal two right angles because nobody but brother Lambert some Italian has ever called it in question, his attitude would be well enough. But on the contrary, he and the whole today represent his school distinctly maintain propositions is proved, and the Lambertite rejected.
what comes merely to general disinclination to think with them. (Ibid.)

Perhaps I should give a brief review of this section here. In contrast to Peirce's severely negative assessment of Descartes' general method of philosophical reasoning (which requires intuitions as clear, luminous, rational, foundational elements), Peirce holds that Kant's general philosophic method was basically sound (and his delineation of the "intuitive" element in knowledge, instructive), but that he had failed to carry out a sufficient and accurate analysis of its logical foundation.

As we have seen, Peirce follows Kant in acknowledging a solid basis to the synthetic-analytic and intuitive-discursive distinctions. In particular, Peirce's irrational "first premises" (our perceptual judgments, for example) are remarkably similar in their role to Kant's blind intuitions. In general, the Peircean categories of Firstness and Secondness, on the one hand, and Thirdness, on the other, reflect the Kantian distinctions. But where Peirce takes issue with these Kantian distinctions is at the point they move too close to an ultimate, foundational insight (as in Kant's psychological interpretation of analyticity) and a dogmatic conclusiveness (as in Kant's a-prioristic treatment of discursiveness which draws "too hard a line between the operations of observation
[(the "intuitive" elements) and of ratiocination [(the discursive elements of knowledge)]. (1.35)] Peirce complains that Kant allowed himself to fall into the habit of thinking that ratiocination only begins after observation is complete; and wholly fails to see that even the simplest syllogistic conclusion can only be drawn by observing the relations of the terms in the premises and conclusion. (Ibid.; emphasis added)

Finally, it should be noted that Peirce's efforts to avoid Kant's foundational interpretation of 'analyticity' and the a prioristic demonstrativeness of the inferences which Kant drew from the intuitive-discursive distinction, led Peirce to attempt his own explanation of the peculiar necessity of the reasoning of mathematics and formal logic. This attempt reveals that there are ontological assumptions which underlie Peirce's thoughts about the nature of mathematics and formal logic.

6. Summary

I have outlined a trend in the development of Peirce's thought, from his initial, bold rejection of first premises in his criticism of Cartesianism in 1868 to his "reconciliation" in later years with the common sense demand for first premises. Peirce in later years admits de facto first premises in the form of perceptual judgments and instinctive beliefs. These first premises of Peirce are 'de facto'
because they do not spring forth from the light of pure reason (as the rationalists would suppose) irradiating all knowledge with their indubitability, infallibility, clarity, and distinctness. Quite the opposite metaphor is in order for Peirce's first premises. Whether we consider either perceptual judgments or instinctive beliefs, their origin is from the occult, the hidden.

Perceptual judgments, Peirce holds, arise from physiological and psychological processes beyond the reach of our conscious, controlled, and critical analysis. We are thus forced to accept these perceptual judgments as they are given. We have no other choice.

If anything, instinctive beliefs are even more occult: according to Peirce they are the result of an evolutionary process shaped by natural selection over many thousands of years. With this theory in mind, Peirce aims a stinging metaphor straight at that rational luminescence so typical of what he thought Cartesianism represented:

Reason, for all the frills it customarily wears, in vital crises, comes down upon its narrow-bones to beg the succour of instinct. (1.630: 1898)

And in the next paragraph he adds:

Men many times fancy that they act from reason when, in point of fact, the reasons they attribute to themselves are nothing but excuses which unconscious instinct
invents to satisfy the teasing "whys" of the age. The extent of this self-delusion is such as to render philosophical rationalism a farce. (1:631)

All this may seem anti-rational, if not downright sceptical. However, I have sketched the relation and indebtedness of Peirce's approach to Kant's analysis of knowledge. Peirce's attack is against a rationalism whose method of inquiry imitates the axiomatic model of Euclidean geometry. In place of the a priori method, which he considers to be woefully inadequate, Peirce wishes to substitute the reasonableness of his own version of Kant's method, duly corrected: the 'scientific method' of inquiry.

With an examination of Peirce's thoughts on the scientific method of inquiry, it will become clearer how thoroughgoing is his rejection of foundational intuitionism.
II. CARTESIANISM REPLACED

Both Peirce and Descartes agree on one point: the condition of philosophy in their day. Descartes says that there is nothing imaginable so strange or so little credible that it has not been maintained by one philosopher or another. . . .

And Peirce:

It is true that philosophy is in a lamentably crude condition at present; that very little is really established about it; while most philosophers set up a pretension of knowing all there is to know—a pretension calculated to disgust anybody who is at home in any real science. (1.128: c.1905)

But from this point on, they go their separate methodological ways, each believing that his method will be the means of introducing some order into the philosophical chaos.

1. Peirce's Method of Inquiry

The whole question of the method of inquiry (or method of reasoning) is central to Peirce's philosophy. He, himself, says that the method of reasoning "is always the most important element in every system of philosophy." (8.45: c.1885) And (c.1905) he stresses the length and depth of his researches on the method of inquiry:

1PWP, Discourse, p. 90.
I have been actively studying this subject, for the sake of completely satisfying my own mind about it, for 50 or 51 years. To be sure [of what I was doing], I have, some half dozen times during the half-century, let my mind lie fallow . . . hoping so to rid myself of any inveterate bad habits of thinking that I may insensibly have fallen into. (2.760)

Here, then, is a brief sketch of Peirce’s analysis in 1903 of the stages of inquiry.

To begin with, there is what I shall call the initial precondition for inquiry: the initial doubt or puzzlement.

This precondition is that

every inquiry whatsoever takes its rise in the observation . . . of some surprising phenomenon. (6.469)

Then follows his account of the three stages of inquiry.

In the FIRST STAGE, the inquiry begins with pondering these [surprising] phenomena in all their aspects, in the search of some point of view whence the wonder shall be resolved. At length a conjecture arises that furnishes a possible explanation . . . . (Ibid.; emphasis added)

This “point of view” which affords a tentative explanation Peirce calls Hypothesis (or Retroduction, or Abduction). ¹

The characteristic of this first stage which cannot be over-emphasised is that it is tentative: Hypothesis is a mere guess. As Peirce puts it: "Retroduction does not afford security. The hypothesis must be tested." (6.470)

This testing starts in the SECOND STAGE of inquiry with the examination of the hypothesis and a mustering of all sorts of conditional experiential consequences (consequences which would follow from the truth of the hypothesis). This second stage Peirce calls Deduction. The purpose of Deduction is that of collecting consequents of the hypothesis. (6.472)

The testing of the hypothesis concludes in the THIRD STAGE with the ascertaining of how far those consequents accord with experience. Peirce calls this final stage of inquiry Induction.

2. The Context of Doubt

Earlier in this study we noted the paradox of Peirce's attack against the Cartesian method of doubt (since Peirce's own doctrine of fallibilism would seem to allow all manner of doubt). However, I expressed there my view that the paradox could be satisfactorily resolved if, with regard to each philosopher, we keep in mind the context of doubt. And the
context of doubt for each philosopher is his general method of inquiry.

In outline form their methods of inquiry may be contracted thus, in the following diagram:

**METHODS OF INQUIRY**

**Descartes'**  

**Initial Preconditions**

**Method of Doubt**  
(its sole purpose is to enable us to recognize genuine intuition)

**Stages of Inquiry**

1) Intuition  
(absolute, indubitable, and infallible insight)

2) Deduction  
(absolute necessary reasoning from intuition to the rest of knowledge—as in geometry)

**Peirce's**

**Initial Doubt originating in puzzling experience which varies from severest shock to merest fancy and which motivates us to develop explanatory conjectures**

**Stages of Inquiry**

1) Hypothesis  
(merely plausible conjecture)

**Method of Doubt**: the next two stages (the purpose of which is to test hypothesis):

2) Deduction  
(reasoning out what would necessarily follow if the hypothesis were true)

3) Induction  
(checking whether experience does, in fact, bear out these predicted consequences)
The Cartesian method of inquiry (in Descartes' well-known writings) assumes that the whole realm of genuine knowledge is an axiomatic system resting on the absolute, infallible foundation of intuition. Unfortunately, however, these basic intuitions do not stand out from the rest of our opinions so boldly as to be immediately and unanimously recognized by one and all. Therefore, Descartes introduced his method of doubt in order to burn away the dress of mere opinion. Whatever could survive the refining fire of his doubt would thereby be proved a genuine intuition. This is the function of doubt within Descartes' method of inquiry.

Now, if this kind of account of knowledge as an axiomatic system resting on infallible foundations is rejected (and most contemporary assessments of the methodology and philosophy of science, certainly, would support such a rejection), then we shall appreciate the importance of Peirce's criticism.

Ironically, not only has scientific method failed to fit the axiomatic analysis of intuitionism, but even in mathematics, itself, no one speaks anymore about the indubitable, self-evident nature of its axioms, postulates, or other primitives.
3. *Sire's Method of Doubt*

Doubt functions within a very different framework in *Sire's* method of inquiry.

First, there is the stage of initial doubt, brought about by any puzzling experience. The puzzlement may range from extreme shock to the merest day-dreaming. Doubt, here, provides no test as does the Cartesian doubt. In *Sire's* theory, it is this stage of initial doubt which will accommodate without paradox most of his pronouncements on 'feigned hesitancy'.

Next, an hypothesis is formulated to explain the puzzling experience and thus to eliminate the initial doubt:

What, then, is the end of an explanatory hypothesis? Its end is, through subjection to the test of experiment, to lead to the avoidance of all surprise and to the establishment of a habit of positive expectation that shall not be disappointed. (S.197: 1905)

The hypothesis is only a guess, a conjecture. It is, thus, radically different from *Sire's* intuition. However, like Cartesian intuition, it must be tested by doubt. But this second round of doubt in *Sire's* method takes a very different form from *Sire's* backward-looking, introspective concern with the indubitability of the sources of knowledge. For *Sire*, the hypothesis must be submitted to a forward-looking, objective, experimental testing. And in experiment
testing, one

indispensable ingredient is a sincere doubt in the experimenter's mind as to the truth of that hypothesis. (5.424: 1903)

A little later, writing of himself in the third person, Peirce proclaims

the great value he attaches to doubt, provided only that it be the weighty and noble metal itself, and no counterfeit nor paper substitute. He is not content to ask himself whether he does doubt, but he invents a plan for attaining to doubt, elaborates it in detail, and then puts it into practice, although this may involve a solid month of hard work... (5.451: 1903)

This plan for testing the hypothesis—submitting it to what I shall call the Peircean Method of Doubt—comprises the second and third stages of his method of inquiry, and is the very essence of his Pragmatism. The function of Peircean doubt is to test knowledge claims, not by going back to an examination of their sources, but rather

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. (7.89: 1901)

To conclude this sketch of the function of doubt within his method of inquiry, it should be re-emphasised that these hypotheses which survive Peirce's Method of Doubt are not thereby considered to be absolutely indubitable and infallible (as is the case with Descartes' intuition).
According to Peirce, the degree of certainty attained by any hypothesis will be determined by the extent to which it has sustained the ordeal of furnishing predictions that have been verified. (See: 5.605) However, Peirce insists,

we cannot in any way reach perfect certitude nor exactitude. We never can be absolutely sure of anything... This is my conclusion, after many years of study of the logic of science... (1.147: c.1905)

And speaking of those hypotheses which have received the greatest confirmation in science, he indicates that although we may call them 'established truths', yet they are only "propositions in which the economy of endeavor prescribes that, for the time being, further inquiry shall cease." (5.589: 1898)

To return now to a question touched on in the first chapter of this thesis—a question which James E. Bryles has raised in one of his papers:

What did Peirce mean by "fictitious" or "paper" doubts? 1

I have argued that in trying to understand Peirce, we should search for what he took to be the meaning of doubt (both the 'genuine' and 'fictitious' types) within the framework of theory of inquiry. Thus, at the stage of initial doubt (presuming Hypothesis in Peirce's analysis of inquiry), Peirce

is willing to entertain all manner of doubt. At this stage even 'feigned hesitancy' has an honorable function (5.394).\(^1\) Every doubt entertained by Descartes could be accommodated at this level of Peirce's general method.

In Brayles' paper on indubitable belief, he tells us:

The notion of a "paper doubt" must not be confused with "feigned hesitancy". \(\ldots\)\(^2\)

But Brayles does not elaborate on this particular distinction.\(^3\) The distinction, I would maintain, is, essentially, to be made within the framework of method of inquiry. To question or doubt a belief without having sufficient grounds would be acceptable, for Peirce, only at the preliminary level of 'initial doubt'. But though such 'groundless' doubt would thus be rendered methodologically respectable, Peirce would hardly accept it as representative of 'genuine' doubt. Rather, 'feigned hesitancy' can attain the rank of 'genuine' doubt (if at all) only in the second and third stages of his method of inquiry—and then only if the initial doubt (in this case, feigned hesitancy) is given some objective grounding or justification. This is surely what Peirce had in mind when he said

\(^1\) See also 4.77. \(^2\) Brayles, p. 8156.

\(^3\) Savan's account of this same distinction in his paper "On the Origins of Peirce's Phenomenology", Studies I, also leaves the matter unelaborated (see p. 194).
that a person of his persuasion

is not content to ask himself whether he does doubt, but
he invents a plan for attaining to doubt, elaborates it
in detail, and then puts it into practice, although this
may involve a solid month of hard work. . . . (5: 45f;
1905)

On the other hand, if the puzzlement which gives rise
to inquiry is "strong" enough, then the 'initial doubt'.
itself, should be entitled to rank immediately as a 'genuine'
doubt.

The complexities of the issue, as I see them, do not
allow me therefore to agree fully with Broyles' answer to the
question, 'What did Peirce mean by "fictitious" or "paper"
doubts?';

"Let us not pretend to doubt in philosophy what we do
not doubt in our hearts" (5: 265), urges Peirce. Simply
because we can conceive of our being wrong does not
mean that we are in doubt, much less that doubt is justi-
fied. As Wittgenstein puts it, we should not suppose
"that we are in doubt because it is possible for us to
imagine doubt." Such imagined doubts are just the sort
of thing that Peirce had in mind when he introduced the
concept of fictitious doubt.1

On my interpretation, 'such imagined doubts' could
be called 'feigned hesitancies' and given a respectable place
in Peirce's own method of inquiry. But if these same kind
of imagined doubts were to appear in Descartes' method of

1Broyles, p. 83.
airy, parading, so to speak, as equals to Peirce's 'genuine' \[ \text{dubts (doubts given some objective grounding or justification),} \]

n these would be the sort of thing which answers to Peirce's that 'fictitious'.

4. The Occult Sources of Knowledge

Since Peirce's method of inquiry represents a theory of knowledge, we must note a fundamental aspect of it which distinguishes it from previous theories of knowledge. This aspect is his view that the sources of knowledge are occult, hidden; and are thereby unfit in themselves to provide the criteria of genuine knowledge. In the first chapter of this study we have noted how Peirce modified his early, flat rejection of all 'first premises' by eventually developing the notion of two kinds of \text{de facto} first premises in the form of perceptual judgments and instinctive beliefs. These are called "de facto" first premises because though they are first premises, they do not function as the axiomatic source of demonstrative powers of reasoning. In the traditional rationalist or empiricist theories of knowledge, whatever degree of certainty achieved in their systems is ultimately warranted by the degree of certainty of their sources of knowledge. Thus the supposed certainty of the Cartesian system is grounded in the "certainty" of rational
sitions. And the empiricists, from Locke to Hume, wind
themselves up in a net of problems by trying to build a
stem of knowledge on the foundation of the direct awareness
our own "ideas". So wonder, according to Peirce, that the
sole thrust of their method ends up in Hume's almost
clairomatic scepticism.

The fourth part of the first book of Hume's Treatise of
Human Nature affords a strong argument for the correct-
ness of my view that reason is a mere succedaneum to be
used where instinct is wanting, by exhibiting the
intensely ridiculous way in which a man [Hume] winds
himself up in silly paper doubts if he undertakes to
throw common sense, i.e. instinct, overboard and be
perfectly rational. (E.500: c.1906)

These traditional theories, then, suppose that at
the sources of knowledge we ought to come, so to say, face
do face with truth. And if we then carefully and method-
ically build up from this direct awareness (rational or
phenomenal), we shall be able to achieve systematic know-
ledge.

Peirce rejected this approach early. 1 In his 1368

1Callie, in his book Peirce and Pragmatism, p. 81,
puts it thus: "What has to be denied, on .circe's view, is
that [the] immediacy and privacy of a man's thoughts, feel-
ings, and incipient actions in any way serve to account for
his knowledge of them. (Still more must it be denied that
such immediacy and privacy can be taken as a criterion of
all genuine knowledge.)."
re he discusses the face-to-face metaphor in his critique
intuition.

The word *intuitus* first occurs as a technical term in
St. Anselm's *Monologion*. He wished to distinguish
between our knowledge of God and our knowledge of finite
things; . . . and thinking of the saying of St. Paul,
*videas nunc per speculum in seigmata; tum autem facies
ad faciem*; he called the former *speculation* and the
latter *intuition*. (5.213n1)

rejecting 'intuition', Peirce agrees with St. Paul that
this earthly life we, indeed, do not see reality face to
face, but are like men who see puzzling images in a dim
mirror. This view does not lead Peirce to epistemological
skepticism anymore than it led St. Paul to religious skepti-
cism. Peirce holds that science has managed to make much
use out of puzzling images; and he intends his method of
quiry to carry on the same method in the field of philoso-
phy. In science, the testing of an hypothesis does not work
reasonably backwards to absolute first premises (face to
face with reality), but rather it works forward to checking
predicted consequences of the hypothesis. And it is the
success of the predictions which indicates our grasp of reality
a grasp which is never absolutely certain—never face to
face).

'Freely translated: 'At present we are like men who
see puzzling images in a dim mirror. But the time will come
when we shall see reality face to face.'
What is given to us in experience (perception, instinct, common sense, tradition) forms the basis upon which hypotheses are tentatively formulated and upon which they will also be tested (for the predictions of science often involve some perception or experiential phenomena). Ever, it is not experience qua the foundational 'given' on which we test our hypotheses, but rather, experience as the tested outcome of predictions. Success in prediction is an objective test of hypotheses.

Experience is our only teacher. [But far] be it from me to enunciate any doctrine of a tabula rasa. For there manifestly is not one drop of principle in the whole vast reservoir of established scientific theory that has sprung from any other source than the instinctive power of the human mind to originate ideas that are true. But this power, for all it has accomplished, is so feeble that as ideas flow from their springs in the soul, the truths are almost drowned in a flood of false notions; and that which experience does is gradually, and by a sort of fractionation, to precipitate and filter off the false ideas, eliminating them and letting the truth pour on in its mighty current. (5.50: 1903)

And in another place he indicates that even instinctive beliefs rest indirectly on everyday experience:

... nothing is so unerring as instinct within its proper field, while reason goes wrong about as often as right—perhaps oftener. Now those vague instinctive beliefs that appear to be indubitable have the same sort of basis as scientific results have. That is to say, they rest on experience—on the total everyday experience of many generations of multitudinous populations. (5.522: c.1905)

... all science, without being aware of it, virtually supposes the truth of the vague instinctive results of
unalterable thought upon such experiences, cannot help doing so, and would have to shut up shop if she should manage to escape accepting them. (5.522)

Instinctive beliefs, then, are the result of uncontrolled thought being acted upon by everyday experience over many generations (i.e., over the evolutionary span of man's development).

But precisely how does this action of experience take place? It takes place by a series of surprises. . . . At one time a ship is sailing along in the trades over a smooth sea, the navigator having no more positive expectation than that of the usual monotony of such a voyage, when suddenly she strikes upon a rock. (5.51)

And Peirce goes on in the same passage to say how the 'fractionation', the 'filtering off' of false ideas by experience can be raised to the level of self-controlled experimenta-

The majority of [scientific] discoveries, however, have been the result of experimentation. Now no man makes an experiment without being more or less inclined to think that an interesting result will ensue. . . . And naturally nothing can possibly be learned from an experiment that turns out just as was anticipated. It is by surprises that experience teaches all she deigns to teach us. . . . She says

Open your mouth and shut your eyes
And I'll give you something to make you wise;

and thereupon she keeps her promise, and seems to take her pay in the fun of tormenting us. (5.51: 1909)

According to Peirce, then, in the ordinary course of life or in controlled experiment, this filtering off of false ideas by experience, eliminating them in order to let 'the
"truth pour on its mighty current," is the real test of the truth of ideas and hypotheses. So, although we may have a fixed assortment of sources for our knowledge (all of which are in some sense occult), yet nevertheless these sources are not called upon to provide their own perfect self-authentification, let alone the authentication of the rest of knowledge—a Descartes and many other philosophers have supposed.

Peirce’s analysis of this process of experimentation, the filtering off of false ideas by subjecting their inferred consequences to the possible refuting surprises of experience) comprises what I have called his Method of Doubt (and is characterized by his pragmatic tendencies). For, in testing the hypothesis, he says that he takes his stand on Pragmatism

which implies a faith in common sense and in instinct, though only as they issue from the super-furnace of measured criticism. (6.480: 1908)

And elsewhere he says that

to criticize is just facts to doubt, and . . . criticism can only attack a proposition after it has given it some precise sense in which it is impossible entirely to remove the doubt. (5.525: c.1905)

One point should be made clear about Peirce’s view of such an “indubitable” source of knowledge as instinct, and its relation to controlled thought. And that is that though reason (controlled thought) absolutely depends on some
instinct or group of instincts, yet this does not mean that we might not be mistaken about any one of those beliefs we take to be instincts. (5.125)

On the one hand, Peirce says, instinct "is the very bedrock of logical truth." (6.476: 1903) It is to argument what substance is to shadow, what bed-rock is to the built foundations of a cathedral. (6.503: 5.1903)

Yet, on the other hand, Peirce talks about a faith in common sense and instinct, though only 'as they issue from the super-furnace of measured criticism.'

That we must have faith in our instincts (and common sense) in general is beyond question. But, Peirce says, this does not mean that any particular instinct is necessarily beyond question. The following two passages, both from his Harvard lectures of 1903, will illustrate this distinction:

. . . our logically controlled thoughts compose a small part of the mind, the mere blossom of a vast complexus, which we may call the instinctive mind, in which this man [Peirce] will not say that he has faith, because that implies the conceivable of distrust, but upon which [i.e., upon the instinctive mind] he builds as the very fact to which it is the whole business of his logic to be true. (5.212)

But, when it comes to any particular instinctive belief, then, Peirce just as emphatically says that to urge that anything is sound and good logically, morally, or aesthetically, for no better reason than that
men have a natural tendency to think so ... is as pernicious a fallacy as ever was. (ibid.)

Further, it should be noted in this respect that Peirce uses the term 'instinct' in a very broad sense. For instance, he feels that the distinction between instinct and tradition cannot be made by him in any clear-cut fashion:

... an instinct, in the proper sense of the word, is an inherited habit. ... But since it is difficult to make sure whether a habit is inherited or is due to infantile training and tradition, I shall ask leave to employ the word "instinct" to cover both cases. (2.170: c.1902)

The same observation could be made about instinct and some of our common sense beliefs, or about instinct and perception.

Peirce's view, then, is that the bulk of our knowledge must rest on common experience (perceptual, instinctive, traditional) forming a system which is continually being tested by the success or failure of the predictions which we base on that system.

With the consideration of the whole range of the method of inquiry in mind, Peirce's criticism of Cartesian doubt will appear more consistent and reasonable:

Descartes thought [the 
Cogito] "très-clair"; but it is a fundamental mistake to suppose that an idea which stands isolated can be otherwise than perfectly blind. He professes to doubt the testimony of his memory; and in that case all that is left is a vague indescribable idea. There is no warrant for putting it into the first person singular. "I think" begs the question. (4.71: 1895)
To make the reflection that many of the things which appear certain to us are probably false, and that there is not one which may not be among the errors, is very sensible. But to make believe one does not believe anything in an idle and self-deceptive pretense. Of the things which seem to us clearly true, probably the majority are approximations to the truth. We never can attain absolute certainty; but such clearness and evidence as a truth can acquire will consist in its appearing to form an integral unbroken part of the great body of truth. If we could reduce ourselves to a single belief, or to only two or three, those few would not appear reasonable or clear. (Ibid.)

5. Peirce's Pragmatism

Peirce first published his pragmatic "maxims" of meaning in 1873 in his article "How to Make Our Ideas Clear" (5.398ff.), although at that time he decided not to use in print the specific term 'pragmatism' which in conversation he had coined a little earlier. And it was only in 1905, after William James had popularised the term, that 'pragmatism' first appeared in print from Peirce's pen in his article "What Pragmatism Is". (5.411ff.) Peirce was then 65 years old!

1Murray Murphey (in his book, p. 99) says that the earliest statement of the pragmatic principle (published or unpublished) that he was able to find was of 1873: 7.358-361.

2I am ignoring Peirce's dictionary definition of the term in 1902 (see: 5.1ff.). And, of course, any treatment of Pragmatism in the form of lectures (such as those at Harvard, 1903) is excluded.
is therefore methodological.¹ In his Harvard lectures of 1903, he says:

If you carefully consider the question of pragmatism you will see that it is nothing else than the question of the logic of abduction. That is, pragmatism proposes a certain maxim which, if sound, 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; and, furthermore, that is all that the maxim of pragmatism really pretends to do. . . . (5.196)

Pragmatism, thus, is treated here as a methodological rule relating to the admissibility of hypotheses to rank as hopeful suggestions. And, for Peirce, admissibility is a matter of testability (the capability of being tested) by the last two stages of his method of inquiry: deduction and induction. Any hypothesis which, in principle, can be submitted effectively to Peirce's Method of Doubt (the test of deduction and induction) is thereby pragmatically warranted to rank as a genuine hypothesis. Of course, many genuine hypotheses will be refuted by experience. Pragmatism merely rules on the admissibility of hypotheses to rank as "hopeful suggestions".

Peirce goes on immediately to discuss the determination of the "goodness" of any hypothesis (its ability to withstand efforts to refute it):

Admitting, then, that the question of Pragmatism is the question of the testability of Abduction, let us consider it under that form. What is good abduction? What should an explanatory hypothesis be to be worthy to rank as a hypothesis? Of course, it must explain the facts. But what other conditions ought it to fulfill to be good? The question of the goodness of anything is whether that thing fulfills its end. What, then, is the end of an explanatory hypothesis? Its end is, through subjection to the test of experiment, to lead to the avoidance of all surprise and to the establishment of a habit of positive expectation that shall not be disappointed. (5.197)

It seems to me that in the two passages just quoted above, Peirce does not make clear the distinction between the question of 'admissibility' and the question of 'goodness'. It appears obvious that if our hypotheses are held only as hopeful suggestions, some of them may withstand possible refutation and thus may be called 'good', whereas many hypotheses will surely be refuted by experience—and

1Norwood Russell Hanson, in his article, "Notes Toward a Logic of Discovery", *Parapsychology*, p. 45, develops the distinction between "(1) reasons for accepting an hypothesis, N, from (2) reasons for entertaining N in the first place." Hanson's distinction may provide a way of describing, and treating fruitfully the question of 'goodness' (1), and the question of 'admissibility' (2) of an hypothesis—although the equation of the 'admissibility' of hypotheses (as the object of Peirce's pragmatic maxim) with Hanson's treatment of 'reasons for entertaining' hypotheses may pose problems.
these we will not call 'good'. In fact, elsewhere, Peirce distinctly says that the very possibility of an hypothesis being easily refuted may actually enhance its admissibility:

The best hypothesis, in the sense of the one most recommending itself to the inquirer, is the one which can be most readily refuted if it is false. This far outweighs the trifling merit of its being likely. (1.120; c.1896)

As we have seen, in his Harvard lectures, verification is pictured by Peirce as an essentially negative process:

that which experience does is gradually, and by a sort of fractionation, to precipitate and filter off the false ideas, eliminating them and letting the truth pour on its mighty current. (5.50; 1903)

And elsewhere he says:

All that experiment can do is to tell us when we have surmised wrong. (7.87; 1902)

This negative interpretation of 'verification' as 'not being refuted by experience' should be kept in mind when in the seventh of his Harvard lectures Peirce speaks of the admissibility and verification of hypotheses:

Any hypothesis, therefore, may be admissible . . . provided it be capable of experimental verification, and only insofar as it is capable of such verification. This is approximately the doctrine of pragmatism. (5.197)

To restate this: any hypothesis would be admissible provided it is capable of being experimentally verified in the sense
that the hypothesis is open to the possibility of being refuted by experience. Whether in actual fact the hypothesis is refuted or continues unfuted indefinitely (and is thus verified) is irrelevant to the question of admissibility—but is certainly relevant to the question of goodness. It is this which I take to be approximately the doctrine of Pragmatism.

So much for these preliminary remarks which acknowledge the fundamental relation between Peirce's Pragmatism and his method of inquiry.

To begin with, on the basis of an analysis of his method of inquiry, which in particular has emphasized Peirce's reaction to the Cartesian axiomatic method, it would seem that the following characteristics are essential ingredients of both his general method and his Pragmatism:

1. A rejection of:

1) any intuitive-axiomatic type of method of inquiry;

2) and, in particular, Intuition as the source of knowledge, with its 'face-to-face with reality' analogy;

3) the claim that whatever certainty our knowledge possesses must depend ultimately on the certainty of its source (the source is usually characterised as being simple, indubitable, infallible, self-evident, etc.).
2. An assertion of:

1) the hypothetic-deductive method of inquiry;

2) the claim that the various sources of our knowledge are "occult"—(in particular, two sources seem to be beyond our direct control: perception and instinct);

3) the claim that all knowledge is fallible; but that nevertheless the success of predictions based on our beliefs is the test of our approach to reality, truth.

Secondly, it should be re-emphasised that although Peirce's pragmatic maxim is usually thought of as a general doctrine of meaning:

Consider what effects, that 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. (5.402: 1873)

nevertheless, Peirce stresses over and over again its identification with the "experimental method" and therefore its restriction to those concepts and ideas which are amenable to what might be called an operational definition. W.E. Gallie, in his article, "Peirce's Pragmatism" (Studies I), discusses (pp. 61-62) what he takes to be an ambiguity in Peirce's Pragmatism:

Throughout Peirce's writings on Pragmatism two lines of interpretation can be distinguished. On the wider interpretation Pragmatism [some supporting passages are quoted here] . . . may be said to aim either at deciding whether a given concept or expression has any meaning . . . or at deciding how any such meaning is to be distinguished from that of some other concept . . . .
On the other hand, as indications of the second narrower interpretation of Pragmatism, /two passages here quoted by Gallie/ amount to the claim that the "rational pur-pose" of any word or other expression is to be determined by the same kind of criteria as we apply to demonstrate the peculiar and proper (i.e., experimentally efficient) use of any standard expression of the natural sciences.

The word "ambiguity" is used by Gallie in referring to these two lines of interpretation. "Ambiguity" might imply that the two interpretations are in conflict, but I do not think that the passages Gallie quotes will support this—as I will try to indicate in my comments on some of the same passages. Furthermore, Gallie takes much implicitly in his own isolation of the "peculiar and proper... use of any standard expression of the natural sciences"—I do not know that Peirce assumes such an isolation. That Peirce variously expressed himself on the pragmatic principle, is, of course, admitted. And I am specially interested in those passages which treat Pragmatism in relation to method of inquiry.

Peirce published an article in The Monist in which he traced the development of his Pragmatism within the framework of the experimental method. In this article he claimed that

laboratory life did not prevent the writer (who here and in what follows simply exemplifies the experimentalist type) from becoming interested in methods of thinking. . . . Endeavoring, as a man of that type naturally would, to formulate what he as approved, he framed the theory that a convention, that is, the rational purport of a
word or other expression, lies exclusively in its conceivable bearing upon the conduct of life; so that, since obviously nothing that might not result (i.e., that were not capable of resulting) from experiment can have any direct bearing upon conduct, if one can define accurately all the conceivable experimental phenomena which the affirmation or denial of a concept could imply, one will have therein a complete definition of the concept, and there is absolutely nothing more in it. For this doctrine he invented the name pragmatism. (5.412: 1905)

The italicized phrase in the above passage emphasizes the stipulated restriction which Peirce places on his doctrine of Pragmatism: 'intellectual concepts' will mean only those concepts which carry some implication concerning the general behavior of things. In "A Survey of Pragmatism", he says:

I understand pragmatism to be a method of ascertaining the meanings, not of all ideas, but only of what I call "intellectual concepts," that is to say, of those upon the structure of which, arguments concerning objective fact may hinge. (5.467; c.1907)

Peirce immediately goes on to exemplify this distinction between 'intellectual concepts' (e.g., hardness, softness) and those ideas which are not intellectual concepts (e.g., color sensations: blue, red):

Had the light which, as things are, excites in us the sensation of blue, always excited the sensation of red, and vice versa, however great a difference that might have made in our feelings, it could have made none in the force of any argument. In this respect, the qualities of hard and soft strikingly contrast with those of red and blue; because while red and blue name mere subjective feelings only, hard and soft express the factual behavior of the thing under the pressure of a knife-edge. (Ibid.)
My pragmatism [has] nothing to do with qualities of feeling... (Ibid.)

Intellectual concepts, however... essentially carry some implication concerning the general behaviour either of some conscious being or some inanimate object... (Ibid.)

Although Peirce has thus made it clear that his Pragmatism will apply only to intellectual concepts and not to qualities of feeling, there still remains the crucial question of the relation between intellectual concepts and metaphysical concepts.

At this point, we must consider a preliminary question: What is Peirce's view on the legitimacy of metaphysics? This question must be met because there are passages in his works which, taken alone, might lead one to think that Peirce is thoroughly anti-metaphysical.¹ For instance, in his early article "How to Make Our Ideas Clear", he says in passing that as

metaphysics is a subject much more curious than useful... I will not trouble the reader with any more Ontology at this moment. (5.410; 1878)

And in a much later article, he claims that Pragmatism...

¹Thomas A. Goudge, commenting on this point (The Thought of C.S. Peirce, p. 212), says: "In the context of his naturalism, [Peirce's] attitude takes the form of either overt antipathy, or the attempt so to define metaphysics as to make it a discipline capable of using the scientific method of inquiry." See also Hyman Hosoe's article, "Peirce and Metaphysics", Studies II, pp. 345-358.
will serve to show that almost every proposition of ontological metaphysics is either meaningless gibberish . . . or else downright absurd; so that all such rubbish being swept away, what will remain of philosophy will be a series of problems capable of investigation by the observational methods of the true sciences. . . .
(5.423; 1905)

But that this criticism is not meant as a complete rejection of metaphysics is made perfectly clear when later in the same passage he says that

instead of merely jeering at metaphysics, like other prope-positivists, whether by long drawn-out parodies or otherwise, the pragmatist extracts from it [metaphysics] a precious essence, which will serve to give life and light to cosmology and physics. (Ibid.)

To show that Peirce continued maintaining that metaphysics is not only a legitimate, but necessary part of philosophy, I quote first a passage from one of his earliest papers (c. 1867):

Those who neglect philosophy have metaphysical theories as much as others—only they [have] rude, false, and wordy theories. Some think to avoid the influence of metaphysical errors, by paying no attention to metaphysics; but experience shows that these men beyond all others are held in an iron vise of metaphysical theory, because by theories that they have never called in question. (7.579)

And then from one of his latest papers (c. 1905), where Peirce echoes the above passage:

Find a scientific man who proposes to get along without any metaphysics . . . and you have found one whose doctrines are thoroughly vitiated by the crude and unsanitized metaphysics with which they are packed. We must philosophize, said the great naturalist Aristotle—
if only to avoid philosophizing. Every man of us has a metaphysics, and has to have one; and it will influence his life greatly. Far better, then, that that metaphysics should be criticized and not be allowed to run loose. (1.129)

Now, I would suggest that for Peirce, 'good' metaphysics will be distinguished from 'bad' metaphysics by virtue of the method of inquiry used. Metaphysics is considered by him to be one of the observational sciences. The trouble with most metaphysics, he says, is that it has been based on the "a prioristic" mode of mathematics:

Metaphysics is an imitation of geometry, and mathematics having declared against axioms [in the a prioristic sense], the metaphysical axioms are destined to fall too. (1.354; c.1890)

According to Peirce, then, along with the downfall of the belief that mathematical axioms are simple, indubitable, self-evidently true, etc., goes also the collapse of the axiomatic house of metaphysics.

Metaphysical philosophy may almost be called the child of geometry. . . . Metaphysics depends in great measure on the idea of rigid demonstration from first principles. . . . (1.400; c.1890)

The unconditional surrender, then, by the mathematicians of our time of the absolute exactitude of the axioms of geometry cannot prove an insignificant event for the history of philosophy. (1.401)

So much for his view of 'bad' metaphysics. The following passage gives us Peirce's idea of 'good' metaphysics with its emphasis on scientific method:
it is worth trying whether by proceeding modestly, recognizing in metaphysics an observational science, and applying to it the universal methods of such sciences . . . we cannot gain some ground for hoping that the disputes and obscurities of the subject may at last disappear. (6.5: 1898)

Armed with the above rough distinction between good and bad metaphysics, it is easy to understand the 'irony' and the 'defiance' in the following remark by Peirce:

It was in the earliest seventies that a knot of us young men in Old Cambridge, calling ourselves, half-ironically, half-defiantly, "The Metaphysical Club,"--for agnosticism was then riding its high horse, and was frowning superbly upon all metaphysics--used to meet, sometimes in my study, sometimes in that of William James. (5.12: c.1907)

In relation to 'a prioristic' metaphysics, the name "Metaphysical Club" was indeed ironic; but in relation to those positivists who would deny the very possibility of any genuine metaphysics, the title was defiant.

An appreciation of Peirce's distinction between good and bad metaphysics (and his irony) may also enable us to see consistency in Peirce where others often saw inconsistency. For instance, recalling lectures of his in the late seventies at the Johns Hopkins University, one of his outstanding students, Christine Ladd-Franklin, said:

No effort was made [by Peirce] to create a connected and not inconsistent whole out of the matter of each lecture. In fact, so devious and unpredictable was his course that he once, to the delight of his students, proposed at the end of his lecture, that we should form (for the greater
freedom of discussion) a Metaphysical Club, though he had begun the lecture by defining metaphysics to be "the science of unclear thinking."

Rynia Bosse, in "Peirce and Metaphysics" (Studies II, p. 345), quotes this same passage (and a little more) as the lead paragraph of the article. Bosse interprets Peirce's 'definition' of metaphysics not in the ironic sense referring to 'bad' metaphysics, which I take it to be, but as a serious statement:

to define metaphysics as the science of unclear thought is not to say anything necessarily negative. On the contrary, it might very well mean that metaphysics is . . . the science whose subject matter is unclear thought and whose purpose is the clarity of that thought. Looked at in this way, Peirce's notion of metaphysics would be like the one proposed nowadays by the Belgian philosopher Eugène Dupréel, whose conception of metaphysics is clearly positive.2

Bosse's effort to save Peirce from inconsistency may be a plausible alternative to my own attempt (which is by way of Peircean irony), but Bosse goes on to develop this idea of Peirce's metaphysics in a way which seems patently mistaken. Quoting just this much of a passage in Peirce's early paper, "Some Consequences of Four Incapacities": "metaphysical conceptions are primarily . . . thoughts about words, or thoughts about thoughts" (5.294: 1868), Bosse


For us, these words are not employed ironically, as we sometimes find in Peirce's writings, but they seem to us a very serious formulation of a very important idea: That metaphysics has as its specific task, not the study of real objects—things and persons, to be perfectly clear—which after all fall within the province and purview of the special sciences, but instead has as its task the investigation of the fundamental assumptions of science and common experience and what is suggested here: to be exact, words and thoughts.\footnote{Ibid., p. 349.}

I certainly agree that Peirce is not being ironical in the passage quoted (5.294); but it seems to me that Bosco's interpretation is immediately faulted by another passage in the very same paper by Peirce:

the word or sign which man uses is the man himself. 
... my language is the sum total of myself, for the man is thought. (5.314)

Bosco is thus making, on behalf of Peirce, a seemingly clear-cut distinction between 'persons' (as real objects) on the one hand, and 'word and thoughts' on the other—a distinction which is contradicted by Peirce himself.

In the attempt to give Peirce's metaphysics a particular contemporary flavor, Bosco, it seems to me, has overlooked Peirce's extreme idealism.

Be that as it may, we must agree with Bosco and others that for Peirce, metaphysics is a potentially legi-
imate—even vital part of philosophy.

We therefore return to the problem of the relation of intellectual concepts to metaphysical concepts within the context of his Pragmatism. There are many passages in Peirce’s writings which argue that metaphysics is one of the observational sciences. Now, if this were so, it would follow that a metaphysical concept is a species of intellectual concept. So let us examine some of these passages:

... metaphysics, even bad metaphysics, really rests on observations, whether consciously or not; and the only reason that this is not universally recognized is that it rests upon kinds of phenomena with which every man’s experience is so saturated that he usually pays no particular attention to them. The data of metaphysics are not less open to observation, but immeasurably more so, than the data, say, of the very highly developed science of astronomy. (5.2: 1893)

One of Peirce’s more detailed statements on the observational aspect of philosophy is found in the fragment (1.133-134) from “The Idea of a Law of Nature among the Contemporaries of David Hume and among Advanced Thinkers of the Present Day” (c.1894). What he says here well applies to his view of metaphysics as an observational science. Peirce claims that it is “extremely difficult to bring our attention to elements of experience which are continually present” for the following reasons. First, there is a common misconception that “it is an extremely easy thing to perceive what is before us every
day and hour. Secondly, and most importantly, every man becomes more or less imbued with metaphysical opinions, without being clearly aware of it. Hence illustrates this last point with an interesting metaphor. The metaphysical opinions which we unthinkingly become imbued with—even those which may be true—they prevent true observation as much as a pair of blue spectacles will prevent a man from observing the blue of the sky. The man will hold the right opinion, but not knowing that it might be founded upon direct observation, he will class it among articles of faith of a pretty dubious character. The more a man is educated in other branches, but not trained in philosophy, the more certain it is that two-thirds of his stock of half-conscious philosophical opinions will be utterly wrong, and will completely blind him to the truth, which he will gradually become unable so much as to conceive. (I.134)

Why is it that we are continually led astray in metaphysical opinions when, according to Peirce, it is an observational science? It is, he says, because the data of metaphysics saturate us through and through. The extreme difficulty we have of focussing our attention on elements of experience which are continually present is due to the fact that we have nothing in experience with which to contrast them, and without contrast, they cannot excite our attention. We can only contrast them with imaginary states of things; but even what we imagine is but a crazy-quilt of bits snipped off from actual experience. The result is that round-about devices have to be resorted to, in order to enable us to perceive what stares us in the face with a glare that, once noticed, becomes almost oppressive with its insistenty. (Ibid.)
In 1902, about eight years after the above fragment was written, eirce still speaks of metaphysics as an observational science:

... metaphysics, whose attitude toward the universe is nearly that of the special sciences (anciently, physics was its designation), from which it is mainly distinguished, by its confining itself to such parts of physics and of psychology as can be established without special means of observation. (1.252)

Metaphysics, then, is, for eirce, like the special sciences in being observational, but distinguished from them by the generality and pervasiveness of the elements which it studies. It would seem to follow, then, that metaphysical concepts are essentially 'intellectual' concepts. If Pragmatism is, according to eirce, a method of ascertaining the meanings of 'intellectual' concepts, then it is a method of ascertaining the meanings of 'metaphysical' concepts.

What, then, is the relation of Pragmatism to metaphysics? Or perhaps we should ask: what is the relation between logic and metaphysics? Here we should understand 'logic' in the broad sense of 'method of inquiry' (including the doctrine of pragmatism).

James H. Feilman, commenting on this problem, says that

the question of which comes first, logic or some other branch of philosophy, such as ontology—considered either
logically or philosophically—was one, since was never able finally to decide. Sometimes he was sure that "logic is based on phenomenology"; . . . while at other times he was equally sure that the opposite is true. Metaphysics [i.e., ontology (1.192)] consists in the results of the absolute acceptance of logical principles not merely as relatively valid, but as truths of being." . . . .
Elsewhere he is doubtless of the importance of the distinction. . . .
[The above interpolation is Feibelman's.]

It must be remarked, however, that the claim that
'metaphysics (ontology) rests on logical principles' is not the opposite of the claim that 'logic is based on phenomenology', since Peirce clearly distinguished between phenomenology, on the one hand, and metaphysics, on the other.

Victor Lowe, in his paper, "Peirce and Whitehead as Metaphysicians", raises and answers the following question:

Could Peirce have been right, against Whitehead, in holding that metaphysical concepts mirror logical ones, and especially those of the exact logic of relations? In one sense, obviously not; if it is proper to call Whitehead's concepts and those of Russell's logical atomism, as well as Peirce's metaphysical concepts, metaphysical, it is incredible that three such experts on the logic of relations should have come up with such different world-views.\(^2\)

Lowe's remarks seem decisive against any hope which Peirce may have had along these lines.

Peirce's answer to the question of the relation

\(^1\)Feibelman, p. 36.

between logic and metaphysics, however, was emphatic. He insists that

metaphysics ought to be founded on logic. To found logic on metaphysics is a crazy scheme. (2.1:51 c.1902)

It should be kept in mind that, since I equating logic with method and viewing metaphysics as one of the observational sciences, within this context his claim that method is the more fundamental is at least understandable. His claim might be rephrased:

Metaphysics (as an observational science) ought to be founded on a proper method of inquiry. To found method on an a prioristic metaphysics is a crazy scheme.

Eirice's position on the relation of logic (method of inquiry) and metaphysics is brought out in his criticism of those philosophers who would found logic on a prioristic metaphysics:

For a whole generation, ideas that were not Hegelian were looked upon throughout the German universities with the same utter contempt with which ideas that are Hegelian are now regarded in those same halls. But one and the same spirit has always been prevalent there; namely, to settle first what metaphysical ideas are agreeable to reason, that is, in effect, to the spirit of the day, and to shape the science of logic to fit those ideas. The method is no less than preposterous. The only rational way would be to settle first the principles of reasoning, and, that done, to base one's metaphysics upon those principles. (2.166; c.1902)

And in his Harvard lectures (1903), speaking of a prioristic metaphysicists, he says of them:
What could be more humiliating for them than to confess that one has learned anything of a logician? (5.17)

That is, from a logician such as Peirce who was engrossed in what he believed to be the more fundamental questions of method of inquiry.

It was on these grounds that he could speak so approvingly of the scholastic philosopher John Duns Scotus:

The logical upshot of the doctrine of Scotus is that real problems cannot be solved by [a prioristic] metaphysics, but must be decided according to the evidence. As he was a theologian, that evidence was, for him, the dicta of the church. But the same system [or method] in the hands of a scientific man will lead to his insisting upon submitting everything to the test of observation. (4.28: 1633)

Let us now sample chronologically some of the passages in which Peirce stresses the point that logic is fundamental to metaphysics. As early as 1869, he emphasised the importance of logic:

For so far as the logic of an age adequately represents the methods of thought of that age, its history is a history of the human mind in its most essential relation—that is to say with reference to its power of investigating truth. (1.28)

Some twenty-seven years later, in 1896, his view on the relation between logic and metaphysics is quite as emphatic:

In short, "exact" logic will prove a stepping-stone to "exact" metaphysics. (3.454)
The logical doctrine of this section, must, we may remark, find its application in metaphysics, if we are to accept the Kantian principle that metaphysical conceptions mirror those of formal logic. (3.437)

Of course, it is the Kantian architectonic principle which must underlie Peirce's remarks along this line.

Two years later in 1895, Peirce claims:

That it [the theory of reasoning, or method of inquiry, or logic] is absolutely essential in metaphysics, I am as sure as I am of any truth of philosophy. (1.623)

And a final selection from c.1902:

As to Metaphysics, if the theory of logic which is to be developed in this book has any truth, . . . [then] that science can only rest directly upon the theory of logic. Indeed, it may be said that there has hardly been a metaphysician of the first rank who has not made logic his stepping-stone to metaphysics. (2.124)

Next, if we narrow the discussion to that area of logic called Pragmatism and consider its relation to metaphysics, we have the following statements:

... the pragmaticist extracts from it [metaphysics] a precious essence, which will serve to give life and light to cosmology and physics. (5.423: 1905)

In his Harvard lectures he had expressed himself more specifically on the functions of Pragmatism:

There are two functions which we may properly require that Pragmatism should perform. . . . Namely, it ought in the first place, to give us an expeditious riddance of all ideas essentially unclear. In the second place, it ought to . . . help render distinct, ideas . . . [which are] more or less difficult of apprehension. . . . (5.206)
The whole development, then, of Peirce's thought on methods of inquiry and the nature of metaphysics as an observational science, was reflected in his statement that metaphysics ought to be founded on logic, and not vice versa. It was only in this way, he thought, that a "scientific" and fruitful metaphysics could be developed.

It must be noted, however, that Peirce ran into certain internal difficulties in trying to maintain the priority of 'logic' over metaphysics. The question one would want to ask Peirce is whether or not his view of logic (or method of inquiry) was not itself shot through and through with metaphysical assumptions—perhaps necessarily so. Now, I suggest that we find Peirce facing just such a predicament in his pragmatic consideration of the 'hardness' of a diamond. We will note that, on this issue, Peirce drastically changed his interpretation (or at least emphasis) of the pragmatic maxims some twenty-seven years after his initial stand in the article "How to Make Our Ideas Clear". In this early paper, Peirce puts the problem thus:

Suppose, then, that a diamond could be crystallized in the midst of a cushion of soft cotton, and should remain there until it was finally burned up. Would it be false to say that the diamond was soft? (5.403: 1978)

In this paper, Peirce's answer is that there would be no falsity in such a mode of speech:
There is absolutely no difference between a hard thing and a soft thing so long as they are not brought to the test. (Ibid.)

In 1906, reflecting on the issue, he says:

Some years ago [1903] when in consequence of an invitation to deliver a course of lectures in Harvard University upon Pragmatism, I was led to revise that doctrine, in which I had already found difficulties, I soon discovered, upon critical analysis, that it was absolutely necessary to insist upon and bring to the front, the truth that a mere possibility may be quite real. (4.530)

In this same article, Peirce describes how he has radically changed his interpretation:

Let us now take up the case of that diamond which, having been crystallized upon a cushion of jeweler's cotton, was accidentally consumed by fire before the crystal of corundum that had been sent for had had time to arrive, and indeed without being subjected to any other pressure than that of the atmosphere and its own weight. The question is, was that diamond really hard? It is certain that no discernible actual fact determined it to be so. But is its hardness not, nevertheless, a real fact? To say, as the article of January 1878 seems to intend, that it is just as an arbitrary "usage of speech" chooses to arrange its thoughts, is as much as to decide against the reality of the property, since the real is that which is such as it is regardless of how it is, at any time, thought to be. (5.457)

Peirce then applies rather strong language to his way of thinking in 1878:

Is it not a monstrous perversion of the word and concept real to say that the accident of the non-arrival of the corundum prevented the hardness of the diamond from having the reality which it otherwise, with little doubt, would have had? (Ibid.)

There are five words in the above two passages which Peirce
himself has emphasized by italics. Four of them have to do with reality. The conditional modality which Peirce is explicating in what he elsewhere puts forward in his metaphysical doctrine of "scholastic" Realism. Peirce continues here:

We must dismiss the idea that the occult state of things . . . which constitutes the reality of a diamond's hardness can possibly consist in anything but in the truth of a general conditional proposition. . . . (1/n what does that behavior consist except that if a substance of a certain kind should be exposed to an agency of a certain kind, a certain kind of sensible result would ensue, according to our experiences hitherto. As for the pragmatist, it is precisely his position that nothing else than this can be so much as meant by saying that an object possesses a character. He is therefore obliged to subscribe to the doctrine of a real Modality, including real Necessity and real Possibility. (Ibid.)

Now it is this conditional modality (or scholastic Realism [4.507]) which Peirce feels is absolutely necessary to insist upon in order to make the necessary revision of his doctrine of Pragmatism. It would seem that in this case metaphysics is fundamental to his Pragmatism (logic)¹ and not vice versa! And in a paper dated c.1905, Peirce practically says as much:

Now whoever cares to know what pragmaticism is should understand that on its metaphysical side it is an attempt to solve the problem: In what way can a general be unaffected by any thought about it? Hence, before we treat of the evidences of pragmatism, it will be need-

¹See Richard J. Bernstein's article, "Action, Conduct, and Self-Control", Perspectives, especially p. 79, for a discussion of the 'mutual entailment' of Peirce's Pragmatism and his realism.
ful to weigh the pros and cons of scholastic realism. For pragmaticism could hardly have entered a head that was not already convinced that there are real generals. (5.303; emphasis added)

Looking back at his 1978 paper "How to Make Our Ideas Clear", we find that Peirce had there attempted to apply the pragmatic maxim in order to reach a "clear apprehension of what we mean by reality". (5.413) The resulting idea, he then thought, was so clear that it would be almost presumptuous to offer a metaphysical [a prioriist] theory of existence for universal acceptance among those [like Peirce] who employ the scientific method of fixing belief. (Ibid.)

But later he seems to acknowledge that any application of the pragmatic maxim already presumes certain metaphysical assumptions about reality. Certainly, he must have had something such as this in mind when he described a logic course he taught at the Johns Hopkins University in the academic year, 1882-83. In this description, which includes a list of some of the texts he would use, his own (genuine) metaphysics appears to have been given a more fundamental status than logic when he wrote about the

---Psychological and Metaphysical facts upon which the possibility of Logic rests. -- Text: Mr. Peirce’s papers, The fixation of belief; How to make our ideas clear; Questions concerning certain faculties claimed for man; Further consequences of four incompleteness; the validity of the laws of logic.---

Because of this apparent confusion (at least in respect to the doctrine of Pragmatism) as to which is more fundamental: Peirce's scholastic realism (metaphysics) or Pragmatism (logic), the relation between logic and metaphysics in Peirce is difficult to decipher.

We have seen earlier that successful prediction is the element of Pragmatism which signals our (always fallible) grasp of reality and truth. Peirce's scholastic realism reveals his view of the nature of this reality. We will therefore now examine the interplay between Peirce's Realism and the element of prediction in order to understand better the relation of metaphysics to Pragmatism.

John Boler claims that, for Peirce, the fact that we are able to predict successfully the events of the future "requires an explanation that involves admitting to the reality of generals." And that at the same time Peirce also held that the fact of prediction proves his scholastic Realism! But more concisely: Peirce's Realism is supposed to explain our ability to predict; and our ability to predict is supposed to prove his Realism.

There are several passages where Peirce does make

1J. Boler, Charles Peirce and Scholastic Realism, p. 30.
the claim that successful prediction "proves" his type of realism—the doctrine that generals are real:

I myself went too far in the direction of nominalism when I said that it was a mere question of convenience of speech whether we say that a diamond is hard when it is not pressed etc. I now say that experiment will prove that the diamond is hard, as a positive fact. That is, it is a real fact that it would resist pressure, which amounts to extreme scholastic realism. (8.208: 0.1305)

Or again:

My argument to show [or "prove"] that law is reality and not figment—is in nature independently of any convenience of ours—is that predictions are verified. (3.153: 1901)

And:

To say that a prediction has a decided tendency to be fulfilled, is to say that the future events are in a measure really governed by a law. . . . (1.26: 1903)

"Harley Thompson wants to argue (in "Peirce’s Experimental Proof of Scholastic Realism", Studies II, p. 414) that Peirce’s experimental attempt to establish the claim that "general principles are really operative in nature" (5.101) was badly confused:

. . . this confusion is not to be dismissed as a slip made in one argument but is fundamental in his thinking, early and late, on the issue of scholastic realism."

In spite of this critical approach, Thompson gives what I consider a concise account of Peirce’s stone-dropping

"M. Thompson, "Peirce’s Experimental Proof of Scholastic Realism", Studies II, p. 414."
endeavor when he says that the experiment

as Peirce seems to intend it... amounts to a kind
of rhetorical maneuver directed against nominalists.
When confronted by someone who proposes seriously to
perform the experiment, a nominalist may be snooked
into a realization of the absurdity of his doctrine. 1

But Thompson goes on to imply (unfairly, in my opinion) that
this interpretation would put Peirce in an untenable position:
that of "the Scottish common-sense against whom Kant
brought the charge of ignorant Scholastics." 2

As Kant urged, it is no answer to Hume (and Peirce
regarded Hume as an arch nominalist) to point out the
indispensability of the concept of a cause; Hume was
well aware of the indispensability of the concept and
sought only an authorization for its use. 3

It seems to me that there is no great failure in
not providing the kind of conclusive argument for causality
that Hume exploded, and that Kant wished somehow to reinstate.
Thus it is not so much a question of "authorizing" in any
rationalistic or conclusive sense, but of 'explaining'
tentatively—which is what Peirce does in his own way.

Furthermore, it is not quite clear in what sense
Thompson is using the word 'rhetoric' in describing Peirce:
"maneuver directed against nominalists". If Thompson means
that the maneuver has no substance, I think he is mistaken.

1Ibid., p. 416. 2Ibid. 3Ibid.
For Peirce is asking the nominalists:

Is there any difference between 'chance sequence' and 'causal connection'?

If the answer is, No (reducing all connection to 'chance sequence'), then the nominalist is left without any adequate explanation of how we are, in fact, able to predict successfully. And it is only this ability of ours to predict successfully which Peirce wants to drive home by his 'experience'.

Let us come next to the question of how Peirce's scholastic realism explains prediction. The stone-dropping experiment of his Harvard lectures gives us an insight into this vexing question:

Here is a stone. Now I place that stone where there will be no obstacle between it and the floor, and I will predict with confidence that as soon as I let go my hold upon the stone it will fall to the floor. I will prove that I can make a correct prediction by actual trial if you like. But I see by your faces that you all think it will be a very silly experiment. Why so? Because you all know very well that I can predict what will happen, and that the fact will verify my prediction. (5.33: 1903)

Peirce goes on immediately to ask for an explanation of this ability to predict:

But how can I know what is going to happen? You certainly do not think that it is by clairvoyance... (5.34)

The explanation which Peirce will shortly attempt is based on the doctrine that 'general principles are really operative in
nature"—the doctrine of "scholastic realism". (5.101)

Peirce's explanation involves implicitly an anthropomorphomorphic analogy. I say 'implicitly' because he does not specifically reflect here on the nature of his explanation. The anthropomorphomorphic analogy is between the behavior of nature and our own human purposiveness (with which we are familiar):

... if I see a man who is very regular in his habits and am led to offer to wager that that man will not miss winding his watch for the next month, you have your choice between two alternative hypotheses [i.e., explanations] only:

1. You may suppose that some principle or cause is really operative to make him wind his watch daily, which active principle may have more or less strength; or

2. You may suppose that it is mere chance that his actions have hitherto been regular; and in that case, that regularity in the past affords you not the slightest reason for expecting its continuance in the future, any more than, if he had thrown sixes three times running, that event would render it either more or less likely that his next throw would show sixes. (5.99)

Peirce then makes his analogical jump from man to nature:

It is the same with the operations of nature. With overwhelming uniformity, in our past experience, direct and indirect, stones left free to fall have fallen. Thereupon two hypotheses [explanations] only are open to us. Either

1. the uniformity with which these stones have fallen has been due to mere chance and affords no ground whatever, not the slightest for any expectation that the next stone that shall be let go will fall; or

2. the uniformity with which stones have fallen has been due to some active general principle, in which case it would be a strange coincidence that it should cease to act at the moment my prediction was based upon it. (5.100)

Then comes the conclusion:
Of course, every sane man will adopt the latter hypothesis [explanation]. If he could doubt it in the case of the stone—which he can't—and I may as well drop the stone once for all—I told you so!—if anybody doubts this still, a thousand other such inductive predictions are getting verified every day, and he will have to suppose every one of them to be merely fortuitous in order reasonably to escape the conclusion that GENERAL PRINCIPLES ARE REALLY OPERATIVE IN NATURE. That is the doctrine of scholastic realism. (5.101)

In the paper "Consequences of Critical Common-sense" (c.1905), Peirce expatiates on his anthropomorhism. The paper is in the form of a dialogue between the pragmatist and several learned doctors:

Doctor. ... And what do you think of Humanism?

Pragmatist. Why if you had said Anthropomorhism, I should have replied that I heartily embrace most of the clauses of that doctrine, if some right of private interpretation be allowed me. I hold, for instance, that man is so completely hemmed in by the bounds of his possible practical experience, his mind is so restricted to being the instrument of his needs, that he cannot, in the least, mean anything that transcends those limits. ...

For such the same reason, I do not believe that man can have the idea of any cause or agency so stupendous that there is any more adequate way of conceiving it than as vaguely like a man. (5.536)

It is the last sentence of the above passage which makes the point which I want to stress: the explanation of law-like regularity in nature will be based on the fact that it is like the agency of man—like his purposiveness, his habits, his ability to guide his actions by a general rule or principle. Since the sentence in question is not, perhaps, the
To assume . . . that the observational part of philosophy . . . is . . . easy, is a dreadful mistake . . . It is, on the contrary, extremely difficult to bring our attention to elements of experience which are continually present. (4.134)

It must have been with this reservation in mind that Peirce rather condescendingly addressed the nominalists in his audience at one point during his Harvard lectures:

The third grand division [of philosophy] is Metaphysics, which endeavors to comprehend the reality of phenomena. Now Reality is an affair of Thirdness as Thirdness. . . . Most, if not all of you, are, I doubt not, Nominalists; and I beg you will not take offense at a truth which is just as plain and undeniable to me as is the truth that children do not understand human life. To be a nominalist consists in the undeveloped state in one's mind of the apprehension of Thirdness as Thirdness. The remedy for it consists in allowing ideas of human life to play a greater part in one's philosophy. Metaphysics is the science of reality. Reality consists in regularity. Real regularity is active law. Active law is efficient reasonableness, or in other words is truly reasonable reasonableness. Reasonable reasonableness is Thirdness as Thirdness. (5.121; emphasis added)

We may then summarize how Peirce's scholastic Realism affords an 'explanation' of prediction:

1) Peirce draws an analogy between the uniformity of nature's behavior and the uniformity of man's purposive and habitual behavior with which we are familiar;

2) He indicates that these uniformities (in the behavior of both man and nature) are grounded in active general principles. And it is these uniformities which form the basis of our predictive powers; and
3) he emphasizes the point that the conformity of action to general intention is given in perception—although the apprehension of this fact may not be at all easy.

We may conclude that the relation of Peirce's Realism to his Pragmatism is a peculiarly organic one. His logic (including his Pragmatism), therefore, cannot be presented intelligibly without at the same time relating it to his Realism. And vice versa. Because of this very fact, Peirce was mistaken in over-stressing his claim that metaphysical concepts mirror logical ones (in an architectonic sense). And Peirce, as you have worked himself into a thicket of problems when in the 1890's he portrays metaphysics as an observational science—and as one whose type of observation is both peculiarly direct and yet at the same time involves an object (the elements of experience) extremely hard to recognize:

... round-about devices have to be resorted to, in order to enable us to perceive what stare us in the face with a glare that, once noticed, becomes almost oppressive with its insistency. (1.134: c.1894; emphasis added)

This paradoxical counter-balance of the 'direct' and the 'occult' we have met before. Presumably, in that awareness which approaches absolute directness, its object would approach the state of being absolutely occult. If this is so, what is there to recommend Peirce's claim that metaphysics, as he
envisages it, confines itself

to such parts of physics and of psychics as can be
established without special means of observation.
(1.282: 1902)

And what is there to recommend his claim that right meta-
physical opinion is "founded upon direct observation"?
(1.134) The chief motivation on the part of Peirce to
classify metaphysics as such a directly observational science
would seem to be the hope he had of building an architectonic
system of philosophy. In my opinion, however, Peirce is
seriously mistaken in holding that metaphysics is a science
which deals with elements which are directly observable. He
fails to acknowledge the fact that these elements are of an
extremely hypothetical and indirect character. It seems to
me that Victor Lowe, following A. Whitehead, gives a more
balanced view of what metaphysics should be when he says:

It is better to say that a metaphysical scheme is a
matrix within which the concepts of the sciences find
their places.\footnote{Lowe, "Peirce and Whitehead as Metaphysicians",
Studies II, pp. 433-440. Lowe gives an excellent study of
the issue raised above.}
III. RAMIFICATIONS

Chapter One of this thesis offered an analysis of the development of Peirce's thought in reaction to the intuitionism and a priorism of Cartesianism. This reaction is basic to the radical differences between the methods of inquiry of the two philosophers. Chapter Two, first, probed these differences of method, and then enlarged upon some of the basic issues raised within Peirce's method of inquiry.

It is the task of this third chapter to trace some of the various ramifications (mainly metaphysical) branching out from Peirce's central concern in method of inquiry.

The centrality of his method, and its relation to the hypothetical character of his various philosophical doctrines is underlined in the following passage—part of a printed prospectus (c.1893) of twelve projected volumes on The Principles of Philosophy:

This philosophy [of Peirce's], the elaboration of which has been the chief labor of the author for thirty years, is of the nature of a working hypothesis for use in all branches of experiential inquiry. . . . It is . . . at once a philosophy and a scientific explanation of observed facts. (8, page 282)
Nothing can be more completely contrary to a philosophy the fruit of a scientific life than infallibilism. . . . (S. pages 282-3)

And some of the metaphysical ramifications immediately follow:

The entelechy and soul of the work, from which every part of its contents manifestly flows, is the principle of continuity. . . . (Ibid.)

The principle of continuity leads directly to Evolutionism. . . . (Ibid.)

1. First Group

My discussion of the first group of doctrines may, perhaps, be most conveniently launched with the following diagram:

1) Critical Common-sensism vs. A Priorism
2) Falsibilism vs. Infallibilism
3) Synecicism (Continuity) vs. The Discrete & Determinate
4) Tychism (Indeterminacy) vs. Mechanistic Determinism
5) Realism (Scholastic) vs. Nominalism
6) Idealism (even panpsychism) vs. Materialism (even a Dualism)

In the left column, we have six positions maintained by Peirce. In the right column, I have listed doctrines against which they are radically opposed.
1. Critical Common-sensism

In the October, 1905, issue of The Monist, Peirce published an article entitled "Issues of Pragmaticism" (Collected Papers: 5.43ff.). In this paper, Peirce begins to characterize his philosophy as one involving the position of Critical Common-sensism:

Two doctrines that were defended by the writer about nine years before the formulation of pragmaticism may be treated as consequences of the latter belief. One of these may be called Critical Common-sensism. It is a variety of the Philosophy of Common Sense, but is marked by six distinctive characters. . . . (5.439)

These six characters of Critical Common-sensism may be summarized as follows:

1) There are indubitable inferences as well as indubitable propositions. (5.440)

2) Indubitable propositions change over so slightly from generation to generation. (5.444)

3) Indubitable (instinctive) beliefs are anchored in primitive modes of life. (5.445)

4) *A critical* indubitable beliefs are *invariably valid*. (5.446)

5) Great value is attached to (genuine) doubt. (5.451)

6) Critical Common-sensism is critical of four theories: i. its own, ii. the Scotch school's, iii. scientism, iv. Kantian (though it is but a modification of Kantian). (5.452)

The use of the word 'indubitable' here, of course, is not to be understood in any a prioristic sense. This is
made perfectly clear in another paper, "rationalism and Critical Common-sensism":

... man possess[ess] to infallible introspective power into the secrets of his own heart, to know just what he believes and what he doubts. The denial of such a power is one of the clauses of critical common-sensism. (5.498: c.1905)

And a little later in the same paper, he mentions two other clauses of Critical Common-sensism:

... that while it is possible that propositions that really are indubitable, for the time being, should nevertheless be false, yet in so far as we do not doubt a proposition we cannot but regard it as perfectly true and perfectly certain; [and] that while holding certain propositions to be each individually perfectly certain, we may and ought to think it likely that some one of them, if not more, is false. (Ibid.)

Thus, wherever we see the word 'indubitable' used by Peirce in the context of his own theories, we ought to understand it strictly as a 'de facto' indubitability—-that is, as an acknowledgement of our limitation—and certainly not in the sense of some luminescent axiom of rationalism whose indubitability is the very warrant of its truth.

The paper "Consequences of Critical Common-sensism" (c.1905) contains a more concise treatment of the doctrine than The Monist article. Now only four characters of Critical Common-sensism which distinguish it from the Scotch school of Reid and Stewart are mentioned. The first two characters of the other list have been dropped, and the four remaining ones
have been re-ordered:

1) All really indubitable beliefs are vague. (5.505)

2) Indubitable beliefs refer to a somewhat primitive mode of life. (5.511)

3) Critical Common-sense has a high esteem for doubt. (5.514)

4) It criticises the critical method (esp. Kant's) though recognising its own affiliation to Kantism. (5.523)

Peirce uses the term 'Critical Common-sense' to characterize certain already well-established aspects of his philosophy. 'Common-sense', here, quite clearly reflects Peirce's assumption of the 'occult' first premises of our knowledge: perceptual judgments and instinctive beliefs. We see this explicitly stated in the following passage from his article on Critical Common-sense in The Monist:

> It will be found to follow that there are, besides perceptual judgments, original (i.e., indubitable because un criticised) beliefs of a general and recurrent kind, as well as indubitable acritical inferences. (5.442)

The Scotch philosophers recognized (correctly) that the original beliefs, and the same thing is at least equally true of the acritical inferences, were of the general nature of instinct. (5.444)

And this same point is brought out with even greater force in "Consequences of Critical Common-sense" (repeating a passage quoted earlier in this thesis):
of predictions: the key is success in prediction.

Thus "instinct" has its rightful and necessary part to play in Leibniz's general method.

And as for the 'establishment' of instincts, admittedly they are not fixed by self-conscious abduction, deduction, and induction, but, as we have seen, Leibniz indicates that instincts have the same sort of basis as scientific results—that is, they are fixed by processes which are analogous to abduction, deduction, and induction. These processes, then, are not transcendental—that is, in the sense of being "fundamentally antagonistic" to science's scientific method, as Gough claims.1

Speaking of instinctive beliefs as a rival to the scientific method, Gough proceeds to work through a battery of Leibnizian passages to prove his point. A majority of these passages are from the First 1675 Cambridge Lecture (1,646-677)—one of a series concerning "Detached Ideas on Vitally Important Topics". Gough chooses a series of quotations with the following remarks on behalf of Leibniz:

The prescription of reason is that we ought to follow the dictates of instinct when such a policy answers our immediate requirements. In short, where the greatest affairs of life are at stake, "the wise man follows his heart and does not trust his head" (1,653).2

1Gough, p. 5.  
2Ibid., pp. 251-52.  
3Ibid., p. 253.
The significance of these passages is interpreted by Goudge in the following way:

This conclusion [criticized by the writer quoted above] is similar to the position taken by many of the New England Transcendentalists, within whose orbit of influence, Peirce was raised (cf. C.102). Their stress on the spontaneous deliverances of the spirit led to a romantic exaltation of feeling and sentiment at the expense of rational thought. It is but a short step from that doctrine to the view that thought has no bearing of any kind on action; and Peirce occasionally takes such a step.¹

Now I believe Goudge is seriously mistaken on this issue. Peirce’s “First 1895 Cambridge Lecture” is a trap. The danger lies in not seeing the subtlety of his thought and the bitter irony which underlies the work.² Richard Trammell has shown the way to a proper appreciation of these issues in his provocative article, “Religion, Instinct and Reason in the Thought of Charles S. Peirce”.³

¹Ibid., pp. 253-54.


Trammell's interest in the relation between religion and reason pivots on Peirce's distinction between practical and theoretical concerns. The opposition between holding on to a belief to which one is "wedded" (typical of the 'theological attitude'), and wanting to get rid of a belief which does not correspond to fact (typical of the 'scientific attitude'), is one crucial factor behind Peirce's distinction between practical and theoretical concerns.\(^1\)

One aspect of this distinction on which surely enters into Peirce's criticism of all kinds of 'pa or doubt' is the infirmity which the 'theological attitude' has of bulwarking beliefs already held by resorting to make-believe scepticism followed by a 'whitewashing commission':

\[\ldots\ldots\text{it never will do \{a person\} the least good to get up a make-believe scepticism and pretend to himself not to believe what he really does believe. \ldots\ldots\text{the whole history of thought shows that men cannot doubt at pleasure or merely because they find they have no positive reason for the belief they already hold.}\ldots\ldots\text{meta\textit{physics is an imitation of mathematics}; and it may be added that the philosophic doubt is an imitation of the absurd procedure of elementary geometry, which begins by giving worthless demonstrations of propositions nobody ever questions.}\] \[(8.45; c.1885)\]

\[\ldots\ldots\text{in cases where no real doubt exists in our minds inquiry will be an idle farce, a mere whitewashing commission which were better let alone.}\] \[(5.376n5; 1893)\]

Trammell, in assessing the literal dimension of the "First 1893 Cambridge Lecture", has outlined

\[\text{\textsuperscript{1Ibid.}, p. 4.}\]
three themes in Peirce's philosophy which indicate the
basic consistency of Peirce's utterances on the role of
instinct and reason; his general respect for common
sense and instinct; his conviction that in matters of
practical (or vital) concern reason cannot function
honestly, and therefore . . . the need to rely as much
as possible upon instinctive sentiments; and his clear
recognition of the fallibility of instinct. . . .

To paraphrase Trammell (p. 18 of his paper); instinct
has a two-fold function in Peirce's thought. On the one hand,
in regard to practical situations of vital (that is, self-
centered) importance, instinct offers a reliable, though not
infallible, guide—far more reliable, under the circumstances,
than reason. In fact, as Trammell notes, "reason cannot func-
tion honestly" with regard to merely self-centered concerns.

On the other hand, in regard to scientific (or disinterested
theoretical) inquiry, instinct provides a provisional starting
point for the operation of reason. As Peirce says, his

Prazezism

implies faith in common sense and in instinct, though
only as they issue from the supreme furnace of measured
criticism. (6.480)

Trammell then points out the origins of the irony
underlying Peirce's "First 1898 Cambridge Lecture", as re-
vealed in the correspondence between Peirce and William
James prior to these lectures. Trammell speaks of the

\[1\text{Ibid.}, \text{p. 12.}\]
"whimsical tone" of the First Lecture, its "good natured humor"; but I sense in the whole affair a cutting bitterness. Peirce had proposed to lecture on graphs and the logic of relatives, but had been told by James that this subject matter was not popular enough (that is, the audience would not be able to follow Peirce's high flights of reason), and that he should consider "separate topics of a vitally important character" (that is, more practical and down-to-earth issues). Peirce reluctantly submitted to James' counsel. And thus it was that in announcing to his audience the main theme of the lectures, Peirce advised them (sarcastically) that "On vitally important topics reasoning is out of place."

(1.652)

1Ibid., p. 9.

2It may be interesting to note that Peirce, in 6.182, describes his attitude towards the "young men" of Harvard as having been--on at least one occasion--"contemptuous":

/The late William James/ had, I fear, a right to be offended at the contemptuous language that I thought it my duty to use when talking of /the Achilles paradox to the young men/; though if he did feel offended, he never showed it to me. In what I have said here on the subject, I have endeavoured to substitute serious and courteous remonstrance for the tone I used at Harvard.

The editors, Collected Papers, ask whether the occasion referred to was the series of Pragmatism Lectures, 1903. Whatever the actual reference may be, Peirce's remark fits, I believe, the tone of his First 1898 Cambridge Lecture.
The paradoxical relation between practice and theory may be seen as somewhat analogous to the problem of seeking happiness: deliberately pursue happiness, the saying goes, and you will fail to achieve it. It is in a parallel spirit that Sirens says:

the point of utility is always a narrow point of view. how much more we should know of chemistry today if the most practically important bodies had not received excessive attention; and how much less we should know, if the rare elements and the compounds which only exist at low temperature had received only the share of attention to which their utility entitled them. (1.641)

And that theoretical advances disinterestedly sought may nevertheless have great practical value is shown by the following passage taken from Sirens's incomplete manuscript on History of Science:

The old-fashioned political economist adored, as alone capable of redeeming the human race, the glorious principle of individual greed. . . . But it is easy to see that the only kind of science this principle would favor would be such as is immediately remunerative with a great preference for such as can be kept secret. . . . [In contrast] Kepler's discovery rendered Newton possible, and Newton rendered modern physics possible, with the steam engine, electricity, and all the other sources of the stupendous fortunes of our age. But Kepler's discovery would not have been possible without the doctrine of conics. Few contemporaries of Kepler—such penetrating minds as Descartes and Pascal—were abandoning the study of geometry (in which they included what we now call the differential calculus, so far as that had at that time any existence) because they said it was so utterly useless. There was the future of the human race almost trembling in the balance; for had not the geometry of conic sections already been worked out in large measure, and had their
opinion that only sciences apparently useful ought to be pursued, [prevailed] the nineteenth century would have had none of those characters which distinguish it from the ancien régime. (1775-1896)

The preceding consideration of ariose's distinctions between 'practice and theory,' and 'instinct and reason,' taken together with the analysis in the earlier chapters of this thesis concerning the interrelationship between Peirce's 'Pragmatism' and 'scholastic Realism' within his general method of inquiry, lead me to conclude that Goudge's discussion of Peirce's "transcendentalism" is superficial and misleading—certainly with respect to the first two defining propositions which Goudge enumerates in his introductory chapter:

By "transcendentalism, . . . I mean a doctrine which includes the following propositions among its premises. (1) The appeal to feeling, sentiment, or instinct is a more important source of knowledge than the appeal to reason or science. (2) Theory and practice have no intrinsic connection with one another.¹

Instinct, for Peirce, is undoubtedly more fundamental than reason in one sense; but it is not thereby transcendental-ly 'incompatible' with reason—that is, in any a priori or dogmatic sense.

Theoretical (disinterested, impartial) concern and practical (self-centered) concern have nothing in common, it is true, when viewed as two different spirits which motivate

¹Goudge, p. 5.
men. And it is in this sense that Peirce declared:

Now, the two masters, theory and practice, you cannot serve. That perfect balance of attention which is required for observing the system of things is utterly lost if human desires intervene. . . . (1.642)

But that this view of Peirce's is 'incompatible' with his Pragmatism, for instance, is a claim which cannot be sustained.

To return to 'Critical Common-sensism', the 'critical' part of the term refers to the fact that common sense or instinct must, in Peirce's opinion, be open always to 'measured criticisms'. In the paper "Consequences of Critical Common-sensism", Peirce explains the term 'critical' through the last of the four distinguishing characters: Critical Common-sensism is critical of four theories: i. its own, ii. the Scottish school's, iii. scientism, and iv. Kantism.

Earlier in this study, I have analysed the critical element of Peirce's method of inquiry and called it his 'Method of Doubt'. In these articles on Critical Common-sensism, the

"James E. Goyles, in his paper, "Charles S. Peirce and the Concept of Indubitable Belief", *Pragmatism*, I (1965), p. 56, explaining the expression 'critical', says that few beliefs of common sense are in fact rejected even though any particular belief may have to be given up in the face of further experience. This is the fallibilistic aspect of Peirce's doctrine and is but one of the features that led him to call his position Critical Common Sensism. It is intended to be contrasted with what Peirce thought of as the *dogmatic* common sensism of his Scottish predecessors."
Contrast between Peirce's Method of Doubt and any a prioristic
Cartesian type of method of doubt is emphasized rhetorically
by his digs at 'paper doubt'. For instance, in The Monist
article, Peirce states that the fifth distinguishing character
is the great value that the Critical Common-senseist attaches
to doubt,

provided only that it be the weighty and noble metal
itself, and no counterfeit nor paper substitute. He is
not content to ask himself whether he does doubt, but
he invents a plan for retaining to doubt... (5.451)

and in "Consequences of Critical Common-sense", Peirce
writes:

Yet a third mark of the Critical Common-senseist is that
he has a high esteem for doubt. He may almost be said
to have a sacrament for it. Only, his humor is not
to be appeased with paper doubts, he must have the heavy
and noble metal, or else belief. (5.514)

and the very next sentence returns us to Peirce's fallibilistic
treatment of the term 'indubitable':

He [the Critical Common-senseist] quite acknowledged, as that
what has been indubitable one day has often been proved
on the morrow to be false. He grants... that it may
be so with any of the beliefs he holds. (Ibid.)

II. Fallibilism

When Peirce says that what is indubitable one day may
be proved false the next, he is only illustrating his doctrine
of Fallibilism. I have, in the first chapter, already dealt
at some length with Peirce's reaction to any a priori
taxiomatic model of knowledge—the view that there are certain
propositions or inferences which are absolutely self-evident
and indisputably true. Such a view is, Peirce holds, one of
the major stumbling blocks to inquiry. However, though
Peirce rejects any form of infallibilism, he is quite content
to acknowledge that we most probably have reached the final
opinion on a great number of questions, even if we can never
be absolutely sure about any one of them:

... upon innumerable questions, we have already reached
the final opinion. How do we know that? Do we fancy
ourselves infallible? Not at all; but throwing off as
probably erroneous a thousandth or even a hundredth of
all the beliefs established beyond present doubt, there
must remain a vast multitude (i.e., around 99.9\%) in which
the final opinion has been reached. (S.45: c.1935)

There is one further issue of Peirce's fallibilism
which I will bring up because it receives contrasting treat-
ment at the hands of commentators James A. Broyles and Douglas
Greenlee. Broyles, in his article on "Charles S. Peirce and
the Concept of Indubitable Belief", voices the generally
accepted view that, for Peirce, indubitability "is in itself
no guarantee of truth. Indubitable beliefs... are beliefs
we can not reasonably doubt, not beliefs that can not in
principle be false."¹ But Broyles goes on to sound a critical

¹Broyles, p. 86.
note concerning Peirce's position:

Peirce's fallibilism is in direct conflict with [Wittgenstein's and Malcolm's] contention that with respect to some beliefs the notion of "turning out to be false" doesn't make sense. Peirce really never comes to grips with this possibility. He seems to have held that any empirical belief whatsoever, regardless of the evidence in its favor, might still turn out to be false. Even as recently as a few decades ago there was a rather common tendency to hold that empirical propositions always fall short of certainty, where the implicit standard of certainty was provided by mathematical or logical statements. In spite of his shrewd criticism of Descartes, Peirce himself seems to have been caught up in this bit of rationalism in his early years and never completely worked free of it.

In his paper, "Unrestricted Fallibilism", Douglas Greenlee specifically takes up Malcolm's contention:

Norman Malcolm has advanced a reason in defending the position that an empirical statement may be exhaustively verified and thus made "certain" in such a way that there does not remain even "the theoretical possibility of denying the statement."  

I will not repeat Greenlee's refutation of Malcolm's claim as I consider that refutation decisive. I only wish to note—albeit against Broyles—that it would be more reasonable to accuse Malcolm of a "bit of rationalism" than Peirce. For I take it as one of the guiding inspirations of rationalism (in its various forms) that man's power of reasoning will

1Ibid.

prove to be "completely" adequate, in the sense that no part of the knowing process should arise from an irrational or "occult" source, and thus require an act of conjecture on the part of the knower. Now, although Malcolm may have lowered his standard of certainty provided by mathematical and logical statements, nevertheless, he, like the rationalists, seems to want to avoid any element of the "occult" in certain privileged empirical propositions.

iii. Synecchism

It will be seen that the Peircean doctrines of Fallibilism, Synecchism (Continuity), and Tychism (Indeterminacy) are united in battle against the doctrine of Infallibilism, the view that there are things (perfectly) discrete and determinate, and the doctrine of Mechanistic Determinism. A fragment entitled "Fallibilism, Continuity, and Evolution" in the Collected Papers (1.141-175) affords us an excellent insight into the interrelatedness of these three doctrines of Fallibilism, Continuity, and Indeterminacy. (In the main, I prefer to use these last two terms as equivalents of Peirce's more esoteric 'Synecchism'\(^1\) and 'Tychism'.)

Of the three, the doctrine of Continuity has the key function of providing the theoretical weapon which is common

\(^1\)Strictly speaking, Synecchism is "the doctrine that all that exists is continuous..." (1.172)
to both Fallibilism and Indeterminacy in their opposition to Infallibilism and Mechanistic Determinacy:

... let me call your attention to the natural affinity of this principle of continuity to the doctrine of fallibilism. The principle of continuity is the idea of fallibilism objectified. For fallibilism is the doctrine that our knowledge is never absolute but always a-ims, as it were, in a continuum of uncertainty and of indeterminacy. How the doctrine of continuity is that all things so swim in continua. (1.171: c.1897)

In the first chapter of this thesis, we have noted that Peirce has used the concept of continuity in his infinite-series analysis of the thought process in order to render intelligible his claim that thought may arise within a finite span of time, yet, nevertheless, have no absolute first premises:

... it is not true that there must be a first. ... The position here being insisted on is ... that cognition arises by a process of beginning. ... (5.263)

This rejection of any absolute first premise in the chain of reasoning was intended by Peirce to deal a mortal blow to Infallibilism.

The next step, then, for Peirce, is to extend the concept of continuity from the realm of knowledge to that of reality:

... infallibilism draws down a veil before the eyes which prevents the evidences of continuity from being
discerned.

But as soon as a man is fully impressed with the fact that absolute exactitude never can be known, he naturally asks whether there are any facts to show that hard discrete exactitude really exists. That suggestion lifts the edge of that curtain and he begins to see the clear daylight (i.e., continuity) shining in from behind it. (1.172)

Thus, a deep aversion on the part of Peirce to any objective basis for the doctrine of Infallibilism was one of the things, I believe, which motivated him to develop that extreme form of Synecchism which Charles Hartshorne has characterised as Peirce's 'most serious mistake':

Peirce's greatest single mistake (here I think I am in essential agreement with Murray Murphy) was his "Synecchism", which consisted in trying to make continuity the key principle to every relationship, both of actuality and of possibility. In some strange way, throughout his mature period, he missed seeing that if continuity is the order of possibility as such, its distinctive form, it cannot also be the order of actuality as well. How could he have failed to maintain this distinction? One can do little more than guess.

As Hartshorne has emphasised: Peirce's handling of the categories suffers ambiguity at several points. My feeling is—and I will discuss this in more detail in the section of this chapter on the categories—that there is in Peirce's thinking a particular interpretation of Firstness and Secondness which sees them as irrational elements in experience,

"Charles Hartshorne, "Charles Peirce's "One Contribution to Philosophy" and his Most Serious Mistake", Studies II, p. 467."
grasped by the intellect only as limiting concepts. But it is very difficult for a philosopher to rest content with that which is irrational. Peirce's almost violent rejection of the "incognizable" (the kind of object belonging to a Lockean theory of knowledge) is symptomatic of this antipathy. So also, it seems, Peirce could not rest content with the irrationality of his own categories of Firstness and Secondness. Thus, in trying to give positive content to these two categories, Peirce, perhaps without being fully aware of it, fell into the habit of rationalising them to the point where they became subordinated to—or swallowed up by—Thirdness. And, as Hartshorne remarks, "...since . . . emphasises continuity as an essential aspect of Thirdness."2

There are several factors which undoubtedly reinforced Peirce's reductive tendencies (i.e., reducing Firstness or Secondness to Thirdness). One of the factors which I have

1Thus Hartshorne, on p. 459 of his article, notes that Peirce's treatment of Firstness, at one place, appears to amount at best to nothing but a limiting concept, a vacuous case which no actual experience could quite realize. If so, then Firstness is the same as abstractness, possibility, or essence; and no concrete or actual feeling, with its actual quality, is a pure First.

2Ibid., p. 467.
already mentioned was Feirce's wish to deny any objective basis to Infallibilism. Another factor, observed by Hartshorne, is that:

According to Feirce, the "weightiest" reason for assuming continuity is that we thus explain how one mind, or one particle of matter, acts upon another (1.170). ¹

Of course, the 'weight' here will depend upon the convincingness of the 'explanation'. Therefore, I think that Feirce means 'weightiest' only in the hopeful sense. In spite of Feirce's proclaimed intentions to set the foundations massive for a philosophic system (1.4), he, nevertheless, could not have been satisfied—ever as late as c.1903—with any explanation of the mind-body problem (including his own solution) when he proclaimed that no real solution of the problem has been reached. Let us hope that such may some day appear; but at the present, no peering into the future desec ies its features nor yields us any confidence out of what quarter of the horizon it shall first loom. (8.136)

This is a strong statement, and it ought to be carefully weighed against any representation on behalf of Feirce to the contrary in matters of metaphysical system-building.

It may be admitted, however, that the synecdochism which Feirce pursued was, as Murphey claims,² incapable of providing

¹Ibid., p. 468.
²Murphey, The Development of Feirce's Philosophy, p. 380.
the key to the door of philosophy—as Peirce had hoped it would. Hartshorne even points out the fact that the doctrine has grave consequences. It "barred the way to a clear use of the language of events." It requires us to "go through an infinity of (unconscious) operations of remembering." And

... we can never come to any "first impressions of sense", ...

Further, as has already been noted, "the whole theory of Secondness falls into ambiguity." Another positive factor behind Peirce's maintaining the extreme doctrine of Synechism may have been to provide a defense of his own type of Realism. According to Murphey, "the question of the status of universals, ... in Peirce's formulation, is the issue of synechism." Murphey notes that after 1885 Peirce turned to a theory of time and space in which they are directly perceived. In regard to time, Murphey says:

What led Peirce to take this position that time is perceived was the need to show that we perceive something which is a true Peircean continuum.

1Hartshorne, p. 468. 2Ibid., p. 470.
3Ibid., p. 469. 4Ibid. 5Ibid.
6Murphey, p. 380. 7Ibid., p. 386.
And a little later, Murphy adds:

The doctrine that time is perceived thus results not from any necessity in the theory of time itself but from extrinsic considerations related to the general metaphysics.¹

Thus, this is, perhaps, another instance in Leibniz's reasoning where metaphysics proves to be more fundamental than other considerations—in spite of his claim to the contrary.

iv. Tychism

The result of this line of reasoning is the doctrine that there is real indeterminacy in the world—the doctrine of Tychism:

... the universe is not a mere mechanical result of the operation of blind law. The most obvious of all its characters cannot be so explained. It is the multitudinous facts of all experience that show us this; but that which has opened our eyes to these facts is the principle of fallibilism. Those who fail to appreciate the importance of fallibilism reason (thus): we see these laws of mechanics; we see how extremely closely they have been verified in some cases, we suppose that what we haven't examined is like what we have examined, and that these laws are absolute, and the whole universe is a boundless machine working by the blind laws of mechanics. This is a philosophy which leaves no room for a God! No, indeed! It leaves even human consciousness, which cannot well be denied to exist, as a perfectly idle and functionless figment in the world, with no possible influence upon anything—not even upon itself. How will you tell me that this fallibilism amounts to nothing? (1.11[2]; c.1837)

¹Ibid.
Peirce's doctrine of lychnism (and his cosmology within which this doctrine plays a central role) is a rather controversial topic for commentators. . . . Gallie presents one of the more sympathetic (though measured) studies of this area of Peirce's philosophy, in his book, *Peirce and Pragmatism*. Less sympathetic is Rulon Wells's 1952 article, "The True Nature of Peirce's Evolutionism", in which he examines another aspect of Peirce's cosmology, with the following import for Peirce's philosophy:

That Peirce's philosophy is in some way schizophrenic (ambivalent) has been contended by several students. I mean not only to accept some version of this thesis but to present the activalence as incurable. . . .

I take it that what is incurable, according to Wells, is Peirce's metaphysics (his "monistic idealism"), including Peirce's categories:

I submit, and hope sometime to argue in some detail, that without [equivocal] disjunctions his account of his categories loses even the semblance of unity, and that with them, because of them, it has the semblance only.

Gallie, in spite of his sympathetic approach to Peirce's metaphysical speculation, also admits that


2Ibid., p. 321.
his cosmology is a failure, and an inevitable failure: its component hypotheses are to be rejected on grounds supplied by Peirce's own logical doctrine of Pragmatism. ¹

However, Gailie feels that the failure of Peirce's cosmology is due not to any fundamental or irretrievable flaw in the doctrine of the categories, but rather to his misuse of that doctrine:

... the sympathetic student of Peirce's own doctrine of categories is likely to see in his cosmology a crude misuse of that doctrine: a virtual denial of its primary tenet, viz. that each of the three categories is universal. Peirce's cosmology seems to stem from the assumption of a prismatic state of affairs in which his first category would be so 'prominent' that all trace or suggestion of his second and third categories would be lost.²

Within Peirce's cosmological speculation, Firstness represents the objective indeterminacy of the universe, and another of the criticisms which Gailie notes is that at least one of the central theses of Peirce's cosmology--the thesis that 'chance spontaneity' affords a sufficient explanation of certain actually observable results--appears to rest on logical confusions so radical that they render intelligible expression of it all but impossible. ...³

Murphey, in discussing Peirce's Synechism, points out that the doctrine only appears as

¹Gailie, Peirce and Pragmatism, p. 236.
²Ibid., p. 216.
³Ibid.
fully formulated in "A Curve at the Middle" in 1890 (1.402ff.), and was given its public introduction in the second Monist paper in 1891. (1.47ff.)

Gallie had also noted in his book that

Peirce’s main cosmological writings date from that period of his life, 1890–94, in which, on his retirement to Milford, he set about to unify, or at least to present in unified literary form his own ‘system’ of philosophy. But Gallie also goes on to point out that

Peirce recognized . . . that his work in this field was imperfect and sketchy; and although he returned occasionally to cosmological speculation in his later years, the fact that he soon abandoned his efforts to present his thought in unified cosmological form is certainly of more than biographical interest.

Though no later presentation of his thought in ‘unified cosmological form’ is attempted by Peirce, yet the elements of his cosmology—Tychism, Synecchism, Evolutionism—continue in strength.

Murphey sees in this outcome of the failure of Peirce’s cosmology the following significance for Peirce’s philosophy:

As one reads through the thousands of pages of manuscript which are all that remain from Peirce’s life’s labor, one cannot escape the feeling that these are the ruins of a once great structure. . . . the grand design was never fulfilled. The reason is that Peirce was never able to find a way to utilise the continuum concept effectively. The magnificent synthesis which the theory of continuity

1Murphey, p. 333.
2Gallie, p. 215.
3Ibid.
seemed to promise somehow always eluded him, and the shining vision of the great system always remained a castle in the air. ¹

One of the reasons why Murphey strikes this rather poignant note is that he holds that Peirce's cosmology was meant as an instrument for the development of his architectonic design:

It is clear . . . that the cosmological papers of the Monist series are a further extension of the architectonic design. And the extension is in part due to the revision of the categories. . . . For any explanation of why we have the three and only three kinds of experience which we do would involve an account of the realities which produce these experiences, and so would be an account of the constitution of the universe which would solve the riddle of Emerson's sphinx. Moreover, the theory of inquiry of the 1870's had by 1880 led to problems which are answerable, if at all, only by cosmology. ²

The failure of Peirce's cosmology, then, would mean the failure of his architectonic system—the development of which system, Murphey has taken to be central to the development of Peirce's philosophy.

Gallie, who has no such thesis to emphasize, can dismiss with less concern the short-lived period of cosmological speculation on the part of Peirce aiming at a comprehensive system. To draw an analogy (in order to elucidate

¹Murphey, p. 407. This passage is the concluding paragraph of Murphey's book.

²Ibid., p. 323.
Gallie's approach: Einstein's failure to accomplish the dream of a unified field theory would hardly detract from the achievements of his less general theories of relativity; so also Peirce's failure in cosmology (even though that failure might undermine his architectonic effort) should not detract from Peirce's less general achievements.

Gallie finds such 'less general achievements' of value even in Peirce's cosmology itself. Gallie's discussion of these worth-while aspects of Peirce's cosmology is prefaced by this comment:

"When we look more closely at each of the main positive tenets of his cosmology, we find that it rests on a more general (and relatively negative) thesis of great interest and suggestiveness."¹

Thus, in pronouncing the doctrine of Tychism, Peirce launches a significant attack against any view of the laws of nature as logical ultimates or the results of divine fiat. More generally, Gallie feels that Peirce's cosmology is a suggestive alternative to what Gallie calls the "Ockham-Descartes-Hobbes-Newton world-picture,"² involving: 1) first origins of life on this earth; 2) the distinction between reversible and irreversible laws; and 3) objective indeter-

²Ibid., p. 236.
minacy in the universe (Atheism).

As Wallace is at pains to point out, the interest
with which one views Peirce’s efforts here will depend largely
upon one’s opinion in general about the value of ‘world-
pictures’ (in other words, what can be equated with metaphys-
cical speculation).

In any case, I would like to note that Peirce’s
‘abandonment of his efforts to present his thoughts in unified
cosmological form’ is reflected in his changing treatment of
Firstness. We find, around 1903 (in 5. 2 and 5.330, for
example), a quite different treatment of Firstness. In
Peirce’s evolutionary cosmology (which in turn provides
an explanation for the uniformities of laws \(6.12\)), the
Firstness which we find discussed in his writings from around
1903 represents instead an occult element in our experience.²

v. Realism

In the latter part of the last chapter, I discussed
the role that Peirce’s doctrine of realism plays in ex lam-

¹See Murphy, p. 327ff., for an explanation of 6.12.

²This latter representation of Firstness will be
examined in some detail later in this chapter in the section
on Peirce’s categories.
ing our ability to make successful predictions—and now, conversely, Peirce thinks that successful prediction, in its turn, "proves" realism. Peirce is convinced that his Realism supplies the philosophy which best harmonizes with physical sciences. (4.6) And he claims that "science has always been at heart realistic, and always must be so. . . ."

(4.22)

But, for Peirce, the significance of his doctrine of Realism reaches far beyond its ability to harmonize better with physical science than does nominalism. Realism in opposing nominalism, also opposes what he calls "those daughters of nominalism,—sensationalism, phenomenalism, individualism, and materialism". (5.38)

... though the question of realism and nominalism has its roots in the technicalities of logic, its branches reach about our life. The question whether the name thing has any existence of any more dignity, worth, and importance than individual happiness, individual aspirations, and individual life. Whether men really have anything in common, so that the community is to be considered as an end in itself, and if so, what the relative value of the two factors (i.e., individual and communal) is, is the most fundamental practical question in regard to every public institution the constitution of which we have it in our power to influence. (4.41)

In this way, Peirce's Realism, in minimizing the individual and stressing the general, is closely associated with the other Peircean doctrines in their opposition to
mechanistic determinism with its underlying and pivotal idea of that which is absolutely discrete and determinate. The passage just quoted above, contained in a review article (1871), was written some seven years before Peirce first published his pragmatic principle; and it is to this review article that he refers when much later (in 1905) he writes:

another doctrine which is involved in Pragmaticism as an essential consequence of it, but which the writer defended [in 1871] before he had formulated, even in his own mind, the principle of Pragmaticism, is the scholastic doctrine of realism. this is usually defined as the opinion that there are real objects that are general, among the number being the modes of determination of existent singuluses, if, indeed, these be not the only such objects. (5,453)

w. Donald Oliver, in his article, "The Final Cause and Agapase in Peirce’s Philosophy", takes as his main theme Peirce’s “reliance upon teleological explanation at certain critical points in the development of his position.” Oliver’s discussion of Peirce’s treatment of ‘final cause’ is illuminating with respect to the interrelations among the various doctrines comprising Peirce’s evolutionary cosmology. Commenting on Peirce’s views, Oliver says that for Peirce, nominalism is the disease of modern philosophy. To be sure, Peirce has his own notion of what constitutes nominalism, and it is not easy to determine exactly what this is. But it
can be said that arbitrariness is of its essence, and that, in Peirce's opinion, modern philosophy is shot through with arbitrariness. Therefore he must show how classificatory schemes can be established non-arbitrarily. That is to say, his account of the "natural class" must not invoke the merely human decision as to what shall be called this and what that.¹

Then Oliver remarks that Peirce turns to the concept of 'final cause' as providing the only clue to the nature of a 'natural class' (1.204). It is interesting to note that Peirce uses artifacts, "human productions", as a means of putting his point across about natural classes. This is his antroposorphism at work.

Somewhat in the same vein, William Paul Haas has noted:

To further explain just how the Thirdness of law influences reality ("Thirdness is operative in nature" (5.93)], one must turn to Peirce's conception of final causality in its role of defining natural classes. The question of the common reality which establishes real or natural classes was a fundamental question for Peirce's realism.²

The passages which Haas draws upon to illustrate his contention are all taken from section 1, chapter 2, of the "Minute Logic", 1902 (1.211, 212, 214). Haas goes on to say:

The importance of final causality here is not at all weakened, but rather strengthened by Peirce's admission

¹Ibid.

that "it is easy to state what the essence of artificial objects are: the essence of a stove is that it is intended to diffuse warmth. But as to the essence of natural objects, if they have any, we are as yet unable to give any." (6.337)¹

According to Haas, the words "as yet", above, indicate that the inability to give any essence of natural objects may eventually be overcome.

The same point is made in a passage quoted by Oliver—which in part is:

In regard to natural objects, . . . it may be said, in general, that we do not know precisely what their final causes are. But need that prevent us from ascertaining whether or not there is a common cause by virtue of which those things that have the essential characters of the class are enabled to exist? (1.204: c.1902)²

Final causality plays a central role in Peirce's cosmology. First, it is eminently idealistic, in that the paradigm used by Peirce for it is human purpose (1.204). Second, it allows a place for objective indeterminacy.

Oliver, drawing on the same passages from the "Minute Logic" quoted by Haas, ³ contrasts final causality with efficient causality: "Final causation does not determine in what partic-

¹Ibid.
²See Oliver, p. 291.
³See also, section III of Larry Holmes's article, "Prolegomena to Peirce's Philosophy of Mind", Studies in, pp. 366-58, for another view of the part that final causation plays in Peirce's thought.
ular way [(a fact) is to be brought about, but only that the result shall have a certain general character.] On the other hand, efficient causation "is a compulsion determined by the particular condition of things, and is a compulsion acting to make that situation begin to change in a perfectly determinate way . . . (1.212; emphasis added)."

Because Peirce associates efficient causation here with changes "perfectly determinate", it is difficult to see how Peirce can avoid inconsistency if Oliver is correct in characterizing (or behalf of Peirce) ideas that are not 'derived from the "main avenues," or continuous strands of natural evolution' as ideas occurring by efficient causality and as being fortuitous products, "with nothing to rely on but fortune good or bad." 2

Perhaps it will be worth-while to quote more extensively from Peirce at this point:

...then we speak of an "idea," or "notion," or "conception of the mind," we are most usually thinking—or trying to think—of an idea abstracted from all efficiency. But a court without a sheriff, or the means of creating one, would not be a court at all . . . . The court cannot be imagined without a sheriff. Final causality cannot be imagined without efficient causality; but no whit the less on that account are their modes of action polar con-

1See, Oliver, p. 291.
2Ibid., p. 293.
tries. The sheriff would still have his file, even if there were no court; but an efficient cause, detached from a final cause in the form of a law, would not even possess efficiency. ... Now without law there is no regularity; and without the influence of ideas there is no potentiality. (1.213)

Thus it is that Haas notes, in passing, that:

The very existence of the members of the "natural" or "real" class is "due to the active causality of the defining idea of the class," (1.214) which is here clearly understood as efficient and final causality together.¹

The champion of final causation by Peirce seems to promise much. But in the end, when Peirce claims that with respect to a 'real class', "the existence, that is, the occurrence in the universe of its members is due to the active causality of the defining idea of the class", we are left with an anthropomorphic metaphor (court and sheriff) as the chief instrument of explanation.

vi. Idealism

Peirce's Idealism, like so much else of his philosophy, seems to have had roots in anti-Cartesianism:

That upon Cartesian principles the very realities of things can never be known in the least, most competent persons must long ago have been convinced. Hence the breaking forth of Idealism, which is essentially anti-Cartesian, in every direction, whether among the empiricists (Berkeley, Hume), or among neologists (Hegel, Fichte). (5.340)

¹ Haas, p. 118.
Eirae's 16.1 (cosmological period) article "The architecture of theories" in The Monist gives us, briefly, what he at that time considered the issue of idealism to be:

The old dualistic notion of mind and matter, so prominent in Cartesianism, as two radically different kinds of substance, will hardly find defenders today. Rejecting this, we are driven to some form of hylomorphism, otherwise called monism. Then the question arises whether physical laws on the one hand and the psychical law on the other are to be taken--

(a) as independent, a doctrine often called monism, but which I would name neutralism; or,

(b) the psychical law as derived and special, the physical law alone as primordial, which is materialism; or,

(c) the physical law as derived and special, the psychical law alone as primordial, which is idealism. (p. 24,

Eirae immediately dismisses the materialistic doctrine on the ground that it "requires us to suppose that a certain kind of mechanism will feel". (Ibid.) Said by ostensive, he declares, is absolutely irreducible to reason. It is as repugnant to scientific logic as it is to common sense.

Neutralism, on the other hand, is "sufficiently condemned", he says, "by the logical maxim known as Ockham's razor, i.e., that not more independent elements are to be supposed than necessary". (Ibid.) In other words, Eirae thinks that to suppose two kinds of primordial elements (physical laws and psychical law), is to suppose more than is necessary. Rejecting, then, both materialism and neutralism, Eirae is left with idealism.
The one intelligible theory of the universe is that of objective idealism, that matter is effects mind, inveterate habits becoming physical laws. (c.25)

But it should be noted that in the next sentence he adds a rather stunning qualification:

But before this [theory of objective idealism] can be accepted it must show itself capable of explaining the tri-dimensionality of space, the laws of motion, and the general characterisation of the universe, with mathematical clearness and precision; for no less should be demanded of every philosopher. (Ibid.)

It seems here that Peirce's cosmological speculation was running wild. Though Peirce argued vigorously for Idealism from his earliest papers to his latest, this should not obscure the fact that he was far from convinced that a solution for the underlying mind-body problem had yet been reached which was really satisfactory. I would not speak, therefore, of Peirce's "solution of the mind-body problem" as does Larry Holmes¹—even though Holmes does temper this claim with a footnote of 1.655 (dated: 1905). For example, as late as c.1905, in regard to the question of the nature of the connection between matter and mind (and I repeat here a passage quoted earlier), Peirce plainly proclaimed that no

real solution of the problem has been reached. Let us hope that such may some day appear; but at present, no

¹Larry Holmes, p. 370.
peering into the future describes its features nor yields us any confidence out of what quarter of the horizon it shall first loom. (d.136)

With this kind of uncertainty in Peirce's thought, vying with his often irrepressible, if not wild, self-confident speculation, it is not surprising that quite different interpretations of Peirce's idealism have arisen. E. Cressham Riley has taken issue with Murray Murphy on the nature and extent of Peirce's idealism. Riley, in his paper, "Existence, Reality, & Objects of Knowledge", says that his task will be to argue [that] Peirce is not "a phenomenalist or an idealist," as one recent interpreter has claimed, but that he is a realist who insists that objects of knowledge are independent of and external to the knowing subject.¹

The debate, I feel, hinges on the word "external", and a vagueness in the term "idealism". Riley begins his paper with a discussion of the ambiguity of the term "realism". He considers two different uses of the word: here is the first:

On the one hand, [realism] signifies the school of thought which argues that through perception a knower encounters a world not of his own making, a world which exists independently of the knower and is recalcitrant to his encroachments. In this sense, "realism" is the

position taken by the empiricist or common-sense realist in contrast to the idealist.\(^1\)

Now, this account of realism which is intended by Hiley to be contrasted with idealism leaves out the one characteristic of "externality" which, in my opinion, truly distinguishes the common-sense realist (and many empiricists) from the idealist, in general—and that is that a common-sense view of "externality" fundamentally involves a dualistic notion of mind and matter, and this is a position which Hiley explicitly denies more than once (5.345: 11.6, and 6.24: 1.31, to mention only two at tenants widely separated in time).

As Hiley's account of the above kind of "realism" stands, there is nothing in it to prevent an out-and-out absolute idealist such as Bernard Bosanquet from willingly assenting to it. Only a clause stipulating, "externality" in the sense of a mind-body dualism will drive home the necessary division between the common-sense realist and the idealist of the "absolute" variety.

Hiley seems to come within a hair's breadth of explicitly facing this issue when, in the last section of his paper, he says:

\(^{1}\)Ibid., p. 54.
... the possibility for the externality of the world encountered in perception must be established.

Although a world of objects possessing "thingness" is encountered in perception, the perceptual experience itself does not guarantee externality. Murphey makes this point quite clear as part of his attempt to justify an idealistic interpretation of pragmatism.

And a little later, Riley maintains:

Externality, as Peirce says and as Murphey is so eager to point out, is a matter for inference, not a fact of perception. This is to put the point in an ambiguous way, however, for two quite different meanings could be intended by stating that externality is inferred, not perceived. On the one hand, one could simply mean that the fact that X is external is something to be inferred—that is, our knowledge of X's externality is inferential. On the other hand, one could mean that since the fact of X's externality must be inferred, the externality of X is constituted by the inferential process. It is only the second meaning, not the first, which yields idealism, and it is necessary for Murphey to presuppose it as the meaning of saying that externality is inferred in order to conclude that Peirce is committed to an idealistic interpretation of reality.

According to my understanding, not even the first meaning expressed above will necessarily yield a non-idealistic position—because the "fact" that X is external can still be interpreted by the absolute idealist in an idealistic manner (for instance, in the way in which one mind can be "external" to another mind). As I have said earlier, everything hinges:

\[1\text{Ibid., p. 44.}\]
\[2\text{Ibid., p. 45.}\]
\[3\text{See Murray Murphey's article, "On Peirce's Metaphysics", Transactions, 1 (1965), pp. 13-19, for a discussion of how the mechanical model of nature is "absorbed into Peirce's evolutionary idealism" (p. 19).}\]
on the meaning of the term "external." And the meaning of
this term for a common-sense realist will reflect very
different metacausal presuppositions than would be the
one with an absolute idealist.

Even Riley's discussion of the Peircean category of
Secondness (exemplified as well by existence) does not escape
the above conclusion. It is not enough to declare, as Riley
does, that:

in stressing the irreducibility of Secondness in perception Peirce eliminated any possible ground for charges of
conceptualism that might be brought against him.¹

To introduce elements other than conceptualistic
ones is not necessarily to move out of an idealistic frame-
work. Peirce's talk about Secondness as "an act of the
arbitrary will or of blind force" (1.323) should make that
evident.

Sharing the same issue of the Transactions in which
Riley's article, "Existence, Reality, & Objects of Knowledge,"
appears is an article by Murray Murphey, "Kant's Children:
The Cambridge Pragmatists", which continues to develop the
position criticized by Riley. Murphey maintains that

Peirce came to philosophy not as an empiricist but as a
romantic idealist of a very extreme sort, and . . . the
theories of the real and of science which he elaborated

¹Riley, p. 45.
In the 1870's are based upon an idealistic metaphysics... radically opposed to classical empiricism.¹

and a little later in the paper:

... in the 1890's... [Peirce held] that the characteristics of our experience are explicable by a metaphysic which postulates the existence of objective mind having categories identical with our own.²

It seems to me that Murphey is quite correct in... arguing that "the origin of pragmatism in American [and Peirce's] philosophy [shows clearly] that the concept was introduced as part of an idealistic interpretation of science."³ I only add that this judgment is true not so much because Peirce's thought was radically opposed to classical empiricism in general, but (specifically) because he never would accept a mini-body dualism and its corollary: the recognizably as object of knowledge.

Robert Almeder, in his article, "Charles Peirce and the Existence of the External World", attempts...

to explicate the nature of Peirce's mature commitment to metaphysical realism by showing precisely how he justified his belief in the external world.⁴

Almeder's paper is unfortunately marred by many errors.


³Ibid.

(typographical, inaccuracy in referencing, and others). However, his main contentions are provocative. Almeder's discussion centers on the "criterion" or "guarantees" for the externality of the objects we perceive:

In our analysis we will begin by showing that Peirce ... maintained that the compulsiveness (or Secondness) of our perceptual experience guarantees the externality of the object we perceive. ... We will then show that Peirce also held at the same time and with equal emphasis the view that the only way we can know whether or not anything is external to us is by inductive inference. ... In the face of such a seeming incompatibility with regard to the criterion for externality ... we will propose an interpretation based upon the doubt-belief theory of inquiry attempting to show that Peirce consistently held both criteria for externality, neither one to the exclusion of the other but both within well-qualified contexts.¹

It seems to me that the term 'criterion' is too strong a word to use for the relation of Secondness to the question of 'externality'. The occult, irrational nature of Secondness for Peirce will be emphasized by me later in this chapter; but perhaps it is enough here to point out that the conscious application of any criterion would involve Thirdness. And if 'criterion' is too strong a word, then "guarantee" is doubly so.

In this connection, it should be reiterated that the terms "immediate" and "direct" (in relation to experience or perception) have a very special meaning for Peirce. It is

¹Ibid., pp. 63-64.
true that, in a passage quoted by Almeder (p. 67), Peirce appears to relate his view of "direct experience" to the doctrine of the "Scottish School":

Every sensation involves the same sense of duality, though less prominently. This is the direct perception of the external world of Reid and Hamilton. (5.55; c.1902)

but we have seen that, for Peirce, the more immediate an experience is, the more it is hidden from conscious control—from reasoning (thirdness). So it would have been better for Almeder to have claimed that 'externality' originates in the secondness of experience. And that if doubt arises about the externality of a perceived object, the first test we naturally make is an "inward effort to suppress" it. (6.334; c.1909)

The secondness of the experience may then re-assert itself, but the test—as a test—necessarily involves thirdness.

Only with the above qualification is Almeder's claim sound:

. . . we will show that, for Peirce, the compulsiveness of our perceptual experience is ordinarily a sufficient condition for externality, but if any real doubt should arise with respect to the externality of any perceived object the first criterion fails and we must appeal to inductive inference. . . .

But there is no question of secondness guaranteeing 'externality' in the way in which Almeder speaks about it:

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1Ibid., p. 64.
... the only way for us to perceive the external or the objective.

... there are more who maintain that the existence of the external is not a criterion for externality. In his book, the criterion of certain is useless, once it is shown that the existence of the external world was for since earlier the matter of intuitive inference rather than in the case of the external.

1bid.

The debate about criteria, then, can be resolved if we give up the idea of two different, but necessarily autonomous criteria for externality, and replace it with the view that

2bid., p. 70.
(while Secondness will always be present) the predominance of Thirdness will depend on the degree of doubt entertained about the externality of an object. To even raise the issue of the need of a criterion or guarantee for externality is to bring into play Thirdness and induction.

Whatever the final decision is concerning the criteria of externality for Third, the outcome will in no way decide the issue of the nature of the externality of a perceived object. And Almeder declines to attempt this more difficult task of reconciling Sire's commitment to metaphysical realism with an "true" commitment to idealism.

A chronological summary of some of Sire's views of an idealistic ring reveals a remarkable consistency through the years. Beginning with the 1961 summary of papers, we find Sire as asking the startling question:

What distinction does I or a word. There is a distinction I think,. . . . . . . . . . . . but the differences are only relative. (5.114)

Or rather, on the relation between 'care' and 'word':

without faith in the power of thought, this parallelism. it is difficult to say that there is no element whatever of man's consciousness which has not something corresponding to it in the word; the reason is obvious. it is that the word or sign with which we here is the man himself. (5.114)

ibid., p. 63.
(while Secondness will always be present) the predominance of Thirdness will depend on the degree of doubt entertained about the externality of an object. To even raise the issue of the need of a criterion or guarantee for externality is to bring into play Thirdness and induction.

Whatever the final decision is concerning the criteria of externality for a given outcome will in no way decide the issue of the nature of the externality of a perceived object, and similar declines to attempt this

only limit the task of reconciling Erice's commitment to a physical realism with a strong commitment to realism.

A chronological sampling of some of Heine's views of an idealistic one reveals a remarkable consistency through the years. In the 1864 series of papers, we find since as in the startling question:

What distinction has a man from a word? There is a distinction doubtless. . . . But these differences are only relative. (5.313)

is then elaborates on the relation between 'man' and 'word':

Without satisfying the reader by our terms, this parallelism, it is sufficient to say that there is no element whatever of man's consciousness which has not something corresponding to it in the word; and vice versa, it is obvious. It is that the word or sign which man uses is the man himself. (5.314)
Thus my language is the sum total of myself; for the man is thought. (Ibid.)

The individual man, since his separate existence is manifested only by ignorance and error, so far as he is anything apart from his fellows, and from what he and they are to be, is only a negation. This is man,

"... proud man,
Most ignorant of what he's most assured,
His glassy essence." (5317)

This comparison between 'man' and 'word'—to the extreme that Peirce often seems to push it—raises the question about body. (After all, man seems to be more than symbolic) and this question about the status of body leads one in the mind-body problem. Harry Holmes, in his paper, "role:omena to Peirce's philosophy of mind", presents two groups of Peircean statements. In the first group which Holmes takes up, Peirce argues that there are no necessary links between mind and body (as one example from Holmes's article, see 7376: 4402). In the second group assembled by Holmes, Peirce is supposed by him to say the opposite: a link between mind and body is required (for instance, to give only two of his examples, 7556: 4467; 4495: 1904).

As Holmes points out:

Although he described mind as "a chemical genus of extreme complexity and instability" (4031 [1902]), Peirce seems never to have admitted (or perhaps even seen) any middle ground between the nineteenth century "mechanical motion of particles" and an out-and-out idealism. . . . Idealism is not the only alternative
to mechanism; and mechanism of the nineteenth century variety is not the most likely explanation, even on non-idealistic grounds, of the mental phenomena in which circé was interested.\footnote{Larry Holmes, \textit{op. cit.}, p. 102.}

In any case, given the options which circé deals with, and the two sets of seemingly contradictory statements by circé on the mind-body relation, among many.

I can offer no adequate explanation of the discrepancy of the two sets of views. There may be some clue in the fact that the statements asserting the existence of mind or soul or thought on the body are of somewhat later date than the first series, and that they come from less technical essays. A fact this, however, is one of about 110 concerning, with the universal belief in the "intimate existence of the action of the mind upon the body" (1,2,3). The fundamental difficulty may be \ldots that circé felt compelled to choose the idealist alternative, in which mind cannot be dependent upon body, when in fact there could be seen other alternatives that would better fit the evidence. We could not overlook of some real correlation of mind with brain and body in a sense that made brain and body basic.\footnote{Larry Holmes, \textit{op. cit.}, p. 173.}
"Incoherent" which prevented him from ever accepting any sharp or ultimate (ontologically basic) division between mind and body. The present study should indicate in some measure the basis for his refusal to do so.

The mind-body problem is an extremely difficult and tantalizing one. And I think it is fair to say that Peirce is quite right when he declares c.1903 that not only has no real solution been reached so far, but it is even difficult to say what form it could take (8.166).

The situation, if I may say, is somewhat analogous to the scientific quandary which arose from the rivalry between the electromagnetic wave theory and the photon "particle" theory of light. Each theory seemed to have its own special usefulness as an explanation of certain features which remain a puzzle to the other. And no third theory arose, or has arisen, to decide the issue with a comprehensive and definitive account. In the same way, Peirce seems to have been torn between an over-emphasis of his doctrine of Synecadism and Thirdness, on the one hand, and a need to be faithful to the common-sense belief in a mind-body dualism (5.577-8: c.1905). And I might add that it seems to be only in his later writings that Peirce explicitly acknowledges the undecided status of the mind-body problem.
Larry Holmes, as we have previously remarked, confessed that he was unable to offer an adequate explanation of the discrepancy between two sets of statements by Peirce on the mind-body relation. John B. Smith, in his article, "Community and Reality", takes note of another incompatibility, a discussion of which may throw some light on the issue:

That there is a strong idealistic strain in Peirce's philosophy cannot be denied... Three considerations are essential. The first, and most obvious, is Peirce's own description of his thought as idealistic. Secondly, there is the close connection to be found in every phase of Peirce's thought between signs and representation—in his terminology, Thirdness—and the real object. Finally, there is the definition of reality in terms of opinion and belief, together with the claim that the real is not external to or independent of thought in general.1

And a little later, Smith sees a quite different mode of Peircean thought:

Over against what has just been said, however, stand Peirce's most puzzling attacks upon idealism. It is as if, in the development of his own pragmatism, Peirce felt free to express the idealism in it without apology, but that in the face of a thoroughly, idealist like Royce he felt constrained to advance realism as if its truth were a foregone conclusion. We cannot but acknowledge the extreme tension in Peirce's thought at this point.2

The tension mentioned above by Smith is between Peirce's idealism and his realism—not his "scholastic

1John B. Smith, "Community and Reality", *Perspectives*, p. 79.

2Ibid., p. 101.
realism", but that realism which consists in the insistence that the object of thought is independent of (or in some sense, external to) the thought:

In order to avoid confusion it is essential to notice the difference between reality and the real. . . . The real in the sense of the thing, the idea, the feeling, has the status of fact; it is what reveals itself in action and reaction with other things. . . . The important point is that what is real in itself a something or other that has forcefulness and insistence.¹

And Smith then adds:

There are at least two other ways in which Peirce expresses what we have called the realistic pole of the independence of the real over the thought, one is his concept of the index or indexical sign, and the other is the doctrine of the dynamical object.²

In the very structure of his paper, Smith has outlined the chief issues of Peirce's general theory of reality: now it shall accommodate the three moments of: 1) realism (the claim that the real is independent of, or external to, particular thought); 2) idealism (that the real is, however, dependent on thought in general; and 3) pragmatism (the real is disclosed through the application of empirical or scientific method).

What especially concerns us, at present, is the relation between the moments of realism and idealism in

¹Ibid., p. 36. ²Ibid., p. 37.
Peirce's thought. They are accommodated within his general theory of reality by his stressing the view that the independence of the object of thought is only so in relation to what *particular* men may think:

... on the one hand, reality is independent, not necessarily of thought in general, but only of what you or I or any finite number of men may think about it; and that, on the other hand, though the object of the final opinion depends on what that opinion is, yet what that opinion is does not depend on what you or I or any man thinks. (5.4031: 1972)

This passage is quoted (p. 35) and commented on by Smith himself:

... this independence of thought does not mean independence of thought in general, but only of particular thoughts.

In spite of acknowledging this point, Smith finds Peirce's attack against Josiah Royce "most puzzling":

In the one hand, we find [since] saying that without thought there can be no opinion, and hence no final opinion such as would serve to identify reality. Hence the real cannot be external to mind. On the other hand, we find him attacking Royce in the most vitriolic terms for failing to see that to be an! to be represented are not the same.

My solution to the above "puzzle" is that Peirce, from the vantage point of his own formulation of absolute idealism, can consistently—if not fairly—mount his attack against Royce as long as the expression is *represented* and

not 'representable'. The relevant passage in Peirce is as follows:

The truth is, that Professor Royce is blind to a fact which all ordinary people will see plainly enough: that the essence of the realist's opinion is that it is one thing to be and another thing to be represented; and the cause of this cecity is that the professor is completely immersed in his absolute idealism which precisely consists in denying that distinction. (p. 129: 1902; emphasis on the word "his" added)

The general tone of this passage must be ignored because of its "polemical intent"—to use Smith's phrase. It is not 'absolute idealism' which Peirce rejects, but Royce's brand of it. Further, for Peirce, 'to be' must necessarily involve 'being-representable', otherwise he would end up with something which is, but which is not representable (in other words, an inconceivable, which is anathema to Peirce).

Royce, as Smith maintained, had criticized Peirce by claiming that

reality cannot be identified with an intellectual result or opinion unless that opinion is actual and not merely possible."

Peirce retaliates by assuming the mantle of realism and leveling the accusation against Royce that he is blind to the common-sense fact that to be is different from to be represented. (It should be noted that to be represented happens

Ibid., p. 116.
to be an occurrence in the realm of actuality; whereas, to be representable is a condition in the realm of potentiality or possibility.) Peirce thus enlists the aid of common-sense realism to demolish the equation between 'to be' and 'to be represented' to the embarrassment of Royce—but, unfairly, I think, leaves the question of the equation between 'to be' and 'to be representable' unmentioned. If the falsity of the former equation is transparent to 'ordinary people', the "truth" of this latter equation (the assumption of which is fundamental to Peirce's thinking) is certainly not evident to them.

In Peirce's effort to coordinate the idealist and realist moments of his general theory of reality, there arises, within the framework of his analysis, a question about the consistency and adequacy of Peirce's effort not dealt with by Smith, himself.

As Smith points out:

Unlike Hegel, who emphasized the utter transparence of all reality to reason, Peirce was insistent on the forcefulness or otherness of things as a mark of reality. In Peirce's terminology, reality belongs with Secondness, or the domain of fact. "The reality of things consists in their persistent forcing themselves upon our recognition" (1.175); or again, "In the idea of reality, Secondness is predominant; for the real is that which insists upon forcing its way to recognition as something other than the individual mind's creation" (1.325).

This seems to be another example of the

Second Law, the concept that the entropy of the universe increases, no matter how carefully the energy is used or conserved.

For the above reasons, it would mean at the highest level of the object of thought, an understanding of its nature, to perform the action of thought, according to the object of thought. However, the

THEOREM 2 (First Law)
ultimate subordination by Peirce of Secondness to Thirdness, as noted by many commentators.

...it therefore seems to me that there is not as much incompatibility between the idealistic and realistic moments of , 's general theory of reality as Smith would make out. 's view, in the works considered, expresses a thoroughgoing doctrine of absolute idealism, the realistic element of which (that is, the basis for "externality") being grounded on his distinction between the relation of the object to particular thought, on the one hand, and to thought in general, on the other. , in this way, steers clear of having to admit any ultimate ontological distinction between mind and matter. The result, however, is a distinct inadequacy in his treatment of 'actuality'.

To return to the chronological sampling of some of 's statements of an idealistic nature: five years after his startling 'man-word' comparison in his 1868-69 series of papers, he gives us the following definition of the "externals":

That is external to the mind, which is what it is, whatever our thoughts may be on any subject, just as that is real which is what it is, whatever our thoughts may be concerning that particular thing. (7.37): 1873)

and in the very next paragraph, his idealistic tendencies lead him to come out with this perplexing statement:
The object of the belief exists it is true, only because the belief exists; but this is not the same as to say that it begins to exist first when the belief begins to exist. To say that a diamond is hard, and in what does the hardness consist? (7,340)

and then follows a discussion of the meaning of hardness along the lines of his 1873 position (in "How to Make Our Ideas Clear"), ending with this sentence:

... and yet there was no fact, no event, nothing whatever, which made it different from any other thing which is not so hard, until the other stone was rubbed against it. (Ibid.)

I have seen how circos ran into trouble over this view of his.

Fifteen years later, in 1891, his article, "The Architecture of Theories", continues the argument for idealism in his cosmological period. I have already quoted from this paper, but I repeat a portion in order to emphasize the fact that circos's idealism, now, has definitely become panpsychism.

The one intelligible theory of the universe is that of objective idealism, that matter in offete mind, inveterate habits becoming physical laws. (...75)

For next year (1892), in two articles, circos elaborates his panpsychism. In "The Law of Mind", he raises the issue of continuity:

I am bound to maintain that an idea can only be affected by an idea in continuous connection with it. By anything but an idea, it cannot be affected at all. This obliges
me to say, as I do say, on other grounds, that what we call matter is not completely dead, but is merely mind hidebound with habits. (7.153)

And in "man's classy essence", he again indicates the main problem and explains why he is dissatisfied with any materialistic solution. The problem is one which has certainly not slipped into metaphysical oblivion since Leibniz's day. And scientists of our day are very much concerned with the kind of issues which are raised by Peirce (making allowance for outdated language):

If consciousness belongs to all protoplasm, by what mechanical constitution is this to be accounted for? The slime is not thin, but a chemical compound. There is no inherent in os-ibility in its being formed synthetically in the laboratory, out of its chemical elements; and if it were so made, it would present all the characters of natural protoplasm. In doubt, then, it would feel. To hesitate to admit this would be pusillini and ultra-volatile. By what element of the molecular arrangement, then, would that feeling be caused? This question cannot be evaded or postponed. Protoplasm certainly does feel; and unless we are to accept a mecanialism, the property must be shown to arise from some peculiarity of the mechanical system. Yet the attempt to deduce it from the three laws of mechanics, applied to never so ingenious mechanical contrivance, would obviously be futile. It can never be explained, unless we admit that physical events are but degraded or undeveloped forms of psychical events. (1.244)

One may feel that airc's explanation is hardly less futile— as airc was later to admit, but one would have to admit that the problem Peirce is concerned with is an endur- in, one for both philosophy and science.
Much the same line of reasoning as is found in the above two articles is also pursued in an 1895 article, "The Connection between Mind and Matter." In this article he both gives a refutation of the materialistic solution, and presents his own idealistic answer which involves an appeal to the principle of continuity:

"Now, in obedience to the principle, or maxims, of continuity, that we ought to assume things to be continuous as far as we can, it has been urged that we ought to suppose a continuity between the characters of mind and matter, so that matter would be nothing but mind that had such indurated habits as to cause it to act with a peculiarly high degree of mechanical regularity, or routine. Suppose, this to be the case, the reaction between mind and matter would be of no essentially different kind from the action between parts of mind that are in continuous union, and would thus come directly under the great law of mental association. . . . (6.277)

The "infinite logic", 1903, presents Mr. Morse's view that ideas have the power of bringing things to pass in this world:

Do you think, reader, that it is a positive fact that "Truth, crushed to earth, shall rise again,"
or do you think that this, being poetry, is only a pretty fiction? Or do you think that, notwithstanding the horrible wickedness of every mortal wight, the idea of right and wrong is nevertheless the greatest power on this earth, to which every knee must sooner or later bow or be broken down; or do you think that this is another notion at which common sense would smile? (1.217)

In 1905, the article "What Pragmatism Is" continued the treatment of the topic of generals and their "physical" effects:
Not only may these be real, but they may also be physically efficient, not in every metaphysical sense, but in the common-sense assertion in which human purposes are physically efficient. (5.431)

Peirce, here, is falling back on an explanation in terms of an anthropologicistic analogy. (He have seen how Peirce's realism 'explained' prediction in the same manner.) Of course, it should be remarked that if Peirce's antimechanism is correct, the term 'physically efficient' ought to be understood as a mere form of psychic efficiency.

Finally, a passage from his "Notes on Metaphysics" (dated c.1903) gives us this Idealistic assertion:

... what we think of cannot possibly be of a different nature from thought itself. For the thought-thinking and the immediate thought-object are the very same thing regarded from different points of view. (6.531)

We may conclude that although Peirce has been increasingly aware of the unresolved nature of the mind-body problem within the philosophical framework he knew, he still would not break away from his most frequently championed solution—that of a thoroughgoing Idealism, in which body is merely a form of mind.

vii. Summary

In presenting the above brief discussion of six important doctrines held by Peirce, I have tried to show that:
1) These doctrines are closely interrelated.

2) These doctrines, wielding the common weapon of 'continuity', are arrayed against a common enemy—and the common enemy is whatever is claimed to be absolutely discrete and determinate. In the realm of knowledge, such a claim takes the form of infallibilism. In the realm of reality, such a claim takes the various related forms of mechanistic determinism, naturalism, and atomistic individualism.

An important conviction emerging from such an analysis is that we can reasonably reject any interpretation of Peirce's philosophy which too strongly portrays him as a philosophic split-personality.

2. The Categories

The second group of principles which I shall discuss embraces the categories of Peirce: Firstness, Secondness, and Thirdness.

One of Peirce's least obscure accounts of his three categories is found in a section of his Lowell lectures (1903). He starts off there, with a general characterization of these:

My view is that there are three modes of being. I hold that we can directly observe them in elements of whatever is at any time before the mind in any way. They are the being of positive qualitative possibility, the being of
actual fact, and the being of law that will govern facts in the future. (1.23)

The being of positive qualitative possibility is what he calls Firstness; the being of actual fact is Secondness; and the being of law is Thirdness.

Iroo's idea with Secondness, he says elsewhere (2.304; 1303) that the practical demands of life are Secondness the most prominent of the three categories. In the present account, he asks what the actuality of an event consists in, and answers that "it consists in its happening, then and there." (1.24) And then he gives an illustration of what he means by actuality in the following metaphor:

"A court may issue injunctions and judgments and in time and I not care a snap of my finger for them. I may think them idle vapor. But when I feel the sheriff's hand on my shoulder, I shall begin to have a sense of actuality. Actuality is something brute. There is no sea or in it.

"Firstness", he explains, "is the mode of being which consists in its subject's being positively such as it is regardless of what else. That can only be a possibility." (1.75) Iroo then illustrates the category of Firstness:

The mode of being a redder, before anything in the universe was yet red, was nevertheless a positive qualitative possibility. And redness in itself, even if it be embodied, is something positive and sui generis. That I call Firstness. (1244.)

Iroo's discussion of the category of Thirdness will
sound familiar because it carries within it the burden of his scholastic Realism—a doctrine we have already examined.

Now for Thirdness. Five minutes of our waking life will hardly pass without our making some kind of prediction, and in the majority of cases these predictions are fulfilled in the event. Yet a prediction is essentially of a general nature, and cannot ever be completely fulfilled. To say that a prediction has a decided tendency to be fulfilled, is to say that the future events are in a measure really governed by a law. (1.20)

Since then contrasts this certainty (which we have in predictions based on the governance of events by genuine law) with the insecurity of any prediction which is based on mere chance uniformity.

If a pair of dice turns up sixes five times running, that is mere uniformity. The dice might happen fortuitously to turn up sixes a thousand times running. But that would not afford the slightest security for a prediction that they would turn up sixes the next time. If the prediction has a tendency to be fulfilled, it must be that future events have a tendency to conform to a general rule. . . . This mode of being, which I call Thirdness, will take on a determinate general character, I call Thirdness. (Ibid.)

To unravel further the complexities of the categories, I suggest that we completely reverse the order in which they are presented in the above passages. Hence there starts with Secondness and ends with Thirdness. Acknowledging, then, the above introduction to the categories, I propose now to pursue an analysis beginning with Thirdness and ending with
Secondness.

I. Thirdness

To begin with, if we follow the development of Peirce's argument which seeks to establish Realism and defeat Nominalism, we will gain further insight into the nature of Thirdness. For Thirdness is at the very heart of Realism, according to Peirce.

In 1893, this is the way Peirce saw the quarrel between Realism and Nominalism:

No what was the question of realism and nominalism? I see no objection to defining it as the question of which is the best (i.e., more real), the laws of the facts under those laws. It is true that it was not stated in this way. As stated, the question was whether universal, such as the Horse, the Ass, the Zebra, and so forth, were in re or in re secundum naturam. Therefore, the reality or as I would say ... the value or worth, not merely of the universal, but also that of the individuals was a part of the broad question. Roughly speaking, the nominalists conceived the general element of cognition to be merely a convenience for understanding this or that fact and to amount to nothing except for cognition, while the realists, still more roughly speaking, looked upon the general, not only as the end and aim of knowledge, but also as the most important element of being. Such was and is the question. It is as pressing today as ever it was. . . . (4.1)

Peirce, however, believed that the complete overthrow of Nominalism was at hand. And when the end came, it would be the logic of relatives which dealt the coup de grace:

My plan for defeating nominalism is not solely nor directly, but it seems to me sure to be decisive, and to afford no...
difficulty except the mathematical toll that it requires. For as soon as you have once mounted the vantage-ground of the logic of relatives, which is related to ordinary logic precisely as the geometry of three dimensions is to the geometry of points on a line, as soon as you have scaled this height, I say, you find that you command the whole citadel of nominalism, which must thereupon fall almost without another blow. (Ibid.)

A little later in this same paper, Pierce writes less metaphorically, and begins to explain why it is that the logic of relatives has a distinct advantage over ordinary logic:

The great difference between the logic of relatives and ordinary logic is that the former regards the form of relation in all its generality . . . while the latter is tied down to the matter of the single special relation of similarity. The result is that every doctrine and conception of logic is wonderfully generalized, enriched, beautified, and completed in the logic of relatives. (4.5)

And then follows an important parenthesis elucidating this difference:

Thus, the ordinary logic has a great deal to say about genera and species, or in our nineteenth century dialect, about classes. Now, a class is a set of objects comprising all that stand to one another in a special relation of similarity. But where ordinary logic talks of classes the logic of relatives talks of systems. A system is a set of objects comprising all that stand to one another in a group of connected relations. Induction according to ordinary logic rises from the contemplation of a sample of a class to that of the whole class; but according to the logic of relatives it rises from the contemplation of a fragment of a system to the envisagement of the complete system. (Ibid.)

A 'class', Pierce says, is a set of objects that
stand to one another in "a special relation of similarity". And elsewhere, he characterises 'similarity' as a degenerate type of relation:

... a class consisting of a lot of things jumbled higgledy-piggledy must now be seen to be but a degenerate form of the more general idea of a system. Generalisation, which has hitherto meant passing to a larger class, must [now] mean taking in the conception of the whole system of which we see but a fragment. ... (3.454; 1936)

At this point one may still ask: 1) How, specifically, is the logic of relatives supposed to bring about the overthrow of Nominalism? And 2) what part in this defeat will be played by advancing beyond the limited (and, therefore, degenerate) concept of globe to the 'wonderfully generalised' concept of system?

The answer to the second question is that ordinary logic with its subject-predicate structure usually obscures the dynamic relational character of reality; whereas the logic of relatives is the very instrument with which to analyse it. Let me try to put my finger directly on the issue. I would say that when the pragmatic maxim asserts that the rational purport of any conception consists in the truth of a conditional proposition relating to the future, then the pragmatic analysis, itself, exemplifies the logic of relatives in action. The significance here (and the answer to the first question)
is that ordinary, static predicates can be transformed by
Pragmatism (through the language of the logic of relatives)
into conditional—that is, essentially predictive—propositions. And it is 'prediction' which is the sword-point that
Peirce thrusts at Nominalism:

I proceed to argue that Thirdness is operative in nature. Suppose we attack the question experimentally. Here is
a stone... I will predict with confidence that as
soon as I let go... it will fall to the floor... But how can I know what is going to happen? (5.95-4: 1903)

we have seen how Peirce held that Realism (the doctrine that
Thirdness is operative in nature) explains our ability to
predict successfully, and that successful prediction, in turn,
"proves" Realism. And so, Peirce concluded that general
principles are really operative in nature.

Let me summarize this presentation of Thirdness so far.
According to Peirce, Thirdness was at the heart of his Realism.
He felt that the battle between Realism and Nominalism was
mainly over the question of whether or not there is a real,
general element (Thirdness) in nature. And this controversy
had not yet been settled conclusively. However, Peirce felt
that the logic of relatives would provide the means by which
Nominalism would be decisively defeated. Traditional logic
had, unfortunately, obscured the dynamic, relational structure
of reality (Thirdness), but the logic of relatives would...
reveal this structure clearly: the static subject-predicate structure of the traditional analysis could be translated by the logic of relatives into conditional propositions referring to the future—that is, into essentially predictive propositions. Faced with this challenge of having to explain the fact of prediction, Nominalism, at last, would have to admit its bankruptcy. (If I may mix metaphors.) And Realism would be vindicated.

However, the role which the logic of relatives is supposed to play in the vindication of Thirnness (and thus in the defeat of Nominalism) must be qualified in two ways.

First, it is not as though we once believed that the logic of relatives would single-handedly accomplish the overthrow of Nominalism. For he surely held that absolutely fundamental to any defeat of Nominalism was the great advance which physical science had made during the last several centuries:

> In the fourteenth century Nominalism was rendered a respectable opinion by the halting realism of Scotus and by the extravagant unpragmatism of his followers. But after physical science has discovered so many general principles in Nature, nominalism becomes a disgraceful habit of thought. (6.175: 1906)

In one sense, then, the task of the logic of relatives was only to clarify (by a new and more powerful logical analysis)
what had already been accomplished by science. As a matter of fact, in the stone-dropping experiment of his Harvard lectures (perhaps his most vigorous attempt to "prove" Thirdness and thus deal the *coup de grâce* to Nominalism), Peirce does not explicitly bring in the logic of relatives at all. We therefore need only remark the vital role that the logic of relatives had played in the development of Peirce's own thinking on the issue.

Secondly, the logic of relatives covers a much broader field than just those relations which happen to exemplify genuine Thirdness (Thirdness as Thirdness). For Thirdness is an aspect only of those relations which are set within a space-time framework and upon which the prediction of future events can be based. Just how limited is genuine Thirdness as a subdivision (among all types of relations) is indicated by the diagram on the next page.
Similarity

[Including at this high level of generality both similarity between examples of simple qualities (e.g., this car is red; this leaf is red) as well as similarity between particular examples of complex relations (e.g., the Earth is larger than the moon; the sun is larger than Mars).]

DOMAIN OF THE LOGIC OF RELATIVES

DOMAIN OF TRADITIONAL LOGIC

The "Degenerate" Relation of Similarity—where such simple, monadic qualities are the paradigm, as, for example:

1) redness
2) smell of attar
3) tone (sound)

"Systematic" Relations—for example:

1) larger than
2) the relation involved in throwing sixes ten times in a row
3) the relation involved when a released stone falls
4) \( C = \pi d \) (formula for circle circumference)
5) son of
6) \( E = mc^2 \) (Relativity equation)
7) \( F = ma \) (Newton's 2nd Law)

Static Relations: Vs. Dynamic Relations (those within a space-time framework):

a) larger than
b) \( C = \pi d \)
c) son of

a) throwing sixes
b) falling stone
c) \( Y = mc^2 \)
d) \( F = ma \)

Chance: Vs. Finiteness:

1. throwing sixes
2. falling stone
3. \( E = mc^2 \)
4. \( F = ma \)
From the diagram, we see that traditional logic with its notion of 'class' based on the "degenerate" relation of similarity is just a restricted part of the logic of relatives. The rest of the logic of relatives is concerned with relations each of which defines a system of greater or lesser complexity. Such "systematic" relations may be divided into two sub-classes: 1) "static" relations, which do not involve a space-time framework, and 2) "dynamic" relations, which do. Finally, dynamic relations may be sub-divided into: 1) those relations which are purely fortuitous, and 2) those (exemplifying genuine Thirdness) upon which the prediction of future events can be safely based.

II. Firstness

If we look for a clue to the meaning of Firstness in the above diagram, we will find it in the "degenerate" relation of similarity. Briefly, I suggest that the paradigm for Firstness is to be found in those monadic qualities in which we are unable to discover any relation whatsoever. Color (the example is usually red¹) is by far the most frequently

¹Here is a list (and it is only a sampling) of references to 'red' in the Collected Papers: 1.25; 1.504; 1.314; 1.397; 1.418; 5.92; 3.102; 3.457; 6.223; 8.267; 8.281; 8.329. This list also constitutes a rough guide to Peirce's statements on Firstness.
about; so that if this feeling is present during a lapse of time, it is wholly and equally present at every moment of that time. To reduce this description to a simple definition, I will say that by a feeling I mean an instance of that sort of element of consciousness which is all that it is positively, in itself, regardless of anything else. (1.306: c.1907)

Earlier, in 1898, Peirce expressed this somewhat paradoxical situation thus:

Each quale [i.e., quality of feeling] is in itself what it is for itself, without reference to any other. It is absurd to say that one quale in itself considered is like or unlike another. Nevertheless, comparing consciousness does pronounce them to be alike. They are alike to the comparing consciousness, though neither alike nor unlike in themselves. (6.224)

To make heads or tails out of all this, one must, of course, recognize that Peirce's Realism is woven through his analysis of the categories:

Among [the elements of our consciousness] there are certain qualities of feeling, such as the color of magenta, the odor of attar, the sound of a railway whistle, the taste of quinine. . . . I do not mean the sense of actually experiencing these feelings, whether primarily or in any memory or imagination. That is something that involves these qualities as an element of it. But I mean the qualities themselves which, in themselves, are mere maybes, not necessarily realized. (1.304: c.1904)

And then he goes on to contrast once again the category of . . .

Firstness with that of Thirdness:

I can imagine a consciousness whose whole life . . . should consist in nothing at all but a violet color or a stink of rotten cabbage. It is purely a question of what I can imagine. . . . The fact that I can imagine this, shows that such a feeling is not general, in the sense . . .
Thirdness, in which the law of gravitation is general. For nobody can imagine that law to have any being of any kind if it were impossible that there should exist any two masses of matter. . . . A true general [Thirdness] cannot have any being unless there is to be some prospect of its sometime having occasion to be embodied in a fact, which is itself not a law or anything like a law. (Ibid.)

Having thus entered the analysis of Firstness through the 'door' of the "degenerate" relation of similarity—and then having done away with any relation whatsoever, we must now examine how it is possible for Peirce to discover Firstness in whatever is before the consciousness—however complex it may be:

Contemplate anything by itself—anything whatever that can be so contemplated. Attend to the whole and drop the parts out of attention altogether. . . . One would have in his consciousness at that moment nothing but a quality of feeling. This quality of feeling would in itself, as so contemplated, have no parts. . . . It would be a pure primem. Since this is true of whatever we contemplate, however complex may be the object, it follows that there is nothing else in immediate consciousness. (1.318: c.1910)

To clarify this position of his, let us consider the concept of 'hardness'. From one point of view (the relational), it exemplifies Thirdness: but as an unanalyzed total impression, it exemplifies Firstness:

If you ask a mineralogist what hardness is, he will say that it is what one predicates of a body that one cannot scratch with a knife. But a simple person will think of hardness as a simple positive possibility the realization of which causes a body to be like a flint. (this/ idea
of hardness is an idea of Firstness. The unanalysed
total impression made by any manifold not thought of as
actual fact, but simply as a quality, as simple positive
possibility of appearance, is an idea of Firstness.
Notice the *malyoté* of Firstness. (6.329: 1904)

In contrast to the naive idea of hardness as an idea of
Firstness, the mineralogist's idea of hardness is an idea of
Thirdness:

Had the light which, as things are, excites in us the
sensation of blue, always excited the sensation of red,
and *vice versa*, however great a difference that might
have made in our feelings, it could have made none in the
force of any argument. In this respect, the qualities of
hard and soft strikingly contrast with those of red and
blue; because while red and blue name mere subjective
feelings only, hard and soft express the factual behaviour
of the thing under the pressure of a knife-edge. (I use
the word "hard" in its strict mineralogical sense, "would
resist a knife-edge.") My pragmatism, having nothing to
do with qualities of feeling, permits me to hold that the
predication of such a quality is just what it seems, and
has nothing to do with anything else. (5.467: c.1907)

Thus it is that 'hardness', when viewed as a relation,
exemplifies Thirdness; whereas when it is viewed as a 'simple
positive possibility', it exemplifies Firstness. In contrast
to 'hardness', it should be noted that 'red' cannot be viewed
as anything but a simple positive possibility. Reinness, Peirce
assumes, will not yield to any analysis whatsoever. It is
impossible for us to discover any relation in it. This
impossibility would explain why something such as 'red' happens
to be the most frequently given illustration of Peirce's.
category of Firstness—and why it is often accompanied by other similarly unanalysable examples such as, for instance, the smell of attar, the taste of quinine, and so forth. Though such illustrations may provide the paradigm for Firstness, nevertheless, as we have seen, more complex illustrations such as 'hardness' can be viewed as a simple positive possibility. In fact, Peirce held that no matter how complex experience may be, it nevertheless has its monadic quality:¹

Experience is the course of life. The world is that which experience insculpates. Quality is the monadic element of the world. Anything whatever, however complex and heterogeneous, has its quality sui generis. . . . (1.426: c.1896)

And in the 1903 Lowell Lectures, Peirce repeats the same point:

A Firstness is exemplified in every quality of a total feeling. It is perfectly simple and without parts; and everything has its quality. Thus the tragedy of King Lear has its Firstness, its flavor sui generis.

(1.531)

¹Richard J. Bernstein, in his article, "Action, Conduct, and Self-Control" (pp. 71-72), makes the following remarks:

What is Peirce "up to" in calling attention to this myriad variety of qualities and dubbing them all "Firstness"? What is the point of his claim that this is an irreducible aspect of all experience? First . . . what Peirce means by quality is something that is pre-cognitive, something that is felt or had. . . . Secondly, Peirce includes far more under the category of Firstness than is to be found in the standard classification of primary and secondary qualities.
iii. Secondness

An explanation of Secondness must consist mainly in directing our attention to it—an extensive definition, for Secondness lacks the 'genuine' generality of Thirdness and even the 'negative' generality of Firstness. However, of the three categories, the practical exigencies of life render Secondness the most prominent. . . . This is not a conception, nor is it a peculiar quality. It is an experience. It comes out most fully in the shock of reaction between ego and non-ego. It is there the double consciousness of effort and resistance. That is something which cannot properly be conceived. For to conceive it is to generalize it; and to generalize it is to miss altogether the hereness and howness which is its essence. (5.260: 1903)

And in another paper (undated), Peirce probes further into this distinction between Secondness and generality (Thirdness):

A reaction is something which occurs hoc et nunc. It happens but once. If it is repeated, that makes two reactions. . . . A reaction cannot be generalised without entirely losing its character as a reaction. A generalised reaction is a law. (7.552)

And while Peirce claims that a 'genuine' law must find expression (although always partial) in Secondness, because a law, by itself without the addition of a living reaction to carry out on each separate occasion, is as impotent as a judge without a sheriff. (Ibid.)

yet, on the other hand, Secondness as a distinct element of experience stands independent of Thirdness:

A reaction [Secondness] may be ever so conformable to a law or reason, that is it may occur when law or reason
calls for it. But, in itself, as reaction it is arbitrary, blind, and brute exertion of force. To express the fact that a reaction thus resists all generalization, I say that it is anti-general. In this respect it contrasts with a quality of feeling, which though not in itself general is susceptible of generalization without losing its character as quality of feeling. (Ibid.)

In a parallel way, Secondness contains elements of Firstness within itself, whereas Firstness stands independent of Secondness:

A quality of feeling does not in itself involve any reaction. But an experience of reaction does involve two qualities of feeling. It consists in the conjunction of two qualities of feeling; and in this conjunction those two qualities of feeling become more than mere qualities. (Ibid.)

Peirce, in a letter to Lady Welby (1904), elaborates this distinction between Secondness and Firstness:

Imagine yourself to be seated alone at night in the basket of a balloon, far above earth calmly enjoying the absolute calm and stillness. Suddenly the piercing shriek of a steam-whistle breaks upon you, and continues for a good while. The impression of stillness was an idea of Firstness, a quality of feeling. The piercing whistle does not allow you to think or do anything but suffer. So that too is absolutely simple. Another Firstness. But the breaking of the silence by the noise was an experience [Secondness]. The person in his inertness identifies himself with the precedent state of feeling, and the new feeling which comes in spite of him is the non-ege. The consciousness of the action of a new feeling in destroying the old feeling is what I call an experience. Experience generally is what the course of life has compelled me to think. (8,330)

iv. The Categories and Peirce's Method of Inquiry

In the first chapter of this study, I dealt with
what I have called the de facto, occult first premisses of Peirce's method of inquiry: 1) perceptual judgments, and 2) instinctive beliefs.

I would now suggest that, on Peirce's view, perceptual judgments "spring up" from the occult, irrational qualities of feeling (Firstness); and instinctive beliefs have developed out of the occult, irrational reactive experience of Secondness (together with Firstness). Of course, first premisses as judgments necessarily partake of Thirdness. But, for Peirce, the Thirdness of a perceptual judgment (springing up as it does from an irrational quality of feeling—Firstness) is Thirdness in its second, and lowest degree of degeneracy:

In the last degree of degeneracy of Thirdness, there is thought, but no conveyance or embodiment of thought at all. It is merely that a fact of which there must be, I suppose, something like knowledge is apper.

For example, you look at something and say, "It is red." Well, I ask you what justification you have for such a judgment. You reply, "I say it was red." 'ot at all. There was no subject or predicate in it. . . . Now in . . . perception there is such an operation by which thought springs up. . . . (1.536; 1903)

In a parallel way, our instinctive beliefs (Thirdness), as occult first premisses, have evolved through the ages in reaction to the brutal facts of experience (Secondness):

. . . there manifestly is not one drop of principle in the whole vast reservoir of established scientific theory [Thirdness] that has sprung from any other source than the
power of the human mind to originate [by instinct] ideas that are true. But this power, for all it has accomplished is so feeble that as ideas flow from their spring in the soul, the truths are almost drowned in a flood of false notions; and that which experience [Secondness] does is gradually, and by a sort of fractionation, to precipitate and filter off the false ideas, eliminating them and letting the truth pour on its mighty current. (5.50: 1903)

When thus viewed from the metaphysical perspective of the categories, the Aristotelian first premises of perceptual judgments and instinctive beliefs are seen to spring from the occult, irrational sources of Firstness and Secondness:

Let the Universe be an evolution of Pure Reason if you will. Yet if, while you are walking in the street reflecting upon how everything is the pure distillate of Reason, a man carrying a heavy pole suddenly pokes you in the small of the back, you may think there is something in the Universe that Pure Reason fails to account for; and when you look at the color red and ask yourself how Pure Reason could make red to have that utterly inexpressible and irrational positive quality it has, you will be perhaps disposed to think that quality [Firstness] and Reaction [Secondness] have their independent standing in the Universe. (5.92: 1903)

Similarly, some of my earlier remarks on Peirce's method of inquiry with its occult first premises, may now be restated in terms of the three categories: What is given to us in experience (in instinctive beliefs which have developed in the school of hard knocks—Secondness—and in perception, which springs up from qualities of feeling—Firstness) forms the basis upon which our hypotheses (Thirdness) are tentatively formulated and upon which they
will also be tested (for the predictions of science and common sense always involve expected reactions of Secondness, and perceptions springing up from qualities of feeling). As I have stressed before, it is not experience qua the foundational 'given' which tests our hypotheses, but rather, Peirce maintains, experience as the expected outcome of predictions: 

... it is not the fact predicted that in any degree necessitates the truth of the hypothesis or even renders it probable. It is the fact that it has been predicted successfully... (5.527: c.1901)

Success in prediction is the (always fallible) test of hypotheses.

If the prediction has a tendency to be fulfilled, it must be that future events have a tendency to conform to a general rule... This mode of being which consists, mind my word if you please, the mode of being which consists in the fact that future facts of Secondness will take on a determinate general character, I call Thirdness. (1.26: 1903)

It should be apparent from the above discussion that Peirce's categorial analysis provides the metaphysical foundation for his Fallibilism. And, as we have seen earlier, Peirce holds that whatever supports Fallibilism (in the realm of knowledge), also re-enforces Tychism (indeterminacy, in the realm of being). Thus Peirce speaks of his categories as modes of being. For instance, in 1897:

... according to my view, there are three categories of being: ideas of feelings, acts of reaction, and habits. (4.137)
And in 1903:

My view is that there are three modes of being. I hold that we can directly observe them in elements of whatever is at any time before the mind in any way. \((1.25)\)

In his work, "A Guess at the Riddle", Peirce specifically mentions the category of Firstness as the element of real indeterminacy in nature:

Indeterminacy, then, or pure firstness and haecceity, or pure secondness, are facts not calling for and not capable of explanation. \((1.405; c.1690)\)

And earlier in the same work, speaking of Firstness:

The first is that whose being is simply in itself, not referring to anything nor lying behind anything. \((1.356)\)

The first must therefore be present and immediate, so as not to be a second to a representation. It must be fresh and new, for if old it is second to its former state. It must be initiative, original, spontaneous, and free; otherwise it is second to a determining cause. . . . \((1.357)\)

These passages reflect the highly speculative thinking of Peirce's 'cosmological period'. It should always be kept in mind that Peirce's philosophizing on metaphysical matters was always in the spirit of an hypothesis—a guess. In his 1905 Lowell lectures, he was quite willing to admit that the whole question of categories was still very much open:

I must explain that in saying that the three, Firstness, Secondness, and Thirdness, complete the list, I by no means deny that there are other categories. On the contrary, at every step of every analysis, conceptions are met with which presumably do not belong to this series of
ideas. Nor did an investigation of them occupying me for two years reveal any analysis of them into these as their constituents. (1.525)

In concluding my discussion of the categories, it must be admitted that Peirce developed his Firstness, Secondness, and Thirdness in a multitude of different ways—and I have therefore been highly selective in presenting the passages quoted. However, it has been my purpose to reveal the central characteristics of the categories and show how intimately they fit in with, and support, his method of inquiry and his firm belief that there is a real element of indeterminacy in nature.

3. Conclusion

My study is finished. In this third chapter I have sketched several of Peirce's important doctrines and have tried to show ways in which they can be seen as interrelated—both in what they stand for, and in what they oppose. Synecchism (Continuity) was seen to provide the theoretical weapon which was used by both Fallibilism and Tychism (Indeterminacy) against their common enemies: Infallibilism and Determinism. These are issues which are absolutely central to Peirce's method of inquiry. These doctrines of Peirce strengthen the case for his method of inquiry in so far as they can establish themselves against their opposites.
Realism, in opposing Nominalism, minimized the individual and stressed the general—and thus joined forces with the other Peircean doctrines in opposing any theory upholding the absolutely discrete and determinate. Peirce's Idealism also stressed the general (Thought) as against the individual.

And I have just finished arguing that from the metaphysical perspective of the categories, the Peircean first premises of perceptual judgments and instinctive beliefs are seen to spring from the occult, irrational sources of Firstness and Secondness. Indeed, the three categories provide an impressive metaphysical foundation for his method of inquiry.
BIBLIOGRAPHY

Abbreviations used in this bibliography:


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----------. "Habits of Thought", Studies II, pp. 382-400.


203.


