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PRAGMATISM AND THE PAST: CHARLES PEIRCE AND THE CONDUCT OF MEMORY AND HISTORY

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Abstract

My dissertation is entitled *Pragmatism and the Past: CS Peirce on the Conduct of Memory and History*. I start from the longstanding criticism that pragmatism unduly neglects the past in favor of the future. As a response, I interpret Peirce's pragmatism and its associated doctrines in light of his accounts of memory, history, and testimony. In particular, I follow Peirce's own example of a deep engagement with the history of philosophy and related fields. For example, Peirce's account of memory is linked to the development of a notion of the unconscious, which brings in both his work as an experimental psychologist and his interaction with figures such as Helmholtz, Wundt and James. Although my dissertation is primarily a recovery of Peirce's philosophy, it is influenced by a variety of contemporary approaches to issues of memory and testimony, including thinkers such as Coady, Danto, Ricouer, and their commentators.

Overall, I show that Peirce's pragmatism calls for a robust notion of the past, rather than denying or reducing it to the future. Moreover, Peirce's pragmatism offers a promising heuristic for any field of inquiry that concerns the past, and, as Peirce readily considers history a science, stands as a contribution to philosophy of science in general. Finally, Peirce's account of the role of testimony in inquiry offers the promise of a fruitful contribution to another subject of great interest in contemporary philosophy.

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Finally, the person most responsible for my well-being throughout this process is my love, Tracy Peshoff, and I dedicate this work to her. Our son, Malcolm, will get the next one.

Pragmaticism consists in holding that the purport of any concept is its conceived bearing upon our conduct. How, then, does the Past bear upon conduct? The answer is self-evident: whenever we set out to do anything, we 'go upon,' we base our conduct on facts already known, and for these we can only draw upon our memory. It is true that we may institute a new investigation for the purpose; but its discoveries will only become applicable to conduct after they have been made and reduced to a memorial maxim. In short, the Past is the storehouse of all our knowledge.

A certain maxim of Logic which I have called Pragmatism has recommended itself to me for divers reasons and on sundry considerations. Having taken it as my guide in most of my thought, I find that as the years of my knowledge of it lengthen, my sense of the importance of it presses upon me more and more. If it is only true, it is certainly a wonderfully efficient instrument. It is not to philosophy only that it is applicable. I have found it of signal service in every branch of science that I have studied.

-Charles Sanders Peirce, *CP* 5.14 [1903]

Art and science have their meeting point in method.

Edward Bulwer-Lytton (1803 - 1873)

Chapter I: Peirce's Pragmatism and Methodeutic

Introduction

The purpose of this chapter is twofold. My first task is to provide a synoptic account of Peirce's pragmatism, one that recognizes the development of his thought while still maintaining a consistent interpretation of Peirce's philosophy. While there are several fine systematic expositions of Peirce's thought, the needs of the later chapters of this dissertation require a concise presentation of the basic concepts and terms of Peirce's work. In particular, I will articulate Peirce's pragmatism in its early formulation as a logical maxim for clarifying the meaning of concepts, such as 'hardness', or 'reality' (Part A). [1] Then I will briefly characterize pragmatism in its relation to Peirce's other philosophical positions, such as *synechism*, the doctrine of

[1] *CP* 5.18 [1903]: "On their side [other pragmatists], one of the faults that I think they might find with me is that I make pragmatism to be a mere maxim of logic instead of a sublime principle of speculative philosophy."

continuity (Part B). [2] More substantively, I will then offer an interpretation of the organizing principles of Peirce's thought, his *cenopythagorean* categories of Firstness, Secondness, and Thirdness, and then use these concepts to present a robust characterization of Peirce's *semeiotic*, the study of signs (Part C).[3] This effort transitions into the second task of this chapter, which is an argument that the shift in pragmatism as a maxim to achieve a third grade of clarity to pragmatism as a maxim for evaluating hypotheses (*abductions*) is best understood by considering this latter formulation as a consequence for methodeutic, the logic of inquiry, of a semeiotic conception of meaning. In short, what unifies these two ways of formulating pragmatism is Peirce's conception of the nature of a sign, especially symbols, with the understanding that concepts are a type of symbol. Then, in his post-1900 efforts to distinguish his brand of pragmatism from that of William James and others, Peirce expands his characterization of pragmatism from a maxim of clarification into a principle to aid the self-controlled pursuit of true symbols. In other words, the shift is from clarifying the meaning of concepts, to demarcating hypotheses capable of confirmation, and furthermore, with the introduction of principles of economy evaluating hypotheses for the likelihood of confirmation.

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[2] For example, see *CP* 4.584 [1906], where Peirce describes synechism as a synthesis of pragmatism and tychism (the doctrine of absolute/objective chance).

[3] Although Peirce used both spellings ('semiotic' and 'semeiotic'), it has become increasingly common to use 'semeiotic' to refer to an explicitly Peircean study of signs, as semiotics has come to include much of Ferdinand Saussure's *semiology*, and more besides. See Fisch, "Peirce's General Theory of Signs," in *Peirce, Semeiotic, and Pragmatism*, pp. 321-322.

In addition, the following chapters will explore some relatively neglected areas of Peirce's corpus, such as his account of testimony, and will attempt to move beyond Peirce, while hopefully remaining consistent with his principles. Thus, it is important to present my understanding of pragmatism and its role in Peirce's philosophy. Furthermore, it is sound Peircean methodology to approach his thought not in the abstract, but as the product of a living inquirer engaged in debates concerning a deeply contested concept. Like any general concept, pragmatism is susceptible to an indefinite, although not infinite, range of expressions. The disagreements among self-identified pragmatists as to the meaning of pragmatism and its relationships to other philosophical positions exacerbate the problem.[4] For example, William James claimed that his *radical empiricism* is wholly logically distinct from his pragmatism.[5] Nonetheless, James saw the *instrumentalism* of John Dewey and F.C.S. Schiller's *anthropomorphism* (later *humanism*) as near equivalents to his pragmatism. Finally, the

[4] As Doug Anderson notes, "However, writing on the history of pragmatism presents us with a different problem than, say, dealing with historical accounts of Mill's *Logic*. The meaning of 'pragmatism' is routinely contested and, likewise, who is to count as a pragmatist is contested" (Anderson, "Old Pragmatisms, New Histories" 489 [2009]). Anderson concludes his survey of contemporary scholarship on the classical pragmatists with a prediction that future historians will come to appreciate further rthe pragmatic dimensions of feminist philosophy, race theory, etc. However, "[Anderson's] point is *not* that these folks can or should be co-opted by a professional school of thought called 'pragmatism', but that the ideas of the pragmatists were in part shaped by and continued to help shape the cultural outlook of the U.S. in the twentieth century" (Anderson, "Old Pragmatisms, New Histories" p. 518 [2009]).

[5] "To avoid one misunderstanding at least, let me say that there is no logical connexion between pragmatism, as I understand it, and a doctrine which I have recently set forth as 'radical empiricism.' The latter stands on its own feet. One may entirely reject it and still be a pragmatist" (James, *Pragmatism* [1907]). Peirce's own assessment differs: "The famed psychologist, James, first took it [pragmatism] up, seeing that his "radical empiricism" substantially answered to the writer's [Peirce's] definition of pragmatism, albeit with a certain difference in the point of view" (*CP* 5.414 [1905]).

disputes within the pragmatic movement increase in light of the critics of pragmatism, sympathetic and otherwise.[6] The most famous expression of this variegation is perhaps Arthur Lovejoy's 1908 two-part article "The Thirteen Pragmatisms." Here is Lovejoy's assessment of the state of pragmatism on what he took to be its 10th birthday:

> A complete enumeration of the metamorphoses of so protean an entity is, indeed, perhaps too much to expect; but even after we leave out of the count certain casual expressions of pragmatist writers which they probably would not wish taken too seriously, and also certain mere commonplaces from which scarcely any contemporary philosophy would dissent, there remain at least thirteen pragmatisms: a baker's dozen of contentions which are separate not merely in the sense of being discriminable, but in the sense of being logically independent, so that you may without inconsistency accept any one and reject all of the others, or refute one and leave the philosophical standing of the others impugned.[7]

Whether one accepts Lovejoy's analysis, and, if accepting, either sees it as a mark of fatal incoherence or of conceptual vitality, is not the issue here.[8] However, it does indicate the sensibleness of this chapter: to enunciate Peirce's particular brand of pragmatism, or *pragmaticism*, a name Peirce rightly estimated would be safe from kidnappers.[9] Again, although this extensive preamble may seem onerous, it does have

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[6] As one contemporary example, see Bertrand Russell: "James' doctrine is an attempt to build a superstructure of belief upon a foundation of skepticism, and like all such attempts it is dependent on fallacies. In his case, the fallacies spring from an attempt to ignore all extra-human facts…But this is only a form of the subjectivistic madness which is characteristic of most modern philosophy" (*History of Western Philosophy*, ch. 29 [1945])

[7] Lovejoy, "The Thirteen Pragmatisms I" p. 5 [1908]; note that pragmatism has had 100 years to further proliferate since this article.

[8] Lovejoy himself considered his taxonomic work as a necessary component for any "Prolegomena to any future Pragmatism" – see Lovejoy, "The Thirteen Pragmatisms II" p. 39 [1908].

[9] *CP* 5.414 [1905]: "So then, the writer, finding his bantling 'pragmatism' so promoted, feels that it is time to kiss his child good-by and relinquish it to its higher destiny; while to serve the precise purpose of expressing the original definition, he begs to announce the birth of the word

the benefit of being true to Peirce's architectonic intent and will lay out at once many of the concepts and terminology needed for the following chapters.[10]

I.A: The Pragmatic Maxim

William James announced the birth of pragmatism as an idea and movement at the University of California, Berkeley, in 1898, citing in particular Peirce's "How to Make Our Ideas Clear" of twenty years previous.[11] One of several oddities in the development of pragmatism as a philosophical movement is that the acknowledged founder may not have been aware of its public announcement until two years later. That is, when asked to write a definition of "pragmatism" in Baldwin's *Dictionary of Philosophy and Psychology* Peirce had to ask James as to the origin of the term (as likely distinct from the origin of the idea) and its first appearance in print. In reply, James referred to his 1898 talk and remarks that Peirce had not acknowledged receipt of a copy of the paper.[12] In the entry for "pragmatism" in Baldwin's *Dictionary* Peirce asserts that the maxim was first articulated in "How to Make Our Ideas Clear" and notes that "In 1896 William James published his *Will to Believe,* and later his "Philosophical Conceptions and Practical Results," which pushed this method to such

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"pragmaticism," which is ugly enough to be safe from kidnappers." However, Peirce largely returned to the more general term 'pragmatism' in further writings.

[10] *CP* 5.5 [c. 1905]: "…Pragmatism was not a theory which special circumstances had led its authors to entertain. It had been designed and constructed, to use the expression of Kant, architectonically."

[11] In the address "Philosophical Conceptions and Practical Results," republished with some modifications as "The Pragmatic Method" in *The Journal of Philosophy, Psychology, and Scientific Methods*, vol. 1 no. 25 (December 1904), pp. 673-687.

[12] See *CP* 8.253, a postcard exchange from November 1900.

extremes as must tend to give us [Peirce] pause."[13] Compare this to James' immediate caveat to his statement of "…principle of Peirce, the principle of pragmatism. I [James] think myself that it should be expressed more broadly than Mr. Peirce expresses it."[14] Thus began Peirce's efforts to engage in the debates surrounding the burgeoning pragmatic movement. A standard, though simplistic, way of elucidating this disagreement between James and Peirce is that the latter considered the pragmatic maxim as a method of clarifying meaning, while the former used it also as a criterion for truth. As I have suggested, Peirce comes to characterize his pragmatism as something other than, though related to, a theory of meaning. This obscures further the differences between Peirce and James, but here is not the place to pursue this question.[15]

Although we will turn to the consistently pragmatic element in Peirce's overall thought, let us begin by exploring pragmatism directly as expressed in 1878, in light of some of his later reflections.[16] Peirce presents his maxim for "How to Make Our Ideas Clear" in the second of a series of essays entitled "Illustrations of the Logic of Science" published in *Popular Science Monthly*. In a December 17th, 1909 letter to William James,

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[13] *CP* 5.3 [1902] - From "Pragmatic and Pragmatism," *Dictionary of Philosophy and Psychology*, ed. by J.M. Baldwin, The Macmillan Co., New York; vol. 2, pp. 321-322 [1902].

[14] James, "The Pragmatic Method" p. 674 [1904]

[15] We will return to this briefly in Chapter III, as part of the issue is the nature of percepts and their relationship to concepts.

[16] Peirce himself notes that he stated something quite like the pragmatic maxim in 1868's "Consequences of Four Incapacities" – "This was said in 1868, before declaring for pragmaticism, thus: 'No present actual thought (which is mere feeling) has any meaning, any intellectual value; for this lies, not in what is actually thought, but in what the thought may be connected with in representation by subsequent thoughts; so that the meaning of a thought is altogether something virtual.' This paper in fact expresses a kind of pragmatism not unlike that of Professor James" CP 5.504 fn P1 [1905]. Nonetheless, Peirce's "How to Make Our Ideas Clear" is the first sustained account of pragmatism in its formulation as a maxim.

Peirce refers to this particular article as "The Settlement of Opinion" – a phrase used several times in the article, although one with a slightly different connotation than 'fixing belief' – while both involve establishing permanence, compare 'settling a dispute' to 'fixing a chair'.[17] Perhaps this late re-titling expresses another attempt to distinguish his pragmatism from that of James. Regardless, in 1872-1873 Peirce worked on a logic book that contains many of the same ideas as the "Illustrations of the Logic of Science" series, and there he does consistently use 'settling opinion' as draft chapter titles.[18] However, as Max Fisch notes, "One of the striking differences between the 1872-73 chapter drafts toward a logic book and the 1877-1878 'Illustrations of the Logic of Science' is the prominence of the theory of signs in the former and its absence in the later."[19] We will return to this topic below. For now, let us briefly recount the conclusions of "The Fixation of Belief" so that we may have the proper background for "How to Make Our Ideas Clear."

Starting from an explicitly evolutionary background – for example, noting that natural selection may limit our innate logicality to practical matters – Peirce presents his formulation of the doubt-belief theory of inquiry and four methods for fixing belief: tenacity, authority, *a priori*, and science.[20] In brief, "[t]he irritation of doubt causes a

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[17] See *CP* 8.302 [1909]
[18] See *W* 3: 14, 16, 24 [1872] for examples.
[19] *W* 3: xxxv [1982]
[20] In 1872 Peirce identifies these four methods as [obstinance], persecution, public opinion, and investigation or reasoning (*W* 3: 15-19 [1872]). The most significant difference in this earlier taxonomy is that the *a priori* method is cast in a social form, "…to cultivate a public opinion by oratory and preaching…" while the method of authority is limited to use of "…fire and sword to adopt one belief, to massacre all who dissent from it and burn their books" (*W* 3: 15 [1872]).

struggle to attain a state of belief. I shall term this struggle *inquiry*…"[21] Peirce notes that calling this struggle 'inquiry' is not wholly felicitous, undoubtedly in part because 'inquiry' has moved away from its more general etymological root of 'asking' or 'seeking'. Furthermore, a belief "…puts us into such a condition that we shall behave in a certain way, when the occasion arises."[22] Thus, as "…the settlement of opinion is the sole end of inquiry…" a method of fixing belief involves the creation of habits that will not be unsettled by further experience.[23] The method of tenacity must ultimately fail this goal due to both the vagaries of personal experience and the inherent sociality of human beings – believing just what *I* believe is nigh impossible when others believe differently. Indeed, how would one even come to hold an absolutely idiosyncratic belief? This is true as well for the method of authority, which can be seen as tenacity on a social level, because"…no institution can undertake to regulate opinions on every subject…" let alone the opinions of other societies, contemporary and historical.[24] Already we can see the implied importance that the testimony of others has on us, as well as the germ of the notion that truth is fundamentally public.[25]

For a brief survey of the commentary on the selection of these particular four 'methods' and their role in Peirce's argument, see Anderson's *Strands of System,* 82-86 [1995].

[21] *W* 3: 247 [1877]

[22] *W* 3: 247 [1877]

[23] *W* 3: 248 [1877]

[24] *W* 3: 251 [1877]

[25] Cf. Struhl's "Peirce's Defense of the Scientific Method" [1975]: "It follows from [the social impulse], that when we ask 'What is the best method for fixing belief?' we are raising the question for the community and not for the individual. As we have seen, it is their failure to arbitrate for the community of mankind that causes Peirce to reject the first three method for fixing belief" (p. 485).

Things become a bit more complicated with the *a priori* method of fixing belief, as it "…shall not only produce an impulse to believe, but shall also decide what proposition it is to be believed."[26] This method fixes belief in terms of what is 'agreeable to reason', but again fails due to the idiosyncrasies of people, as evidenced by the interminable debates in speculative metaphysics. Indeed, as Peirce remarked nearly a decade earlier: "The result [of the *a priori* method] is that metaphysicians will all agree that metaphysics has reached a pitch of certainty far beyond that of the physical sciences; -- only they can agree upon nothing else."[27] In other words, the subservience of reason again fails the criterion of public accountability, and therefore can only fix the belief of the preternaturally tenacious. However, it does offer the innovation of providing a particular content for a belief. While it is unclear what Peirce means here, I will suggest in Chapter IV that part of this innovation is the establishment of responsibility for a belief through a personal commitment to reason. In other words, the tenacious believe capriciously, and thus irrationally, while the method of authority provides beliefs for which others are responsible.[28] Finally, Peirce turns to a fourth method, that of science, "…by which our beliefs may be caused by nothing human, but by some external permanency…something which affects, or might affect, every man."[29]

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[26] *W* 3: 252 [1877]

[27] *CP* 5.265 "Some Consequences of Four Incapacities" [1868]. Properly, Peirce is criticizing the use of the "…Cartesian criterion, which amounts to this: 'Whatever I am clearly convinced of, is true'" although this is obviously an instance of apriorism.

[28] "He [the tenacious] does not propose himself to be rational, and, indeed, will often talk with scorn of man's weak and illusive reason" (*EP* 1: 116 [1877]).

[29] *W* 3: 253 [1877]. In "Peirce's Theory of Inquiry" John Fitzgerald argues that we must be clear in understanding 'the method of science' in a Peircean sense, although Peirce does little to explain his particular conception of science in the "Illustrations." This is likely because Peirce

Despite the virtues of the other methods – resoluteness, social cohesion, and personal responsibility to reason –, it is with science that we have a hope of permanently settling opinion.[30] Most importantly, the method of science rests upon a hypothesis of an independent, objective reality, and thus includes both a notion of objective truth, as well as a criterion for distinguishing good and bad reasoning.[31] Clarifying this conception of reality and truth is the culminating application of the pragmatic maxim in "How to Make our Ideas Clear," so let us now turn to that article directly. "How to Make our Ideas Clear" opens with a criticism of the modern logical ideals of 'clear and distinct' conceptions, arguing that the former amounts to familiarity and the latter to abstract definition.[32] However, Peirce asserts that the principles set forth in "The

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did not complete this series of articles, concluding with the irreducibility of the three forms of inference in "Deduction, Induction, and Hypothesis," (*W* 3: 323-338 [1878]) which would be a natural lead in to a discussion of the function of these three forms in scientific inquiry. We will return to the question of Peirce's conception of science in Chapter V.

[30] For an extended argument that the "Illustrations" series suffer from some inconsistencies, and that these inconsistencies arise from Peirce's tacit use of the *a priori* method, particularly in his definitions of doubt and belief, see Peter Ochs, "A Pragmatic Method of Reading Confused Philosophic Texts: The Case of Peirce's 'Illustrations'" [1989]. Although we cannot purse Ochs' argument in detail here, it is consistent with Peirce's increased respect for the role of *a priori*-type appeals in scientific inquiry after his historical researches of the early 1890's. Here is one example: "In examining the reasonings of those 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. Galileo appeals to *il lume naturale* at the most critical stages of his reasoning" (*CP* 1.80 [c. 1896]). Thus, appeals to what is agreeable to reason are justified in the light of our evolutionary success. Nonetheless, I consider Peirce consistent in that *a priori* appeals should not be the basis for *fixing* a belief, but rather can only suggest which beliefs are worthy of proper scientific inquiry. For example, "In fact, the two great branches of human science, physics and psychics, are but developments of that guessing-instinct *under the corrective action of induction*" (*CP* 6.531 [c. 1901], emphasis added).

[31] See *W* 3: 255 [1877]: "The test of whether I am truly following the method [of science] is not an immediate appeal to my feelings and purposes, but, on the contrary, itself involves the application of the method."

[32] *W* 3: 258-260 [1878]

Fixation of Belief" "…lead, at once, to a method of reaching a clearness of thought of a far higher grade than the 'distinctness' of the logicians."[33] These principles are the doubt-belief model of inquiry and the scientific hypothesis of an external reality. As the purpose of thought is to resolve the dissatisfaction of doubt into belief, and beliefs are habits of action, the meaning of a thought is therefore the habits it involves. Now, "[w]hat the habit is depends upon *when* and *how* it causes us to act. As for the *when,* every stimulus to action is derived from perception; as for the *how*, every purpose of action is to produce some sensible result."[34] From this, Peirce states perhaps the most famous formulation of what becomes the pragmatic maxim:

> It appears, then, that the rule for attaining the third grade of clearness of apprehension is as follows: 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.[35]

Our first question is what justifies calling this maxim *pragmatic*, although not named as such in this article. As Peirce himself notes in 1905, some thought that this doctrine would be better named "*practicism* or *practicalism*" but as someone who came to philosophy through Kant, for Peirce "…*praktisch* and *pragmatisch* were as far apart as the two poles, the former belonging in a region of thought where no mind of the

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[33] *W* 3: 261 [1878]. For a substantial clarification of Peirce's grades of clarity in terms of somatic competency (clearness/familiarity) and deliberative expertise (pragmatic clarity), see Colapietro, "Habit, Competence, Purpose: How to Make the Grades of Clarity Clearer" [2009]. As Colapietro argues, "…the Peircean conception of habit is as relevant to offering an adequate account of the *first* grade of conceptual clearness as this conception is itself pertinent to providing such an account of the third grade. While our adept familiarity (or the first level of clarity) is rooted in the fluid functioning of unreflective habits, our pragmatic clarifications flower from deliberately cultivated, explicitly identified habit" (p. 367).

[34] *W* 3: 265 [1877]

[35] *W* 3: 266 [1878]

experimentalist type can ever make sure of solid ground under his feet, the latter expressing relation to some definite human purpose."[36] Richard Smyth argues that Peirce is particularly indebted to "…Kant's analysis of practical reason in his *Fundamental Principles of the Metaphysics of Morals*."[37] This specific attribution aside, it is apparent that Peirce rejects Kant's understanding of the 'practical' in terms of a categorical imperative based upon the constitution of Reason in favor of the *hypothetical* imperatives of the 'pragmatic.'[38] This is apparent already, for example, in Peirce's rejection of the *a priori* method of fixing belief, which stops at a commitment to an abstract reason and thus often elevates contingent principles to universal truths. In particular, Peirce implies that a Kantian practical reason too easily becomes a type of solipsism, while a truly scientific method requires engagement with external reality. As Smyth argues, "Hence, if the conclusion of 'The Fixation of Belief' is accepted, the method of making our ideas clear must be a method in which the effect of something

[36] *CP* 5.412 [1905]; this may be a response to James' "The Pragmatic Method" of 1904 in particular, as James refers to the 'principle of practicalism.'

[37] Smyth, "The Pragmatic Maxim in 1878" p. 94 [1977]

[38] Actually, considering Peirce's devotion to the *Critic of Pure Reason*, this passage from the Doctrine of Method is most likely the source of his preference for the root *pragma*: "The physician must do something for a patient in danger, but does not know the nature of his illness. He observes the symptoms, and if he can find no more likely alternative, judges it to be a case of phthisis. Now even in his own estimation his belief is contingent only; another observer might perhaps come to a sounder conclusion. Such contingent belief, which yet forms the ground for the actual employment of means to certain actions, I entitle *pragmatic belief*. The usual touchstone, whether that which someone asserts is merely his persuasion -- or at least his subjective conviction, that is, his firm belief -- is *betting*" (Kemp Smith translation, pp. 647-648; A824/B852 [1781]). In other words, Kant's criterion of certainty for knowing, and necessity for practical belief, conflicts with Peirce's experimentalist fallibilism, and thus by Peirce's light the only kind of belief that we may reasonably claim to have is pragmatic.

external to ourselves is allowed to be reflected in the ideas that are studied."[39] This insight affirms the importance of the *objects* that have effects on us, which is somewhat obscured by the grammar of Peirce's maxim.[40] In other words, the pragmatic maxim demands an appeal to the external reality of the scientific method of fixing belief over the appeal to reason alone of the *a priori* method, without denying the importance of reason.

Even with this mild corrective regarding the importance of objects in constituting the meaning of concepts, this statement of the pragmatic maxim obviously centers on conception, both as an activity and as the product of said activity. Reflecting on this essay in 1906, Peirce asserts that there are two reasons for the repetition of derivations from the Latin *concipere*.[41] "One was to show that I was speaking of meaning in no other sense than that of *intellectual purport.* The other was to avoid all danger of being understood as attempting to explain a concept by percepts, images,

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[39] Smyth, "The Pragmatic Maxim in 1878" p. 101 [1977]. This paragraph concludes: "The defect of all practicalism as methods of clarifying ideas is that they ask us to view our ideas as things we make or as things that arise in the course of what we do. The correct, pragmatic, view is that every idea that can end as a clear idea must begin as an idea that is made in us by the things that force themselves to our attention and stimulate inquiry."

[40] Strictly speaking, only the *effects* on us are the basis for concepts, as the objects in question are hypothetical. Peirce's 1872 drafts also do much more to emphasize the role of observation in scientific inquiry – "Investigation consists necessarily of two parts, one by which a belief is generated from other beliefs, which is called *reasoning*; and another by which new elements of belief are brought into the mind, which is called observation" (*W* 3: 60 [1872]).

[41] *Concipere* derives from the intensive prefix *com-* and *capere*, or "to take," and thus has the sense of "to take completely" or "to take in and hold." Conception in the sense of pregnancy is original, with the sense of "to take into the mind" arising c. 1340. Peirce was skeptical about favoring etymologies over current usage to establish the meaning of a word and in his own dictionary entry for *conception* placed the mental activity as sense 1 and that of becoming pregnant as sense 3 – see *The Century Dictionary*, p. 1162 [1890]. Nonetheless, the sense of taking in something else and gestating it should not be neglected.

schemata, or by anything but concepts."[42] This is perhaps the key logical difference between James and Peirce, as Peirce himself remarked: "…there is the pragmatism of James, whose definition differs from mine only in that he does not restrict the 'meaning,' that is, the ultimate logical interpretant, as I do, to a habit, but allows percepts, that is, complex feelings endowed with compulsiveness, to be such."[43] That is, James' nominalistic tendencies rest in part on giving 'emotions' a prime role in the meaning of concepts, or also in identifying truth with satisfaction. At issue here may be the difference between temporary emotional states and the tendencies of feeling that help constitute one's character, a distinction going back to Aristotle. We will explore some further criticisms of James made by Peirce in Chapter III.

Peirce's own nominalistic tendency in this period expresses itself in the first application of his maxim for clarifying ideas, the idea being 'hardness.' Therein he asserts that the meaning of 'hardness' is resistance to scratching, and that "There is absolutely no difference between a hard thing and a soft thing so long as they are never brought to the test."[44] Indeed, whether we call a diamond never brought to the test 'hard' is a matter of convention, and we certainly imagine languages where diamonds and pudding are both 'quaggy' until touched.[45] Peirce later repudiated this section of "How to Make Our Ideas Clear" noting, for instance, the variety of other properties a

[42] *CP* 5.402 fn 3 [1906]; cp. *CP* 8.208 [c. 1905]: "I deny that pragmaticism as originally defined by me made the intellectual purport of symbols to consist in our conduct. On the contrary, I was most careful to say that it consists in our *concept* of what our conduct *would* be upon *conceivable* occasions."
[43] *CP* 5.494 [c. 1906].
[44] *W* 3: 266 [1878]
[45] *Quaggy* means "like a bog or marsh; soft and flabby" – compare *quagmire* – and is chosen for its obscurity.

diamond has that seem concomitant with hardness.[46] More generally, Peirce says that the hardness of a diamond never tested may not be an *actual* fact, but still is a *real* fact, and thus a linguistic convention that untested diamonds are quaggy must still be consistent with this reality if it is to be true.[47] In other words, if we take 'hardness' as pragmatically meaning that "If X is tested, then X *should* be hard" the falsity of the antecedent (X never actually being tested) does not force the falsity of the consequent, or the conditional as a whole.[48] Peirce uses precisely this sort of formulation in expressing his maxim in 1903: "Pragmatism is the principle that every theoretical judgment expressible in a sentence in the indicative mood is a confused form of thought whose only meaning, if it has any, lies in its tendency to enforce a corresponding practical maxim expressible as a conditional sentence having its apodosis in the imperative mood."[49] This is not to suggest, of course, that Peirce reduces meaning to truth-functionality in any particular way, but it does imply a close relationship between meaning and at least the possibility of truth. Peirce claims as much when offering this

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[46] *CP* 5.457 [1905]: "Remember that this diamond's condition is not an isolated fact….From some of these properties hardness is believed to be inseparable. For like it they bespeak the high polemerization [sic] of the molecule."

[47] Those who find this notion implausible should consider non-Newtonian fluids, such as a suspension of cornstarch, whose viscosity varies with force. Indeed, one may run across the surface of such a fluid, while standing still leads to sinking.

[48] Indeed, the falsity of the antecedent establishes the truth of the conditional as a whole when taken as a material (Philonian) implication, but like an argument with contradictory premises, it is only trivially true (valid).

[49] *CP* 5.18 [1903]. The Kantian terminology of this formulation is explicit; let me note here only that one of the revelations of the logic of relatives over Aristotelian logic informing Peirce is that categorical and hypothetical propositions are 'one in essence.' For example, "The categorical proposition, 'every man is mortal,' is but a modification of the hypothetical proposition, 'if humanity, then mortality'; and since the very first conception from which logic springs is that one proposition follows from another, I hold that 'if *A*, then *B*' should be taken as the typical form of judgment" (*CP* 2.710 [1883]).

formulation of his pragmaticism: "The successes of modern science ought to convince us that induction is the only capable *imperator* [authority] of truth-seeking. Now pragmaticism is simply the doctrine that the inductive method is the only essential to the ascertainment of the intellectual purport [meaning] of any symbol."[50] Thus, let us turn to his pragmatic clarification of truth and reality.

Famously, and controversially, Peirce presents his clarification as follows: "The opinion which is fated to be ultimately agreed to by all who investigate, is what we mean by the truth, and the object represented in this opinion is the real."[51] I will have more to say about reality when we turn to the companions of Peirce's pragmatism, especially the meaning of his 'extreme' scholastic realism, so let us focus on the meaning of truth for now. There is a great deal of debate concerning Peirce's conception of truth, both in terms of Peirce's various formulations and in whether it is best characterized as a correspondence theory, a coherence theory, or something else.[52]

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[50] *CP* 8.209 [c. 1905]. To be clear, Peirce is explicit that the 'inductive method' involves all three modes of inference (abduction, deduction, and induction), and nothing besides.

[51] *W* 3: 273 [1878]. Peirce adds a footnote concerning fate: "Fate means merely that which is sure to come true, and can nohow be avoided. It is a superstition to suppose that a certain sort of events are ever fated, and it is another to suppose that the word fate can never be freed from its superstitious taint. We are all fated to die." Christopher Hookway marks the last two sentences of this footnote as somewhat mysterious without specification (*Truth, Rationality, and Pragmatism* p. 46 [2001]). However, one obvious example of the distinction Peirce makes lies between astrology and astronomy – Libras are not fated to be lawyers, while our sun *is* fated to become a red giant.

[52] Almeder's "Peirce's Thirteen Theories of Truth" [1985], while outdated, is still a useful survey of the varieties of *interpretations* of Peirce's theory of truth (a caveat missing from the title). Almeder himself argues that "…the apparent incoherence of Peirce's position dissolves if we can argue (as I did) that one's conception of truth can be defined relative to a final theory destined to be reach by the scientific community and that it can also be defined as relative to a current theory or body of evidence" ("Peirce's Thirteen Theories of Truth" pp. 90-91 [1985]). See also Almeder's *The Philosophy of Charles Peirce: a Critical Introduction*.

We will address these debates in more detail when we turn to Peirce's account of assertion in Chapter IV but for now let me note that part of the pragmatic understanding of truth lies in the rehabilitation of the common sense (and etymologically primordial) notion of truth as fidelity or reliability. In other words, pragmatism involves in part doing justice to the vague sense in which a true proposition and a true friend have a property in common.[53] For example, fidelity to reality maintains a sense of correspondence without yet establishing a particular account of what such fidelity means, like the empiricist copy-theory of images.[54]

However, in the specific context of these two essays, the main question is the move from 'true' as an alternate or supererogatory description of a satisfying belief to that of the ultimate fated opinion.[55] This is pertinent especially because of Peirce's consistent opposition to psychologism, particularly those forms that would reduce logicality and truth to feelings, such as he feared that James did.[56] Indeed, in c. 1906 Peirce seems to repudiate this claim wholly, saying that "As to this doctrine, if it is meant that True and Satisfactory are synonyms, it strikes me that it is not so much a

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[53] As Cheryl Misak argues, for Peirce ""the concept of truth is internally related to the concept of assertion" ("Deflating Truth: Pragmatism *vs*. Minimalism," p. 418 [1998]).

[54] For Peirce's critique of this view as another form of intuitionism, see Chapter II.

[55] Compare Richard Rorty's claim that a Jamesian pragmatism asserts "Truth is simply a compliment paid to sentences seen to be paying their way" ("Pragmatism, Davidson, and Truth" [1986]).

[56] For one example, "It may be remarked that nobody would care to study logic unless he had already made up his mind that men were so apt to err in their sense of logicality as often to reason ill, and unless he held the distinction between reasoning well and reasoning ill was that the former is conducive to the knowledge of the *truth*, and the latter not so, and that by truth is meant something not dependent upon how we feel or think it to be. Upon Sigwart's principle the distinction would be a mere distinction of taste, or the satisfaction of a subjective feeling. This harmonizes only too well with the practice of German university professors, whose opinions are mainly founded on subjective feeling and upon fashion" (*CP* 2.20 [c. 1902]).

doctrine of philosophy as it is a new contribution to English lexicography."[57] I think the key here is to recognize that Peirce's exposition of the methods of fixing belief is more of a *logical* one, beginning with a vague common sense notion of truth as satisfaction — which includes elements of fidelity and reliability —, and then moving from the simple (tenacity) to the complex (science). Peirce himself argues for this interpretation:

> My paper of November 1877, setting out from the proposition that the agitation of a question ceases when satisfaction is attained with the settlement of belief, and then only, goes on to consider how the conception of truth gradually develops from that principle under the action of experience; beginning with willful belief, or self-mendacity, the most degraded of all intellectual conditions; thence rising to the imposition of beliefs by the authority of organized society; then to the idea of a settlement of opinion as the result of a fermentation of ideas; and finally reaching the idea of truth as overwhelmingly forced upon the mind in experience as the effect of an independent reality.[58]

This means that one should not think of this quasi-Hegelian dialectical account of the development of the concept of truth as purely one of historical development, just as Hegel's own accounts become odd when viewed from the perspective of chronology.[59] Indeed, the assertion that "Everybody uses the scientific method about a great many

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[57] *CP* 5.555 [c. 1906]

[58] *CP* 5.546 [c. 1906]

[59] Peirce's relationship to Hegel and Hegelianism is a complex one, although broadly we can say that Peirce recognized their general similarity while emphasizing profound differences. For one fuller analysis of the two philosophies, see Shapiro's "Peirce's Critique of Hegel's Phenomenology and Dialectic" [1981]. In our current context, an 1893 addition to "The Fixation of Belief" marks Hegel as an *a priori* philosopher: "As for Hegel, who led Germany for a generation, he recognizes clearly what he is about. He simply launches his boat into the current of thought and allows himself to be carried wherever the current leads. He himself calls his method *dialectic*, meaning that a frank discussion of the difficulties to which any opinion spontaneously gives rise will lead to modification after modification until a tenable position is attained. This is a distinct profession of faith in the method of inclinations" (*CP* 5.382 fn P1 para 3/6 [1893]). Note, however, that the dialectic of Hegel does tend to improve the adequacy of opinions.

things, and only ceases to use it when he does not know how to apply it" is obviously implausible if we take Peirce as claiming that the scientific method first arose in 16th century Europe.[60] Thus, as each of these methods are active tendencies in all ages, the base notion of truth as satisfaction is present alongside the scientific notion of truth as that which *would* be 'satisfactory' for *everyone* after sufficient inquiry. The difference is that we have become self-aware of the scientific method, and thus can aim for its conscious application to even obscure phenomena. It is similarly tempting to read this movement as recapitulating the maturation of an individual – the tenacity of an infant up through a communally minded adult. This fits with Peirce's general account of the development of self-consciousness: "Thus, [a child] becomes aware of ignorance, and it is necessary to suppose a *self* in which this ignorance can inhere. So testimony gives the first dawning of self-consciousness."[61] Despite these parallels, Peirce is not fundamentally appealing to the supposed facts of developmental psychology or speculative history, but rather simply to common sense, and the universal experience of doubt and its resolution. In short, Peirce is appealing to phenomenology, and thus avoids the pernicious psychologism of basing logic about the results of a special science, as I will explain further in Section C of this chapter, as well as Peirce's assessment of the Common Sense philosophy of Thomas Reid in Chapter II.

Returning to the topic at hand, the key notion here is simply that truth is public, not strictly a property of propositions or of what *I* know, but rather of what *we* (could)

[60] *W* 3: 254 [1877]
[61] *W* 2: 202 [1868]

know.[62] Thus, from the explicit recognition of truth as communal, we come to defining the 'true' pragmatically as that which would be believed by an ideal community of those who investigate.[63] This brings us back to the pragmatic clarification of the meaning of truth in highlighting its conditional form. Furthermore, while this conditional form emphasizes the future – the true is that which would be agreed upon *in the long run* – it does not limit it to future considerations. Indeed, there are many beliefs that are already settled, and thus are likely are true, and while fallibilism advises that any number of them could be false, it is unpragmatic to take them as false without a definite reason. Peirce argues exactly this in his review of Josiah Royce's *The Religious Aspect of Philosophy*.[64] In particular, this point is part of a response to Royce's criticism that no merely possible settlement of belief can be satisfactory. Quoting Peirce:

> In the first place, then, 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

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[62] Compare Peirce's dismissal of mysticism: "Some mystics imagine that they have such a method in a private inspiration from on high. But that is only a form of the method of tenacity, in which the conception of truth as something public is not yet developed" (*W* 3: 253[1877]). Moreover, "… individualism and falsity are one and the same… Especially, one man's experience is nothing, if it stands alone. If he sees what others cannot, we call it hallucination. It is not 'my' experience, but 'our' experience that has to be thought of; and this 'us' has indefinite possibilities" (*CP* 5.402 n. 2 [1893]).

[63] Of course, the bounds for this community are immensely vague. That is, if we take any movement from doubt to a new belief as 'inquiry', what truly distinguishes the *scientific* inquirer? For one analysis of this question in light of Peirce's 1898 claim that belief has *no* role in science, see Hookway's *Truth, Rationality, and Pragmatism*, especially chapter 1. On one level, Peirce certainly accepts that the role of a scientist is to *unsettle* beliefs, while maintaining hope for a future ultimate settling of opinion. Here is one example: "Conservatism -- in the sense of a dread of consequences -- is altogether out of place in science -- which has on the contrary always been forwarded by radicals and radicalism, in the sense of the eagerness to carry consequences to their extremes. Not the radicalism that is cocksure, however, but the *radicalism that tries experiments*" (*CP* 1.148 [c. 1897]).

[64] See *CP* 8.39-8.54 [1871]

> or even a hundredth of all the beliefs established beyond present doubt, there must remain a vast multitude in which the final opinion has been reached. Every directory, guide-book, dictionary, history, and work of science is crammed with such facts.[65]

We live already among a multitude of truths, and even more significant than the collection of stable facts are the general instincts and common sense beliefs that guide our conduct. The catch, however, is that these instinctive beliefs are inherently vague, and as such are resistant to undue specification:

> For instance, we all think that there is an element of order in the universe. Could any laboratory experiments render that proposition more certain than instinct or common sense leaves it? It is ridiculous to broach such a question. But when anybody undertakes to say *precisely* what that order consists in, he will quickly find he outruns all logical warrant.[66]

I would like to note that while the purpose of the pragmatic maxim is to cut away 'metaphysical' nonsense by clarifying semantic muddles, at least in the 1870's, it can serve also in resisting tacit over-specification of general concepts. That is, by exposing a confused equivocation between specified senses of a general concept, such as 'order', pragmatism encourages explicitly declaring which sense of a concept one uses.[67] This is in accord in good scientific conduct, as exampled by the two different primary approaches to gases, in that fruitful inquiry is sustained by stating whether one is treating the gas as an aggregate of molecules or as a fluid for a certain experiment.

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[65] *CP* 8.43 [1871]

[66] *CP* 6.496 "Answers to Questions Concerning My Belief in God" [c. 1906]

[67] Compare the following: "The pragmatic maxim is, minimally, the explication of a defining disposition of the experimentalist mind: it elevates to the level of an explicit principle of conduct what ordinarily operates at the level of effective habituation" (Colapietro, "Peirce the contrite fallibilist, convinced pragmaticist, and critical commonsensist" [1996]).

Likewise, appeal to a common sense notion, such as justice, can lead to inquiry that is more fruitful if one specifies distributive or retributive justice *at the outset*.

Now that we have come to have a sense of familiarity, and an abstract definition, of the pragmatic maxim, let us deepen the third grade of clarity by turning towards the relationship between pragmatism and some of Peirce's other doctrines.

I.B: Pragmatism and its Companions

In the 1880's Peirce began to focus on developing a fully architectonic philosophy based upon his short list of categories established 20 years earlier, culminating in the *Monist* Metaphysical series of 1891-1893.[68] In particular, in "The Law of Mind" of 1892 Peirce declares for a philosophy of *synechism*, the doctrine that a specific conception of continuity is of "…prime importance in philosophy…"[69] In this essay Peirce is explicitly returning to the conclusions of the *Journal of Speculative Philosophy Series* of 1868-1869 while newly articulating other doctrines that he has developed. While we can only briefly review Peirce's doctrine of synechism and its consequences, at least as conceived in 1892, this material is an important point for improving our understanding of pragmatism because of at least two, later, remarks.[70] First, in 1906 Peirce refers to

[68] More on Peirce's categories in section C.1.
[69] *EP* 1: 313 "The Law of Mind" [1892]
[70] This qualification is primarily because a proper exposition of Peirce's conception of continuity involves higher mathematics and issues in the philosophy of mathematics. Here is a typical definition of continuity by Peirce: "A true continuum is something whose possibilities of determination no multitude of individuals can exhaust. Thus, no collection of points placed upon a truly continuous line can fill the line so as to leave no room for others, although that collection had a point for every value towards which numbers, endlessly continued into the decimal places, could approximate; nor if it contained a point for every possible permutation of all such values" (*CP* 6.171 [1901]). For one exposition of the topics involved, see the

synechism as a synthesis of pragmatism and *tychism*, the doctrine of absolute chance, and in 1905 even states that a proof of pragmatism "…would essentially involve the establishment of the truth of synechism."[71]

Of the many formulations of the principle of synechism, the following is typical: "Synechism is founded on the notion that the coalescence, the becoming continuous, the becoming governed by laws, the becoming instinct with general ideas, are but phases of one and the same process of the growth of reasonableness."[72] At another point, Peirce will claim simply that synechism is the doctrine of *fallibilism* objectified; that is, a metaphysical principle derived from the inherent limitations of human knowledge.[73] Although the primacy of logic over metaphysics may be controversial, Peirce identifies with the tradition of Aristotle and Kant, who also based metaphysics upon logic.[74] This heritage should remind us that Peirce does not base synechism upon the putative facts of experimental psychology, but rather upon his logical/semeiotic investigations. This also explains, to some degree, the following claim: "Synechism is not an ultimate and absolute metaphysical doctrine; it is a regulative principle of logic, prescribing what

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introduction to *RLT*. For a classic article on Peirce's various definitions of continuity, see Potter and Shields [1977].

[71] *CP* 5.415 "What Pragmatism Is" [1905]; see *CP* 4.582 [1906] for the comment regarding tychism.

[72] *CP* 5.4 [1902]

[73] *CP* 1.171 [c. 1897]: "The principle of continuity is the idea of fallibilism objectified. For fallibilism is the doctrine that our knowledge is never absolute but always swims, as it were, in a continuum of uncertainty and of indeterminacy. Now the doctrine of continuity is that *all things* so swim in continua."

[74] *CP* 2.121 [c. 1902]: "As to Metaphysics, if the theory of logic which is to be developed in this book has any truth, the position of the two greatest of all metaphysicians, Aristotle and Kant, will herein be supported by satisfactory proof, that 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."

sort of hypothesis is fit to be entertained and examined."[75] Regarding the first clause, synechism may yet be a metaphysical doctrine, but as fallibilism objectified it would be self-contradictory for it to be one that is ultimate and absolute. More intriguing is the second clause, because this characterization of synechism is much like Peirce's 1903 definition of pragmatism as the logic of abduction, which invokes the relationship between synechism and pragmatism noted above.[76] For example, metaphysical hypotheses that presuppose or assert discontinuities are logically suspect for claiming knowledge that there are such discontinuities. While it would be hasty to equate *simpliciter* pragmatism and synechism, it seems clear that Peirce's post-1900 reflections on pragmatism show a strong connection between both doctrines. Explaining the relationship between a maxim for clarifying ideas and a doctrine of continuity in more detail will require the semeiotic concepts introduced in the second part of the next section on Peirce's proofs of pragmatism. For now, let us turn to the consequences of synechism identified in 1892, while keeping in mind that we should consider these as consequences of pragmatism as well.

The corollaries of synechism are at least three: "…first, a logical realism of the most pronounced type; second, objective idealism; third, tychism, with its consequent thorough-going evolutionism."[77] Let us take them in order. First, the surface

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[75] *CP* 6.173 [1902]

[76] *EP* 2: 234 "Pragmatism as the Logic of Abduction" [1903]: "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, this is *all* that the maxim of pragmatism really pretends to do, at least so far as it is confined to logic, and is not understood as a proposition in psychology."

[77] *EP* 1: 333 [1892]

contradiction between realism and idealism is resolved by recognizing again the primacy of logic to metaphysics; that is, it is Peirce's view that a proper *logical* realism entails the *metaphysical* position of objective idealism.[78] Here is one example: "There are certain questions commonly reckoned as metaphysical, and which certainly are so, if by metaphysics we mean ontology, which as soon as pragmatism is once sincerely accepted, cannot logically resist settlement."[79] This logical realism is obviously the scholastic realism that Peirce first explicitly argued for in 1871 in his review of Fraser's collected works of Berkeley. Therein Peirce outlined his understanding of the medieval controversy between nominalism and realism. He begins by noting that both accept the common sense notion of reality as "…that which is not whatever we happen to think it, but is unaffected by what we may think of it."[80] The question then becomes where does one find the real, and the answer to this questions marks the difference between nominalism and realism. Briefly, on Peirce's account the nominalists hold that the real, or that which constrains our opinions, is wholly independent of our mind, while realists hold that the real is independent of the idiosyncrasies of individual minds, but not of mind in general. In other words, "… [realism] was to regard the reality as the normal product of mental action, and not as the incognizable cause of it."[81] Furthermore, if

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[78] Translating Peirce's conceptions into the language of the contemporary debates between realists and anti-realists often had exacerbated this confusion. For one clarifying analysis in this vein, see Bruce Altshuler's "Peirce's Theory of Truth and the Revolt against Realism" [1982]. The key qualification here is that Altshuler sees Peirce as revolting against *metaphysical* realism. Furthermore, in "Peirce's Semeiotic and Ontology" [1994] Kelly Parker uses this fundamental distinction to criticize David Savan's argument for 'semiotic realism.'

[79] *CP* 5.496 [c. 1906]

[80] *W* 2: 467 [1871]

[81] *W* 2: 471 [1871]

reality is the normal product of mental action, then at least some generals, the means and products of mental action, are necessarily real. The extremity of Peirce's logical realism (its being of a 'pronounced type') lies in part as being more of a realist than Duns Scotus. For example, "Even Duns Scotus is too nominalistic when he says that universals are contracted to the mode of individuality in singulars, meaning, as he does, by singulars, ordinary existing things."[82] That is, Scotus hesitates in attributing full reality (i.e., independence) to generals.[83]

From this scholastic realism, we turn to the metaphysical doctrine of objective idealism, the one intelligible theory of the universe "…that matter is effete mind, inveterate habits becoming physical laws."[84] As Peirce argued two years earlier, the rejection of Cartesian dualism, and thereby avoiding the interaction problem, leaves three possibilities: monism (or *neutralism*), materialism, or idealism.[85] Neutralism is rejected by Peirce in accordance with Occam's Razor as it reinscribes a dualism, if only a 'property' dualism. On the other hand, Peirce rejects materialism for leaving consciousness wholly inexplicable. Hence, Peirce sides with idealism, the position that physical law derives from psychical law – although idealism of a particular sort. The

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[82] *CP* 8.208 [c. 1905]

[83] The most fruitful characterization of Peirce's extreme scholastic realism is as the recognition of the reality of all three categories – Firstness, Secondness, and Thirdness. For the classic developmental exposition of Peirce's realism, see Fisch, "Peirce's Progress from Nominalism toward Realism" [1967]. For much more on Peirce's engagement with Scotus, see Boler's *Peirce and Scholastic Realism* [1963] and Mayorga's *From Realism to "Realicism"* [2007].

[84] *EP* 1: 293 "The Architecture of Theories" [1891]. Note that Peirce's demands on this idealism are quite rigorous: "But before this [objective idealism] can be accepted it must show itself capable of explaining the tri-dimensionality of space, the laws of motion, and the general characteristics of the universe, with mathematical clearness and precision; for no less should be demanded of every philosophy" [ibid.]

[85] *EP* 1: 292 "The Architecture of Theories" [1891]

adjective 'objective' is a tricky one, as it has come to mean almost the opposite of the sense given to it by Duns Scotus.[86] That is, it originally meant a property as an *object of thought*, and has now come to mean independence from thought. Peirce clearly intends the latter meaning with the qualification of independence from individual thoughts, not thought in general.

The final corollary is tychism, the doctrine of absolute or objective chance, and an accompanying evolutionism. This thorough-going evolution is not simply Peirce's cosmological claim that the very laws of nature are evolved habits of the universe but more specifically the *agapasm* Peirce argues for in the last article of this series, "Evolutionary Love".[87] Agapasm is a thorough-going evolutionism in part because it can account for other forms of evolutionary development, while these other forms cannot account for it.[88]

I.C: Pragmatism Considered Architectonically

We have reviewed some of the distinctive features of Peirce's conception of pragmatism. Intriguingly, among its other virtues, the "capital merit" of pragmaticism is "…that it more readily connects itself with a critical proof of its truth."[89] However, Peirce apparently never finished composing a proof that reached his full satisfaction.

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[86] Peirce notes this in his *Century Dictionary* entry for 'objective' and gives the prime meaning to its original sense.
[87] Regarding the general claim of natural law arising as evolved habits, see *CP* 7.515 [c. 1898], *CP* 6.209 [c. 1911].
[88] See *EP* 1: 362 [1893]: "Three modes of evolution have thus been brought before us: evolution by fortuitous variation, evolution by mechanical necessity, and evolution by creative love. We may term them *tychastic* evolution, or *tychasm, anancastic* evolution, or *anancasm,* and *agapastic* evolution, or *agapasm*...tychasm and anancasm are degenerate forms of agapasm."
[89] *CP* 5.415 "What Pragmatism Is" [1905]

Rather than disentangling the scholarly debates as to the extent that Peirce had, or even could, present a proof of pragmaticism, we will adopt the rough consensus as to the nature of such a proof.[90] That is, it would hew to the conception of philosophical reasoning that Peirce gave in 1868: "It should not form a chain which is no stronger than its weakest link, but a cable whose fibers may be ever so slender, provided they are sufficiently numerous and intimately connected."[91] In other words, a philosophical proof rests upon a plurality of intertwined arguments and evidence rather than a single quasi-geometric demonstration. Indeed, the subsequent chapters of this dissertation are a contribution to such a proof of pragmaticism through exploring the connections between largely neglected elements of Peirce's philosophy, such as proper accounts of memory and testimony. However, these topics usually fall under psychology, not of epistemology proper, and therefore it is especially important to articulate the non-psychological bases of pragmaticism, as Peirce's opposition to psychologism demands no less. To do so, I will focus on the broadest organizing principles of Peirce's philosophy, his *cenopythagorean* categories, and their expression in the basic insights of Peircean semeiotic.

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[90] Here are some key essays on this issue, in chronological order: Don Roberts, "An Introduction to Peirce's Proof of Pragmaticism" [1978], Joseph Esposito, "On the Question of the Foundation of Pragmaticism" [1981], Max Fisch "The 'Proof' of Pragmaticism" [1981], Jeremiah McCarthy, "An Account of Peirce's Proof of Pragmaticism" [1990], Richard Robin, "Classical Pragmatism and Pragmatism's Truth" [1997].

[91] *CP* 5.265 "Some Consequences of Four Incapacities" [1868]

I.C.1: The Categories and Phaneroscopy

Peirce's interest in a truly universal table of categories, and a preference for three such categories, is a constant feature of his life, beginning with his reading of Friedrich Schiller's *Aesthetic Letters* and cemented by his study of the Tables of Judgment and Categories in Immanuel Kant's *Critic of Pure Reason* (to use Peirce's preferred spelling).[92] This is evident by a couple of theme papers Peirce produced in 1857 and an 1861 manuscript analyzing the fundamental conceptions of I, IT, and THOU.[93] Joseph Brent suggests that the religious Trinitarianism of Peirce's first wife, Harriet Melusina Fay, whom he met c. 1860, also influenced his categoreal researches.[94] Peirce investigated the logic of such a triad of categories at length in his Lowell Lectures of 1866, which culminated in the publication of "On a New List of Categories" in 1867.[95] This immensely dense article begins with the Kantian theory that "…the function of conceptions is to reduce the manifold of sensuous impressions to unity, and that the validity of a conception consists in the impossibility of reducing the content of

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[92] In late writing (CP 1.568-572 [1910] Peirce defends himself from the charge of 'triadomany' noting that he does not find trichotomies everywhere; for example, his classification of the sciences establishes a *dichotomy* in the special sciences between physics and psychics. As an aside, Peirce suggests the term 'triadomany' for the psychological obsession with triads because 'trichimania' is in use already. The editors of the *Collected Papers* insert a question mark after this term, but Peirce was most likely referring to *trichomania* (properly, trichotillomania), which is characterized by compulsive pulling out of one's own body hair. If this is what Peirce meant, his abiding interest in scholasticism nearly makes this a pun.

[93] The themes are "The Sense of Beauty never furthered the Performance of a single Act of Duty" (*W* 1: 10-12 [1857]) with reference to Schiller's three impulses and "Raphael and Michael Angelo compared as men "(*W* 1: 13-16 [1857]) with reference to Intellect/I, Heart/THOU, and Sense/IT. The 1861 fragment is at *W* 1: 45-46.

[94] See Brent, *Charles Sanders Peirce: A Life* p. 64 [1993]

[95] The Lowell Lectures "The Logic of Science; Or, Induction and Hypothesis" are available in *W* 1: 358-504 [1866]. For the most extensive investigation of the "New List," see Ishida's "*A philosophical commentary on C. S. Peirce's 'On a New List of Categories'*" [2009].

consciousness to unity without the introduction of it" and furthermore that this unity is the unity of a proposition.[96] Peirce uses a procedure of (typically) nonreciprocal abstraction that he calls *prescission* to analyze the necessary components of a proposition, and thereby derives his fundamental table of categories.[97] For example, one may *prescind* color from space, but not vice versa – that is, one may conceive of a non-colored space, but cannot conceive of a non-spatial color. Likewise, in regard to the proposition "This stove is black" one can prescind the predicate "black" from the subject "this stove." Continuing this sort of analysis, the details of which do not concern us here, Peirce arrives at the following five categories:

BEING,
    Quality (Reference to a Ground),
    Relation (Reference to a Correlate),
    Representation (Reference to an Interpretant),
SUBSTANCE.[98]

It is the three intermediary conceptions between Being and Substance that Peirce comes to call the universal categories of Firstness, Secondness, and Thirdness. Peirce drops Being and Substance from his categories in part because they represent the underived limits of conception: "Thus substance and being are the beginning and end of all

[96] *W* 1: 49 "A New List of Categories" [1867]
[97] Peirce spells this operation 'precision' in the "New List" and elsewhere, but also suggests that 'prescission' is the better spelling – see *EP* 2: 351-352 "Issues of Pragmaticism" [1906] for one example. I use the more obscure spelling for the sake of clarity. Furthermore, Peirce distinguishes between abstraction and prescission, or divides abstraction into *hypostatic* (or *subjectal*) and *precisive* forms. Here is one example: "But even in the very first passage in which *abstraction* occurs as a term of logic, two distinct meanings of it are given, the one the contemplation of a form apart from matter, as when we think of *whiteness*, and the other [prescission] the thinking of a nature *indifferenter*, or without regard to the differences of its individuals, as when we think of a *white* thing, generally" (*CP* 2.428 [1893]).
[98] *W* 1: 54 "A New List of Categories" [1867]

conception. Substance is inapplicable to a predicate, and [B]eing is equally so to a subject."[99] Moreover, the analysis begins with a proposition, and therefore we begin with a mixed unity of subject and predicate. Although Peirce does not pursue the implications of this view in these terms, it is consistent with his denial of intuition in the *Journal of Speculative Philosophy* series and beyond. That is, we cannot cognitively 'get behind' a proposition to either being itself or substance itself, and furthermore, a proposition is never totally determinate in all respects and therefore can only be the basis for fallible, not absolute, knowledge. Peirce even suggests in the "New List" that singular propositions may possess some measure of indeterminacy: "The objects indicated by the subject (which are *always* potentially a plurality, — at least, of phases or appearances)…"[100] Finally, by beginning with the propositional form Peirce accepts that experience is always *of* something *for* something else; in other words, is the basis for a *possible* judgment conceived semeiotically as a relationship between sign, object, and interpretant.[101] As Peirce next applies his categories to an analysis of the fundamental

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[99] *W* 2: 50 "A New List of Categories" [1867]

[100] *W* 2: 57-58 "On a New List of Categories" [1867], emphasis added. The distinction between singular and particular propositions is complicated because formal logic typically treats singulars as universals concerning a class with only one member. Compare the following: "A subject of a proposition is either *Singular*, *General*, or *Abstract*. It is singular if it indicates an otherwise known individual. It is general if it describes how an individual intended is to be selected [either universally or particularly]" (*CP* 2.324 [c. 1902]) and "…the *universal* quantifier, which allows any object, no matter what, to be chosen from the universe, and the *particular* quantifier, which prescribes that a suitable object must be chosen" (*CP* 2.339 [c. 1895]). Thus, a singular subject is like a particular (as a type of general) in that a suitable object must be chosen, but is treated like a universal in that one may select any object, but from a class with only *one* member.

[101] To be clear, following Peirce in characterizing a proposition as a possible judgment does not involve necessarily an appeal to psychologism: "To explain the judgment in terms of the 'proposition' is to explain it by that which is essentially intelligible. To explain the proposition

kinds of relations and then moves into a sketch of a triadic semeiotic, which is the topic of the next section, let us move on to two later expositions of the categories to gain a richer sense of their universality.

Twenty years after the "New List," Peirce returned to his categories in a more robust form in various drafts of a book to be entitled "A Guess at the Riddle."[102] Here Peirce uses the three categories, rechristened First, Second, and Third, as the organizing principles for an architectonic philosophy "…so comprehensive that, for a long time to come, the entire work of human reason…shall appear as the filling up of its details."[103] In other words, the categories are expanded, in a sense, beyond ontology into heuristic principles for guiding any inquiry – "…ideas so broad that they may be looked upon rather as moods or tones of thought, than as definite notions, but which have great significance for all that."[104] However, this qualification does not deter Peirce from using his work in the logic of relatives (relations) to argue that there are three and only three

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in terms of the 'judgment' is to explain the self-intelligible in terms of a psychical act, which is the most obscure of phenomena or facts" (*CP* 2.309 fn 1[c. 1902]). Chapters II and IV address more fully the relationship between judgments and propositions on Peirce's terms.

[102] This is not to say that Peirce dropped the categories from his thinking; rather, only that they were rarely explicitly employed, especially in his published work. The most prominent exception is in his arguments for three distinct forms of inference, about which more shortly. This is comparable to the lack of explicitly semeiotic concepts/terminology in the published "Illustrations of the Logic of Science" series – see Fisch's introduction to *W* 2: xxxv [1986].

[103] *W* 6: 168-169 "A Guess at the Riddle" [1887-1888]. More typically, the later Peirce refers to his categories as Firstness, Secondness, and Thirdness. This hypostatization can lead to some confusion between a category and its instantiation, as Peter Krausser notes: "Unfortunately, it often happens that a particular example assumes a more and more prototypical character and eventually coincides, implicitly or explicitly, with the category itself. Thus, Firstness coincides with a First exemplifying it [e.g., Possibility]; Secondness with a Second [e.g., Struggle]; Thirdness with a (or *one*) Third [e.g., Habit]" ("The Three Fundamental Structural Categories of Charles S. Peirce" p. 196 [1977]).

[104] *W* 6: 169 "A Guess at the Riddle" [1887/1888]. A heuristic approach to the categories is investigated in more detail by Colapietro, "A lantern for the feet of inquirers: The heuristic function of the Peircean categories" [2001]

universal categories, although these universal categories may have degenerate forms.[105] This explicit analysis of the categories in terms of genuine and degenerate forms, and the accompanying notion of applying the categories to each other recursively, such that one can speak of the Firstness of Thirdness, is perhaps the key innovation of the work collected as "A Guess at the Riddle."[106] As this sort of characterization of the categories is consistent in the remainder of Peirce's work, let us turn to it now.

Firstness is the category of that which is what it is without reference to anything else. This is the category of immediacy, originality, and spontaneity. However, in itself this category "…cannot be articulately thought: assert it, and it has already lost its characteristic innocence…"[107] Nonetheless, considered as an element of phenomena, in consciousness it manifests in Feeling, in metaphysics as Possibility (as may-be), and in semeiotic as Iconicity. In line with the "New List," Peirce often summarizes Firstness as the category of Quality. Since Firstness "…precedes all synthesis and all differentiation: it has no unity and no parts…" it possesses no degenerate forms.[108]

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[105] For a detailed analysis of this approach to the categories, especially as applied to Peirce's later semeiotic, see Felicia Kruse, "Genuineness and Degeneracy in Peirce's Categories" [1991].

[106] Douglas Greenlee argues that this recursive application of the categories can lead to seemingly paradoxical claims, implying that Peirce had (at least) two different conceptions of the categories in play: "These two conceptions I [Greenlee] shall call the *hypostatic* and the *factorial*. As representing modes of beings, or classifications of things, the categories are hypostatic. As representing factors discovered in the analysis of a subject matter to which the categories are applied, a category is factorial" ("Peirce's Hypostatic and Factorial Categories" [1968]). For Greenlee, problems arise when one uses the categories hypostatically, and a 'Firstness of Thirdness' becomes a mixture of two distinct modes of being. Accepting the heuristic function of the categories, this work will not pursue the consequences of this distinction.

[107] *W* 6: 170 "A Guess at the Riddle" [1887/1888]

[108] *W* 6: 170 "A Guess at the Riddle" [1887/1888]

Secondness is the category of that which is what it is in relation to an other, regardless of any relation to a third. It is the category of actuality, compulsion, and struggle, often summarized as Reaction. Around 1902, Peirce christens this category "*Obsistence* (suggesting *obviate*, *object*, *obstinate*, *obstacle*, *insistence*, *resistance*, etc.)…"[109] The dyadic nature of reaction allows for relatively degenerate forms, as when one receives a blow without *actively* resisting it.[110] As Peirce elaborates in 1903:

> Thus a genus characterized by Reaction will by the determination of its essential character split into two species, one a species where the secondness is strong, the other a species where the secondness is weak, and the strong species will subdivide into two that will be similarly related, without any corresponding subdivision of the weak species.[111]

The expression of Secondness in psychology – what Peirce calls dyadic consciousness, polar sense, or psychological reaction – fits this taxonomy well. This dyadic consciousness subdivides into the strong species of Willing and the weak species of Sensation, with the strong species further subdividing into Active and Inhibitive Willing.[112] This classification is salient in particular because the characterization of sensation as a type of Secondness will prove to be the key to understanding Peirce's rejection of British empiricism and the copy theory of knowledge while still maintaining

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[109] *CP* 2.89 "Partial Synopsis of a Proposed work of Logic" [c. 1902]

[110] Compare one of Peirce's favored examples of Secondness: "Let the Universe be an evolution of Pure Reason [Thirdness] 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…" (*CP* 5.92 [1903]). This is a phenomenologically dramatic expression of Secondness, but may not be the best example of a genuine Secondness, as one object in the dyad is relatively active while the other is relatively passive. One example of a more genuine Secondness would be the initial equilibrium of evenly matched arm wrestlers.

[111] *EP* 2: 160-161 "The Categories Defended" [1903]

[112] *EP* 2: 160-161 "The Categories Defended" [1903]

a doctrine of immediate (direct) perception. The arguments for, and consequences of, this conception of sensation and perception will be explored in chapter three.

Thirdness is the category of mediation and representation, of "…that which it is owing to things between which it mediates and which it brings into relation to each other."[113] More generally, it can be called "*Transuasion* (suggesting *translation*, *transaction*, *transfusion*, *transcendental*, etc.)…"[114] As a category of relation, it may appear little different than Secondness, the category of reaction, but a key difference is that Thirdness is expressed in the intelligible principles under which things react, while Secondness in itself is brute, in the sense of uncommunicative as well as forceful. In other words, Thirdness is the domain of the general habits and laws that govern to some degree the interactions of the universe. As a 'higher order' category, Thirdness admits of two degrees of degeneracy that iterate the 'lower' two categories in the form of reactional degeneracy and qualitative degeneracy. This establishes three general kinds of mediating relations; for example, in this light the three traditional principles of association of ideas clearly are a classification of relations.[115] The relatively genuine form of Thirdness would be the principle of causation, in which there is a regular, law-like relation between two ideas or objects over time. The reactionally degenerate form

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[113] *W* 6: 170 "A Guess at the Riddle" [1887/1888]

[114] *CP* 2.89 "Partial Synopsis of a Proposed work of Logic" [c. 1902]

[115] Overall, Peirce thought highly of the insights of the English associationalist school, while deploring the lack of well-established methods: "The doctrine of the association of ideas is, to my thinking, the finest piece of philosophical work of the prescientific ages. Yet I can but pronounce English sensationalism to be entirely destitute of any solid bottom" (*CP* 1.5 [c. 1897]). Of course, numerous authors find these relations in their experience, going back at least to Plato's *Phaedo*. As Peirce notes, "Originality is the last of recommendations for fundamental conceptions" (*W* 6: 179 "A Guess at the Riddle" [1887/1888]).

of Thirdness would then be the principle of contiguity, in which the relation between two objects may be quasi-dynamic but overall is at least somewhat accidental. Here Peirce invokes the tale of the genie and the merchant from the *Arabian Nights* wherein the merchant accidentally kills the genie's son:

> Here there were two independent facts, first that the merchant threw away the date-stone, and second that the date-stone struck and killed the genie's son. Had it been aimed at him, the case would have been different; for then there would have been a relation of aiming which would have connected together the aimer, the thing aimed, and the object named at, in one fact.[116]

Finally, qualitatively degenerate Thirdness is found in the principle of similarity, in which two objects are in relation solely by the fact that they share a property in common, as when seeing a red car may call forth memories of a red house. Peirce asserts that genuine Thirdness and its reactionally degenerate form themselves have further subdivisions, in various ways which need not concern us here. However, the notion of degenerate forms of Thirdness does suggest the question of the relationship between the categories; for example, why maintain a distinction between Firstness and qualitatively degenerate Thirdness? Why are there three, and only three, fundamental categories? Peirce readily admits that we have concepts of four, five, and so forth – to deny so would be ridiculous.[117] However, Peirce argues that these numerically higher concepts, while independent in a sense, are derivable through complications of

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[116] *W* 6: 178 "A Guess at the Riddle" [1887/1888]

[117] Furthermore, of course others have championed numbers other than three: "Perhaps I might begin by noticing how different numbers have found their champions. Two was extolled by Peter Ramus, Four by Pythagoras, Five by Sir Thomas Browne, and so on. For my part, I am a determined foe of no innocent number; I respect and esteem them all in their several ways; but I am forced to confess to a leaning to the number Three in philosophy" (*CP* 1.355 "A Guess at the Riddle" [1887/1888]).

Thirdness without the need for a fundamentally distinct category.[118] To put it succinctly, with the introduction of a conception of relationality beyond mere concurrence (the reaction of Secondness) anything else is a more or less complicated form of relation.[119]

In addition, the three categories are not reducible to one or the other. For example, Hegel's philosophy is incomplete because it sees only Thirdness, in Peirce's view: "That [explanation solely by mechanical force] again failing, the doctrine of Hegel is to be commended who regards Category the Third as the only true one. For in the Hegelian system the other two are only introduced in order to be *aufgehoben*."[120] In other words, Peirce sees Hegel as overstating the intelligibility of the universe.[121] Similarly, a strict materialist would only recognize Secondness, objects reacting against each other, which leaves the regularities in experience wholly unexplainable. Indeed, Peirce often appeals to experience to make his case for the three categories. That is, these three distinct categories are grounded in a phaneroscopic analysis of universal experience. Phaneroscopy is one of Peirce's terms for phenomenology, and I will use it for his distinctive conception of this pursuit:

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[118] For a sustained reconstruction of Peirce's mathematical/logical argument for this, see Robert Burch's *A Peircean Reduction Thesis: The Foundations of Topological Logic* [1991].

[119] Carl Vaught has criticized Thirdness for not being sufficient to comprehend certain relations, such as analogy in his "Semiotics and the Problem of Analogy: A Critique of Peirce's Categories" [1986]. For a rejoinder in defense of Thirdness, see Carl Hausman's "Fourthness: Carl Vaught on Peirce's Categories" [1988].

[120] *CP* 5.79 "The Seven Systems of Metaphysics" [1903]

[121] For example, "In this proposition lies the prime difference between my objective logic and that of Hegel. He says, if there is any sense in philosophy at all, the whole universe and every feature of it, however minute, is rational, and was constrained to be as it is by the logic of events, so that there is no principle of action in the universe but reason. But I reply, this line of thought, though it begins rightly, is not exact" (*CP* 6.218 [1898]).

> What I term *phaneroscopy* is that study which, supported by the direct observation of phanerons [the collective total of all that is in any way or in any sense present to the mind] and generalizing its observations, signalizes several very broad classes of phanerons; describes the features of each; shows that although they are so inextricably mixed together that no one can be isolated, yet it is manifest that their characters are quite disparate; then proves, beyond question, that a certain very short list comprises all of these broadest categories of phanerons there are; and finally proceeds to the laborious and difficult task of enumerating the principal subdivisions of those categories.[122]

Under Peirce's conception, phaneroscopy is first philosophy, but philosophy understood as *cenoscopy*, an observational science of common human experience.[123] From this stance, we can set aside formal arguments that *n*-adic predicates where n is greater than 3 can be reduced to a set of triadic predicates and appeal to experience. If you think that there is Fourthness, your responsibility is to point out experiences that require it for explanation. Likewise, if you think that Firstness is the only true category, your task is to explain away the brutality of Secondness and the intelligibility of Firstness without appeal to Thirdness. Seen phaneroscopically, there is a sense in which Thirdness is the primary category, as we can only grasp experiences insofar as they are intelligible: "Not only does Thirdness suppose and involve the ideas of Secondness and Firstness, but never will it be possible to find any Secondness or Firstness in the phenomenon that is not accompanied by Thirdness."[124] We live in a 'thirded' universe. More accurately, the universe is 'thirding' in light of Peirce's

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[122] *CP* 1.286 [c. 1904]; the bracketed insertion is from *CP* 1.284

[123] "The sort of science that is founded upon the common experience of all men was recognized by Jeremy Bentham under the name of *cenoscopy*, in opposition to *idioscopy*, which discovers new phenomena" (*CP* 8.199 [1905]). The distinction between classes of science is a topic in Chapter V.

[124] *EP* 2: 177 "The Categories Defended" [1903]

evolutionary cosmology (his agapasm), and one would do well to keep this in mind to avoid overestimating the regularity of the universe.[125] In other words, for Peirce all regularities are developmental, and thus historical. I will argue for this point more fully in Chapter IV, which in part concerns Peirce's conception of an explanation. However, it is heuristically vital to maintain the conceptual independence of the categories to avoid neglecting elements of the phaneron.

The phaneroscopic justification of the categories has two consequences of particular note. The first is that logic, as a subtype of philosophy, inherits and expands upon the categories discovered in phaneroscopy. Peirce's semeiotic is the strongest evidence for this, to which we turn next. However, as phaneroscopy is the study of common experience, Peirce's logic avoids psychologism. That is, while it appeals to psychological phenomena, as seen in our examples, it does not rely on the discoveries of psychology as a special science. The second consequence is that the appeal to common experience must be just that – an investigation of the common features of experience across different cultures and over time. This is why the prevalence of trinities throughout history is legitimate inductive evidence for the categories. In this light, Peirce's phaneroscopy is much closer to Hegel's phenomenology than Edmund Husserl's.[126] Nonetheless, Peirce saw a clear difference between his approach and that

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[125] "I am, for reasons similar to this, as well as for others, confident that mere irregularity, where no definite regularity is expected, creates no surprise nor excites any curiosity. *Why should it, when irregularity is the overwhelmingly preponderant rule of experience, and regularity only the strange exception*?" (*CP* 7.189 "The Logic of Drawing Ancient History" [1901]), emphasis added.

[126] Husserl appears by name three times in the *Collected Papers*, with this being the only substantive comment: "How many writers of our generation (if I must call names, in order to direct the reader to further acquaintance with a generally described character -- let it be in this

of Hegel: "I [Peirce] will so far follow Hegel as to call this science *Phenomenology* although I will not restrict it to the observation and analysis of *experience* but extend it to describing all the features that are common to whatever is *experienced* or might conceivably be experienced or become an object of study in any way direct or indirect."[127] The implication is historical research – even the study of literature – should inform the study of phenomena.

Finally, we can now broach some answers to the question that opened this section, the proof of pragmatism. The doctrine of the categories bears on pragmatism most directly in two ways. The first is that the universality of the categories suggests that there should be three fundamental forms of inference, and thus the traditional dichotomy of deduction and induction must be justified rather than presumed. Of course, in his investigations Peirce concluded that there was a third form of inference, abduction, which had been typically confused with induction. Peirce himself struggled with the relationship between the two, noting late in life that he had published this trichotomy of argument in the "New List" and "I still consider that it had a sound basis. Only in almost everything I printed before the beginning of this century I more or less mixed up Hypothesis and Induction…"[128] Furthermore, the categoreal basis for the

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case the distinguished Husserl), after underscored protestations that their discourse shall be of logic exclusively and not by any means of psychology (almost all logicians protest that on file), forthwith become intent upon those elements of the process of thinking which seem to be special to a mind like that of the human race, *as we find it*, to too great neglect of those elements which must belong, as much to any one as to any other mode of embodying the same thought" (*CP* 4.7 [c. 1906]).

[127] *EP* 2: 143 "The Maxim of Pragmatism" [1903]

[128] *CP* 8.227 "To Paul Carus on 'Illustrations of the Logic of Science'" [c. 1910].

three forms of inference varied, especially the status of deduction and induction.[129] Overall, abduction is an expression of Firstness, as the originary introduction of *possible* hypothesis, of what *may be* the case.[130] Thus, we should understand induction as the process of testing hypotheses, rather than of their generation. More directly, "If you carefully consider the question of pragmatism you will see that it is nothing else than the question of the logic of abduction."[131] Thus, an explication of pragmatism requires at least three distinctive forms of inference, unless one denies deduction or induction. The categories bear on the question of pragmatism from the other direction as well – not only that three forms of inference are necessary, but also that they are sufficient. As we saw above, "Now pragmaticism is simply the doctrine that the inductive method is the only essential to the ascertainment of the intellectual purport of any symbol."[132] Again, here 'the inductive method' consists only of the interplay of the three forms of inference and their subtypes. Admittedly, this is only a précis of an argument, but it does provide more detail to Peirce's philosophy and it should prove essential background for what follows. Let us continue with an exploration of Peirce's greatest contribution to thought, semeiotic.

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[129] On this point Peirce's self-assessment is milder: "Concerning the relations of these three modes of inference to the categories and concerning certain other details, my opinions, I confess, have wavered. These points are of such a nature that only the closest students of what I have written would remark the discrepancies" (*EP* 2: 205 "The Three Normative Sciences" [1903]). For an analysis of this question that supports Peirce's c. 1902 identification of deduction with Secondness and induction with Thirdness, see Wim Staat's "On Abduction, Deduction, Induction and the Categories" [1993].

[130] "Abduction is the process of forming an explanatory hypothesis. It is the only logical operation which introduces any new idea…Abduction merely suggests that something *may be*" (*EP* 2: 216 "The Nature of Meaning" [1903]).

[131] *EP* 2: 243 "Pragmatism as the Logic of Abduction" [1903]

[132] *CP* 8.209 [c. 1905]

I.C.2: Semeiotic

As with the categories, Peirce's semeiotic has its origins in the work leading up to the "New List." Therein he derives three kinds of representations, understood as a triadic relationship including reference to a Ground, Correlate, and Interpretant, which becomes his most famous trichotomy of signs into Icons, Indices, and Symbols.[133] Furthermore, Peirce subdivides symbols into terms, propositions, and arguments, as well as a "trivium of conceivable sciences" regarding symbols – formal grammar, logic, and formal rhetoric.[134] As much of Peirce's work in semeiotic consists in developing and expanding this basic framework, let us turn to his more mature characterization of logic as semeiotic and typology of signs.[135]

After 1900, Peirce devoted a great deal of effort to a natural classification of the sciences, as well as an elaboration of his conception of a sign and its various modes[136]. As we saw above, first philosophy is phaneroscopy, the observational study of the universal features of human experience. Following upon this, Peirce offers a trio of normative sciences, consisting of Esthetics, Ethics, and Logic.[137] These sciences follow a hierarchical order through specification; in short, esthetics concerns what is good in itself, ethics what is good to do, and logic what is good to think – note here the

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[133] *W* 2: 56, "On a New List of Categories" [1867]; here Icons are called Likenesses.
[134] *W* 2: 57, "On a New List of Categories" [1867]
[135] The standard exposition of Peirce's semeiotic as a whole is James Liska's *A General Introduction to the Semeiotic of Charles Sanders Peirce* [1996]. For a more critical account, see T.L. Short's *Peirce's Theory of Signs* [2007].
[136] The classification of the sciences will be a major topic of Chapter V.
[137] For a sustained analysis of Peirce's normative sciences, see Joshua Ziemkowski's *Peirce's Esthetics and the Problem of Normativity* [2008]

pragmatic emphasis on thought as a type of activity.[138] There is some ambiguity in Peirce's use of the term logic here: "In its narrower sense, it is the science of the necessary conditions for the attainment of truth. In its broader sense, it is the science of the necessary laws of thought, or, still better (thought always taking place by means of signs), it is general semeiotic…"[139] Logic in its narrow sense, then, is a subdivision of general semeiotic paralleling the trivium offered in 1867, but now expanded to all signs, not only symbols. Here is this subdivision of general semeiotic ('logic') as given in 1903:

> 1, Speculative Grammar, or the general theory of the nature and meanings of signs, whether they be icons, indices, or symbols; 2, Critic [Logic], which classifies arguments and determines the validity and degree of force of each kind; 3, Methodeutic [Speculative Rhetoric], which studies the methods that ought to be pursued in the investigation, in the exposition, and in the application of truth.[140]

Already we can see that these distinctions will help clarify the various formulations of pragmatism outlined above. That is, pragmatism as a theory of meaning belongs to speculative grammar, which will have bearing on the classification of arguments in critic and therefore on the proper conduct of inquiry in methodeutic. For now, let us focus on Peirce's definition of a sign and his effort on a typology of signs to prepare for a more thoroughly semeiotic account of his pragmatism.

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[138] Of course, this characterization of thought is not unique to pragmatism. See *CP* 1.191 "An Outline Classification of the Sciences" [1903] for one sketch of the relation between these studies.

[139] *CP* 1.444 [c. 1897]

[140] *CP* 1.191 "An Outline Classification of the Sciences" [1903]. In more explicitly categoreal terms, these are Originalian, Obsistent, and Transuasive Logic – see *CP* 2.93 [c. 1902]

Peirce gives no less than 76 definitions of a sign over his career, with the consistent requirement that a sign is inherently triadic.[141] Here is a characteristic definition: "A *Sign,* or *Representamen,* is a First which stands in such a genuine triadic relation to a Second, called its *Object,* as to be capable of determining a Third, called its *Interpretant,* to assume the same triadic relation to its Object in which it stands itself to the same Object."[142] In understanding this definition, I must note that a sign and a representamen are not strictly equivalent, with representamen being the broader type.[143] Representamens differ from signs in two interrelated ways, both of which are marked in the following passage:

> A *Representamen* is the First Correlate of a triadic relation, the Second Correlate being termed its *Object,* and the possible Third Correlate being termed its *Interpretant,* by which triadic relation the possible Interpretant is determined to be the First Correlate of the same triadic relation to the same Object, and for some possible Interpretant. A *Sign* is a representamen of which some interpretant is a cognition of a mind.[144]

First, we see that a representamen does not necessarily have a mental interpretant, which implies that interpretants can be somatic, for example, as with the blush of embarrassment. Indeed, Peirce suggests explicitly that a sunflower, through phototropism and reproduction, may become a representamen of the sun.[145] Second,

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[141] See Robert Marty's "76 Definitions of The Sign by C.S. Peirce" for a colligation and analysis.
[142] *CP* 2.274 [c. 1902]. Throughout his life, Peirce understood 'determine' in the literal sense of 'to set limits' and as comparable in meaning to the German *bestimmt*. See *CP* 6.625 [1868], *Century Dictionary* 1573 [1890] and *CP* 8.177 [undated, but no earlier than 1903].
[143] For the most thorough analysis of this term, see George Benedict's "What are Representamens?" [1985].
[144] *CP* 2.242 [c. 1903]
[145] *CP* 2.274 [c. 1902]. As we saw above, Peirce's idealism and synechism favors the extension of semiosis indefinitely into the natural world: "Thought is not necessarily connected with a

and more significantly, while a representamen must have the *power* of determining an interpretant, it does not need to have an actual one.[146] For example, a poem still has meaning when currently unread, while a rock bears the marks of its history before it is unburied. In other words, even without actual interpretation a sign, broadly conceived, provides a grounded possibility for interpretation in the sense that it delimits some possibilities over others. This is in line with Peirce's scholastic realism, as "…it is the reality of some possibilities that pragmaticism is most concerned to insist upon."[147] Peirce does not consistently employ this distinction, and even decides to drop the term 'representamen' in 1905.[148] Nonetheless, this does not entail that he dropped the broader conception of a sign that he developed. Thus, it will be helpful to read Peirce's account of signs in light of his late admonishment that the "…insertion of 'upon a person' [in the definition of a sign] is a sop to Cerberus, because I despair of making my own broader conception understood," even if it means reading Peirce against himself on occasion.[149] In light of these considerations, we may state a Peircean conception of a

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brain. It appears in the work of bees, of crystals, and throughout the purely physical world…" (*CP* 4.551 "Prolegomena to an Apology for Pragmaticism" [1906]).

[146] "The relation must therefore consist in a *power* of the representamen to determine *some* interpretant to being a representamen of the same object" (*CP* 1.542 [1903]). Also, "Namely, while no Representamen actually functions as such until it actually determines an Interpretant, yet it becomes a Representamen as soon as it is fully capable of doing this; and its Representative Quality is not necessarily dependent upon its ever actually determining an Interpretant, nor even upon its actually having an Object" (*CP* 2.275 [c. 1902]). Here my analysis differs slightly from Liska's on the 'interpretative condition' by emphasizing the *capacity* for interpretation as a necessary feature of a sign. See especially Liska, *A General Introduction* pp. 24-25 [1996].

[147] *CP* 5.453 "Issues of Pragmaticism" [1905]

[148] "I use 'sign' in the widest sense of the definition…I formerly preferred the word *representamen*. But there was no need of this horrid long word" (*SS* p. 193 [1905]).

[149] *SS* pp. 80-81 [1908]

sign as that which presents itself as representing some aspect of an object for some possible interpretant. With this general definition, we may now explore some more specific kinds of signs with the organizational aid of the cenopythagorean categories. That is, as signs are triadic relations they are an expression of Thirdness, and as such possess elements of Firstness and Secondness, which allows for a classification of signs based upon which category is dominant in each aspect of a sign.[150]

Let us begin by considering a sign in its Firstness.[151] A sign may present itself primarily as a quality, as an individual thing or event, or as a law/type. Thus, the first trichotomy is between *qualisigns*, *sinsigns*, and *legisigns*.[152] As with the categories, these signs follow a hierarchical order, such that a sinsign necessarily involves at least one qualisign, and a legisign necessarily involves sinsigns and qualisigns. In other words, an individual thing must possess some quality, even if that quality is irrelevant to its functioning as a sign, while a general type must be instantiated to function as a sign. For example, 'human' has a conventional meaning, and therefore is primarily a legisign. However, while it must be instantiated to be a sign, it is more or less indifferent to its instantiation, whether in ink and paper or chiseled into granite, and furthermore more or less indifferent to the qualities of that instantiation – blue ink or red, etc.

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[150] In what follows I will primarily follow the 'interim' typology of signs of 1903, using the account of degenerate categories above to incorporate the distinction between two kinds of objects and three kinds of interpretants without engaging in the complications introduction in the 'expanded' and 'final' typologies; see Liska *A General Introduction* pp. 34-35 [1996].

[151] More accurately, this would be the Firstness of a Third, and so a qualisign would be the Firstness of the Firstness of a Third; obviously, this sort of iteration quickly becomes cumbersome.

[152] *CP* 2.244-2.246 [1903]; alternatively, tone-token-type (*CP* 4.537 [1906]).

Considering a sign in its Secondness – that is, its relationship with its object – generates the trichotomy of icon, index, and symbol, or representation by resemblance, actual relation, or habit.[153] Each of these types offers further subdivisions, such an icon being an image, diagram, or metaphor.[154] However, I will invoke these additional complications only as needed. In addition, an object, as a Second, may be a *dynamic* or *immediate* object.[155] Thus, the dynamic object expresses a relatively genuine form of Secondness, "…which is the Reality which by some means contrives to determine the Sign to its Representation," while the immediate object is what the sign represents the object as.[156] This is a qualitatively degenerate form of Secondness in that it has a greater element of possibility and vagueness. For example, in saying "The stove is black" the dynamic object is the actual stove, while "stovey-blackness" is the immediate object in that this sign represents one possible property of the stove in a more or less vague manner, as it does not specify the shade of blackness or type of stove. Intriguingly, Peirce suggests that dynamic objects offer a distinction into strong and weak types, where the object is Actual or Possible.[157] Thus, perhaps even fictions may serve as

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[153] *CP* 2.247-2.249 [1903]. Peirce accepts a correspondence theory of truth, with the pragmatic specification of eventual universal agreement. While truth is technically a property of propositions alone, we can see the trichotomy of icon-index-symbol as providing three different criteria for correspondence, and thereby giving a more nuanced conception of truth.

[154] *CP* 2.277 [c. 1902]

[155] *CP* 8.343 [1908]. Earlier, Peirce identifies the icon-index-symbol trichotomy with a signs relationship to its dynamic object alone, with the relationship to its immediate object expressed by a trichotomy that seemingly repeats the qualisign-sinsign-legisign distinction. See *CP* 8.335 [1904]

[156] *CP* 4.536 "Prolegomena to an Apology for Pragmaticism" [1906]

[157] See *CP* 8.367 [1904]

dynamic objects, although ones that determine their signs less vigorously than existent objects.

Finally, considering a sign in its relationship with its interpretant gives the trichotomy of *rheme*, *dicent*, and *argument*, which is an expansion of the traditional distinction between term, proposition, and argument.[158] A rheme is a predicate, "… a Sign which, for its Interpretant, is a Sign of qualitative Possibility, that is, is understood as representing such and such a kind of possible Object."[159] A dicent is a proposition, a sign for its interpretant that some object has some properties, while an argument is "…a sign whose interpretant represents its object as being an ulterior sign through a law, namely, the law that the passage from all such premisses to such conclusions tends to the truth."[160] As each of these is a third, there are at least three basic subtypes: rhemes may be monadic, dyadic, or triadic, dicents are interrogative, indicative, or imperative, and arguments may be abductions, deductions, or inductions. Moreover, as a Third an interpretant also allows for at least three distinct forms. The relatively genuine expression of Thirdness is the *final, logical*, or *normal* interpretant, "…or effect that would be produced on the mind by the Sign after sufficient development of thought."[161] As reactionally degenerate, an interpretant is dynamic, and as qualitatively degenerate, it is immediate: "The Dynamical Interpretant is whatever interpretation any mind

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[158] See *CP* 8.337 [1904]; alternatively, seme/pheme/delome (*CP* 4.538 [1906]).
[159] *CP* 2.250 [1903]; for the identification of rheme and predicate, see *CP* 4.560 "Prolegomena to an Apology for Pragmaticism" [1906]. This is obviously continuous with the definition of a term: "That which remains of a Proposition after removal of its Subject is a Term (a rhema) called its Predicate" (*CP* 2.95 [c. 1902]).
[160] *CP* 2.263 [c. 1902]
[161] *CP* 8.343 [1908]

actually makes of a sign… The Immediate Interpretant consists in the *Quality* of the Impression that a sign is fit to produce, not to any actual reaction."[162] The classification of interpretants is the most tentative and controversial of Peirce's matured semeiotic, and many nuances have been left out of this sketch of the types of signs. In particular, we have neglected the various interrelations between the different features of a sign.[163] For example, a qualisign, as the presentation of a possibility, cannot represent their object dynamically, and thus cannot be an index; similarly, its proper interpretation is limited to a rheme.[164] However, a full investigation of semeiotic goes far beyond the scope of our inquiry; the familiarity with Peirce's terms and methods engendered by this brief sketch should suffice for what follows.

As with the presentation of the categories, the question is now the bearing of semeiotic on pragmatism. Recall that pragmatism becomes explicit as a maxim for clarifying ideas by determining the meaning of a concept. Now, a concept is "…the predicate of a (possible) judgment; a complex of characters…" – in other words, a rheme.[165] However, concepts are not rhemes alone, but are already predicates of a proposition (a possible judgment), and propositions are dicentic symbolic legisigns. As symbolic, propositions also feature icons and indices: "…every proposition contains a *Subject* and a *Predicate*, the former representing (or being) an Index of the Primary

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[162] *CP* 8.315 [1909]
[163] For example, Liska analyses five different implicit rules that limit the possible combinations of sign-properties based upon the interim typology alone; see *A General Introduction* pp. 44-46 [1996].
[164] See *CP* 2.254 [1903]
[165] *Century Dictionary* 1162 [1890]; more properly, a rhematic symbolic legisign.

Object, or Correlate of the relation represented, the latter representing (or being) an Icon of the [Dicent] in some respect.[166] Therefore, clarifying an idea seems to entail conceiving of all the conceivable icons indexed to the object of the conception. The call to enumerate *all* conceivable effects of a conception is contrary to Peirce's fallibilist approach to inquiry, though.[167] Instead, it is more reasonable to focus on the symbolic element of a proposition, as it concerns the habitual/law-like principle of associating icons and indices with the same object. Minimally, this principle is the copula, understood essentially as a conditional in light of the logic of relatives, as we saw above.[168] This is consistent with a late definition of pragmaticism: "Pragmaticism makes thinking to consist in the living inferential metaboly of symbols whose purport lies in conditional general resolutions to act."[169] 'Metaboly' is a rare alternative form of 'metabolism' and intentionally invokes processes of growth and self-maintenance through interaction with the environment, "[f]or every symbol is a living thing, in a very strict sense that is no mere figure of speech. The body of the symbol changes slowly, but its meaning inevitably grows, incorporates new elements [icons, indices, etc.] and throws off old ones."[170] Considering a concept symbolically, the question remains as to its meaning. This is a complex issue, but we can begin by noting that the purport of a symbol is the "conditional general resolutions to act" – in other words, a

[166] *CP* 2.316 [c. 1902]
[167] "At any rate, it is plain that no possible collection of single occasions of conduct can be, or adequately represent *all* conceivable occasions" (*CP* 5.532 [c. 1905]).
[168] More strongly, "…the relation between subject and predicate, or antecedent and consequent, is essentially the same as that between premiss and conclusion" (*CP* 4.3 [1898]).
[169] *CP* 5.402 Fn 3 [1905/1906].
[170] *EP* 2: 264 "The Ethics of Terminology" [1903]; in contemporary usage 'metaboly' refers to the motion of cells through undulating contraction.

habit, as suggested in "The Fixation of Belief." Furthermore, "…the meaning of a sign is the sign it has to be translated into," which implies its interpretant.[171] Of the three general kinds of interpretants, only the final/normal is concerned directly with habits as such, as Peirce suggests:

> The Final Interpretant does not consist in the way in which any mind does act but in the way in which every mind would act. That is, it consists in a truth which might be expressed in a conditional proposition of this type: "If so and so were to happen to any mind this sign would determine that mind to such and such *conduct***.**" By 'conduct' I mean *action* under an intention of self-control.[172]

Although this is sketchy, we can at least see the plausibility of deriving the pragmatic maxim from semeiotic. More specifically, this inquiry falls under Speculative Grammar, and thus pragmatism considered as a theory of meaning is consequent upon the general theory of signs having meaning. Pragmatism's role in the other two divisions of semeiotic is more obscure. As for Critic, the study of the fundamental types of inference and their validity, the pragmatic maxim seems to have little role. However, in his application to the Carnegie Institute Peirce suggests that the key question of Methodeutic is abduction:

> Methodeutic has a special interest in abduction, or the inference which starts a scientific hypothesis. For it is not sufficient that a hypothesis should be a justifiable one. Any hypothesis which explains the facts is justified critically. But among justifiable hypotheses we have to select that one which is suitable for being tested by experiment.[173]

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[171] *CP* 4.132 [1893]
[172] *CP* 8.315 [1909]. Earlier, Peirce identifies meaning with the Immediate Interpretant, with the qualification "I confess that my own conception of this third [final] interpretant is not yet quite free from mist" (*CP* 4.536 "Prolegomena to an Apology for Pragmaticism" [1906]).
[173] *MS* L 75.279-280 [1902]

This sort of claim, and the famous characterization of pragmatism as the logic of abduction, implies that the true home of pragmatism as conceived by Peirce is in methodeutic.

I.D: Pragmatism as the Methodeutic of Abduction

In the spring of 1903, Peirce presented a series of lectures on pragmatism at Harvard, given the title "Pragmatism as a Principle and Method of Right Thinking" by William James. In particular, these lectures offer a sustained argument that covers the range of Peirce's thought, ending with the conclusion that pragmatism concerns the logic of abduction, the formation of explanatory hypotheses. However, Peirce claims that the pragmatic maxim requires three additional propositions to achieve its purpose, what he terms *cotary* propositions.[174] As we have already reviewed pragmatism at length, and abduction is the concept that has generated the most research by those influenced by Peirce, here I will offer a characterization of the three cotary propositions, and then address one question about the nature of abduction. The question concerns Peirce's opinion as to the relationship between the origin of hypotheses and their evaluation; in short, whether pragmatism concerns discovery or justification (to invoke the terms of Hans Reichenbach). First, let us put the edge on the pragmatic maxim.

[174] "…I [Peirce] will call them for the nonce my cotary propositions. *Cos, cotis*, is a whetstone. They appear to me to put the edge on the maxim of pragmatism" (*PPM* 241 [1903]).

The first cotary proposition is a classical dictum adapted from Aristotle: *Nihil est in intellectu quin prius fuerat in sensu*.[175] Peirce distinguishes himself from the Aristotelian tradition by asserting that "[b]y *intellectus* I understand the *meaning* of any representation in any kind of cognition…As for the other term, *in sensu*, that I take in the sense of in a *perceptual judgment*."[176] Already we can see that Peirce's gloss brings this first cotary proposition quite close to the pragmatic maxim by asserting that all meaning originates in perceptual judgments. With the additional claim that concepts are representations of some sort, it is a small step to the position that the meaning of a concept is a set of perceptual judgments, and a somewhat larger step from there to the entire meaning being a set of possible perceptual judgments.[177] What exactly Peirce means by 'perceptual judgments' will be explored in Chapter III.

The second and third cotary propositions are that "perceptual judgments contain general elements, so that universal propositions are deducible from them…" and that "…abductive inference shades into perceptual judgment without any sharp line of demarcation between them…"[178] This latter proposition is in part a consequence of the doctrine of synechism, both in that there is continuity between abductive inferences and perceptual judgments, and that the formation of a perceptual judgment is a continuous process, thereby consisting of an infinite number of inferences. As Peirce notes, this

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[175] Cf. Duns Scotus, *Super Universalibus Porphyrii* Question 3 [c. 1295]. Although this phrase does not appear in Aristotle, it is derived from comments such as "…the soul never thinks without images" whereby images (*phantasia*) derive from sensation (*aesthesis*) (*De Anima* iii.7) [c. 350 BCE].

[176] *PPM* 241 [1903]

[177] For Peirce, the difference at issue is between the meaning of a term and the ultimate meaning of a term – cf. *PPM* 234 [1903]

[178] *PPM* 241-242 [1903]

analysis parallels the supposed paradox of Achilles and the tortoise. Here is not the place to demonstrate Peirce's rejection of Zeno's paradoxes, so instead let me note that the process that results in a perceptive judgment is "…is not sufficiently conscious to be controlled, or to state it more truly not controllable and therefore not fully conscious."[179] Again, the position that perceptual judgments are the products of subconscious inferences is part of the subject of Chapter III.

Turning to the second cotary proposition, Peirce's argument that we can legitimately deduce universal propositions from particular judgments again rests in part upon synechism. That is, in Peirce's view even a particular sensation contains general elements in that it is a colligation of sensations over time. Thus, even my perception of the book next to me involves the synthesis of an indefinite number of visual sensation, even when I only glance at it. Furthermore, associating the color of a page with its smell and texture requires the synthesis of disparate sense modalities into the attribution 'this book'. In short, my perception is a hypothesis that these sensation originate from the same object. As Peirce puts it, "The notion that all those reacting singulars were in the relation of personal identity to one singular, the collection of them all, this notion is an element of Thirdness [generality] abductively connected with them."[180] For Peirce, perceptual judgments possess the structure of a proposition, and the logic of relatives shows us that in the judgment "This page is white" – $(\exists x)(Px \wedge Wx)$. This shows clearly that the relatively singular element is not the page, but rather

[179] *PPM* 242 [1903]; 'perceptive judgment' instead of 'perceptual judgment' is Peirce's own variation.
[180] *PPM* 236 [1903]

the indexical object, while the general elements are the properties of 'pageness' and 'whiteness', and the supposition that one object possesses both of these qualities conjunctively over time.

As I have noted, these topics will return more fully when we explore to Peirce's account of perception in Chapter III, and of assertion in Chapter IV. However, I want to highlight an additional element of the third cotary proposition that has led to debates in the secondary literature. Specifically, Peirce claims that abductive suggestions come as a flash of insight. Moreover, "[i]t is true that the different elements of the hypothesis were in our minds before…" but the flash of insight combines these elements in an unexpected fashion.[181] Harry Frankfurt considered this appeal to insight as a *prima facie* contradiction with Peirce's claims concerning abduction, "[f]or it is very easy to show that abductive inference *cannot* be the method by which we arrive at new ideas."[182] Frankfurt does so by showing that the logical form of an abduction includes the hypothesis as the minor premise of the syllogism, not its conclusion. To be specific, in the general form of an abductive syllogism as given by Peirce:

> The surprising fact, C, is observed
> But if A were true, C would be a matter of course
> Hence, there is reason to suspect that A is true[183]

The hypothesis is not that there is reason to accept A, but rather the conditional connecting A and C. As such, the hypothesis is included among the premises, and therefore an abductive inference is at best a *petitio principii*, and so cannot introduce

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[181] *PPM* 242 [1903]
[182] Frankfurt, "Peirce's Notion of Abduction" p. 594 [1958]
[183] *PPM* 246 [1903]

something new. Furthermore, abduction is of little aid in the adoption of hypotheses, given that it can only suggest that a hypothesis may be true – but there are an infinite number of possibly true theories. In short, "…it is a power of guessing intelligently that leads us to adopt our working hypotheses; it is not, and cannot be, the application of abductive reasoning."[184] Thus, on Frankfurt's view either Peirce falls prey to psychologism, in that it is insight, not reason, which produces or promotes hypotheses, or he continues to confusion abduction and induction. Instead, at best "…we see that abduction is a kind of argument by which we come to accept a certain proposition *as an hypothesis,* or *recognize that it is an hypothesis*."[185] Patricia Turrisi offers the most sustained account of Frankfurt's criticism and the reaction to it, and her extensive argument rests on Peirce's 1903 lectures, and especially the three cotary propositions. Specifically, Peirce's insistence that the logic of abduction must include the principle that perceptual judgments contain general principles is an assertion of his scholastic realism, especially the reality of Thirdness. As Turrisi puts it, "…in Peirce explanation, the abductive origination of a hypothesis presupposes the reality of the uniformity and regularity of nature, and the availability of this generality in the judgments of perception."[186] In other words, abduction does originate hypotheses through the abstraction of general elements from experience, while also creatively combining them. I agree substantively with Turrisi's defense of Peirce, but we will not review the details here.

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[184] Frankfurt p. 596 [1958]
[185] Frankfurt p. 597 [1958]; italics in original
[186] Patricia Turrisi, "Peirce's Logic of Discovery: Abduction and the Universal Categories" p. 496 [1990]

Conclusion

However, I raised Frankfurt's objections for a reason, in that it forces us to clarify what 'logic' means in the phrase 'the logic of abduction'. Clearly, the pragmatic maxim does not directly concern the logical structure of abductive inference, and yet Peirce claims that it covers the entire logic of abduction. As I suggested above, here we must understand logic as the normative science of self-controlled pursuit of truth. Otherwise, we tarry with a principle concerning a form of inference that is deductively invalid and inductively suspect. Moreover, Peirce's claim that the true logic of abduction must perform two services is much to ask of a form of inference: "…it ought, in the first place to give us an expeditious riddance of all ideas essentially unclear. In the second place, it ought to lend support (to), and help render distinct, ideas essentially clear but more or less difficult of apprehension." [187] Thus, I offer also the distinction between abduction as a form of *inference* and as a form of *reasoning*, and follow Peirce in that the difference between these rests on a continuum of self-control. Pragmatism as the logic of abduction must therefore be normative, standing as a maxim for the evaluation of hypotheses worth pursuing, regardless of the abductively inferential psychological processes that gave rise to the hypothesis.[188] This is not to say, however, that an investigation into origins is never appropriate, whether through introspection or some form of genealogy. Nonetheless, abduction as a method of prosecuting inquiry does

[187] *PPM* 254 [1903]

[188] Compare Daniel McKaughan's "From Ugly Duckling to Swan: Peirce, Abduction, and the Pursuit of Scientific Theories" [2008].

clearly rest upon our instincts, most generally our guessing instinct. We will turn to Peirce's account of instinct more particularly in Chapter III. However, this appeal to instinct seems to trouble Peirce's commitment against psychologism, as we have a logical process resting upon psychological facts. Again, Peirce asserts a dependence on the phenomenology of common sense, and indeed the topic of instinct will arise in the following chapter, wherein I present Peirce's assessment of the Common Sense Philosophy of Thomas Reid. More generally, now that we have established the basic concepts of Peirce's philosophy, it is time to reconstruct his views more fully. First, understanding Peirce's notion of abductive insight requires an investigation of his critique of intuition, especially Cartesian rational intuition and Berkeleyan empirical intuition. Reviewing the particulars of this critique will open a new approach to pragmatism, one that ties it deeply to the past, in that denying intuition leaves Peirce with an inchoate but distinctive conception of memory, and the key role it plays in the conduct of inquiry.

Memory is the type of a sign, which takes up the deliverance of past memory and delivers a portion of it to future memory.

-C.S. Peirce, *MS* 599 "Reason's Rules" (c. 1902)

Memory is the primary and fundamental power, without which there could be no other intellectual operation.

-Samuel Johnson, *The Idler*, 1759

Chapter II: Memory and Modernity

Introduction

Charles Peirce never wrote a systematic account of memory, instead leaving behind only a number of richly suggestive asides and brief passages. One reason for this is his commitment to continual revision in light of both contemporary and historical researches. On the other hand, one may object that the absence of a full account of memory in Peirce's philosophy indicates lack of interest, or the unimportance of the concept. This objection, even if taken as plausible, neglects the scope of Peirce's architectonic intent – that is, it seems odd that he would leave such a central part of human experience out of a philosophy grounded in a review of all human knowledge.[189] Indeed, it should be possible in principle to reconstruct an account of memory insofar as Peirce met this goal. More strongly, I think that much of Peirce's

[189] See *CP* 6.9 [1891]: "What I would recommend is that every person who wishes to form an opinion concerning fundamental problems should first of all make a complete survey of human knowledge, should take note of all the valuable ideas in each branch of science, should observe in just what respect each has been successful and where it has failed, in order that, in the light of the thorough acquaintance so attained of the available materials for a philosophical theory and of the nature and strength of each, he may proceed to the study of what the problem of philosophy consists in, and of the proper way of solving it."

philosophy is an effort to grapple with the consequences of accepting memory as the sole source of knowledge. This is most obvious perhaps in his doctrine of fallibilism, "…the doctrine that our knowledge is never absolute but always swims, as it were, in a continuum of uncertainty and of indeterminacy."[190] Now, this epistemological principle is something of a corollary from the "deceptions and inexactitude" of memory.[191] Much of Peirce's work in logic, conceived broadly as semeiotic, the study of signs, concerns the possibility of knowledge without an absolute, intuitive basis, and in particular the methodologies appropriate to such a pursuit.[192] This fallibilistic stance ties memory, if somewhat obliquely, to Peirce's realism, especially in the form of denying Cartesian intuition and its empiricist counterpart. Explaining the connection between a particular sense of memory and some of Peirce's distinctive core philosophical commitments is the purpose of this chapter.

One of difficulties in understanding a philosopher as subtle as Peirce is his penchant for neologisms.[193] This is true even when Peirce is intentionally exploring a novel, or previously inadequately articulated, concept or position, such as when he christens his philosophy on a whole as a *synechism*; i.e., a philosophy that takes

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[190] *CP* 1.171 [c. 1897]. In the next sentence, Peirce notes that his doctrine of synechism is "fallibilism objectified."
[191] E.g., *CP* 1.146-1.147 [c. 1897]
[192] Again, I will use Peirce's preferred spelling of "semeiotic" to refer to his distinct conception of the study of signs; any references that are more general will use the spelling "semiotic."
[193] Although Peirce is clear as to his rationale: "The first rule of good taste in writing is to use words whose meanings will not be misunderstood; and if a reader does not know the meaning of the words, it is infinitely better that he should know he does not know it" (*CP* 2.223 "The Ethics of Terminology" [1903]).

continuity as the main feature of reality.[194] In many ways, William James is perfectly right when he claims that pragmatism is a new name for an old way of thinking; and yet these proto-pragmatists never explicated this mindset into either a rule for clarifying meaning or determining truth.[195] Akin to this tendency to neologize is Peirce's seemingly idiosyncratic understanding of various philosophical positions, such as the conflict between nominalism and realism. In particular, 'realism' is a deeply ambiguous set of positions, distinguished at minimum by *which* things a realist considers 'real.'[196] Nonetheless, the supposed idiosyncrasy of Peirce's conception of realism arises from his attention not to the usage of his contemporaries, but rather to what the *inventors* of the term meant by it.[197] This is clear in Peirce's first full pronouncement in favor of realism in an 1871 review of Fraser's edition of the works of Berkeley: "The current explanations of the realist-nominalist controversy are equally false and unintelligible. They are said to be derived from Bayle's *Dictionary*; at any rate, they are not based upon a study of the authors."[198] The commitment to the original understanding of this issue

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[194] For example, *CP* 6.202 "The Logic of Continuity" [1898]: "Accordingly, I like to call my theory Synechism, because it rests on the study of continuity."

[195] See James, *Pragmatism* [1907]. In 1906, Peirce asserts a similar point: "Any philosophical doctrine that should be completely new could hardly fail to prove completely false; but the rivulets at the head of the river of pragmatism are easily traced back to almost any desired antiquity" (*CP* 5.11).

[196] Abstract entities, accurate representation in art, hypothetical physical entities, an external world, the limitations of relying upon good will in policy decisions…

[197] "As to reality, one finds it defined in various ways; but if that principle of terminological ethics that was proposed be accepted, the equivocal language will soon disappear. For *realis* and *realitas* are not ancient words. They were invented to be terms of philosophy in the thirteenth century, and the meaning they were intended to express is perfectly clear" (*CP* 5.430 "What Pragmatism Is" [1905]).

[198] W 2: 467 [1871]. Peirce restates this appeal to original enunciations in his 1903 "Ethics of Terminology" (*EP* 2: 263-265).

is one basis for Peirce calling most, if not all, of his contemporaries nominalists.[199] For example, Peirce considers thinkers as different as John Stuart Mill and G.W.F. Hegel nominalistic in their philosophy, despite the latter's more typically being understood as a strong realist. Although it may be true that Peirce came to use 'nominalist' as a general pejorative, with perhaps little positive content, I find it hermeneutically richer to take this usage seriously. This demands close attention to what Peirce means by the term and the discernment to comprehend the root issue underlying surface formulations.

The application of Peirce's historically grounded interpretations of philosophical positions points to another difficulty in understanding his thought.[200] Specifically, this involves the subtle and often only intimated relationships between his diverse philosophical commitments. As we have seen, in 1892 Peirce asserts that his conception of synechism entails three other positions: objective idealism, a logical realism "…of the

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[199] For example, see *CP* 1.19 [1903]: "In short, there was a tidal wave of nominalism. Descartes was a nominalist. Locke and all his following, Berkeley, Hartley, Hume, and even Reid, were nominalists. Leibniz was an extreme nominalist, and Rémusat [C. F. M.?] who has lately made an attempt to repair the edifice of Leibnizian monadology, does so by cutting away every part which leans at all toward realism. Kant was a nominalist; although his philosophy would have been rendered compacter, more consistent, and stronger if its author had taken up realism, as he certainly would have done if he had read Scotus. Hegel was a nominalist of realistic yearnings. I might continue the list much further. Thus, in one word, all modern philosophy of every sect has been nominalistic."

[200] In "Peirce's Retrieval of Scotistic Realism," Richard Lee suggests that Peirce occupies a middle ground between two broad positions concerning the history of philosophy. The first is an analytic conception of history as a collection of answers to problems; the other is implied to be a continental commitment to the hermeneutic context of an historical thinker. "Not quite historian of philosophy, and yet not merely addressing himself to the 'problems of philosophy' outside of their historical situatedness…This is a *retrieval* of Scotistic metaphysics precisely because Peirce realizes that Scotus' position cannot simply be recalled in its original framework" (Lee p. 180 [1998]).

most pronounced type…," and tychism with a thorough-going evolutionism (what he will later call *agapism*).[201] For the opposite camp, in 1871 Peirce claims the following are "…daughters of nominalism,—sensationalism, phenomenalism, individualism, and materialism."[202] Nonetheless, earlier in this review Peirce claims that realism, the position he favors, involves a phenomenalism, although "…the phenomenalism of Kant, and not that of Hume."[203] Thus, Peirce held that a certain kind of phenomenalism, despite its nominalistic tendencies, is viable within a realistic philosophy. Of course, the difficulty is in *defining* 'phenomenalism' in a way that includes the positions of Kant and Hume, as well as others, while also maintaining their differences. This sort of terminological, combined with the explicitly architectonic nature of Peirce's philosophical endeavors, enjoins us to take care in understanding his positions. Finally, Peirce's consistent attention to the history of philosophy – perhaps particularly in regards to how surface agreements hide conflicting views – demands the same of us in attempting to articulate his philosophy.

On this basis, interpreting the importance and role of memory in Peirce's philosophy needs a presentation of his philosophical commitments and their historical background. For the purposes of this chapter, we will focus on one of Peirce's earliest and most profound moves, his turn to scholastic (or Scotistic) realism, in conjunction with his denial of Cartesian intuition in the *Journal of Speculative Philosophy* "Cognition

[201] EP 1: 333 [1892]; at a later point, Peirce identifies synechism as a combination of tychism, the doctrine of absolute chance, and pragmatism – see *CP* 4.584 [1906].
[202] W 2: 486 [1871]
[203] W 2: 470 [1871]

Series" of 1868-1869. My contention is that the combination of these two claims – realism regards reality as "…the normal product of mental action, and not as the incognizable cause of it" [204] and "[w]e have no power of Intuition, but every cognition is determined logically by previous cognitions" [205] – establish the central importance of memory within Peirce's philosophy. That is, as memory is almost by definition the faculty of previously determined cognitions that are capable of determining future cognitions, then for Peirce memory becomes the sole source of knowledge, and of its limitations. Defending this provocative claim will take several, seemingly indirect, explorations. The majority of this chapter is dedicated to a deep engagement with René Descartes and George Berkeley, as they are two of Peirce's explicit interlocutors during the period in question (1867-1871). In addition, I will articulate briefly Peirce's critical common-sensism through his assessment of the Common Sense philosophy of Thomas Reid. This will involve both a review of Peirce's assessment of these thinkers throughout his career and a careful interpretation of their philosophies on the specific points that Peirce criticizes. Specifically, I will examine the role of memory within their respective philosophies: for Descartes, the question of reliability of memory, for Berkeley the question of the content of memory, and for Reid the question of the immediacy of memory. In short, I aim to show that Descartes is committed to the self-justifying status of intuition/reason, which leaves him fully susceptible to Peirce's critique. In addition, the difficulties with Berkeley's denial of abstract (general) ideas

[204] W 2: 471 [1871]
[205] W 2: 213 [1868]

illuminate Peirce's contention that all cognition concerns generals. Finally, I will review Thomas Reid's account of the strong tie between belief and memory. In pursuing these reviews I am choosing to be Peircean rather than Cartesian; that is, I take ignorance of those who came before as a fault rather than a virtue. Peirce is anti-modern in this way, for he denies the modern attitude that one can or should forget one's history and start wholly afresh. Thus, I intend to honor these modern philosophers more than they honored the Scholastics.[206] Now, let us turn to Peirce's critique of intuition.

II.A: Peirce and Modernity

II.A.1: Intuition as a Doctrine of Nominalism

This series of three essays arose from the correspondence between Peirce and W.T. Harris, the founder and editor and *Journal of Speculative Philosophy*, concerning Hegel's philosophy. This exchange led Harris to challenge Peirce to provide a defense of the objective validity of the laws of logic. Thus, the first two essays are a prolegomena to the third. However, it is essential to note that Peirce's attempt required him to take the first step away from his early nominalism into a mild form of realism, as well outlined by Max Fisch.[207] Although this initial move is "…so unobtrusive as to be

[206] Descartes famously dismisses his teachers, but Berkeley indicates a similar distaste: "It were an endless, as well as useless thing, to trace the Schoolmen, those great masters of abstraction, through all the manifold inextricable labyrinths of error and dispute, which their doctrine of abstract natures and notions seems to have led them into" (Berkeley, *Principles* Intro. §17 [1710/1734]). Reid, while fundamentally opposed to the central tenet of modern philosophy, the 'way of ideas', also welcomed the rejection of scholasticism: "They [Descartes, Malebranche, and Locke] have removed a vast amount of dust and rubbish that had collected in the ages of bad reasoning by the scholastics and had blocked the path forward" (*Inquiry* Ch. 1 §4 [1764])

[207] Fisch, "Peirce's Progress from Nominalism to Realism," pp. 184-200 [1967]

almost an aside to the editor, acknowledging that the principles by which Peirce is validating the laws of logic are not exactly those by which he had undertaken to do so," we will see that it underwrites much of his later philosophy.[208] As already noted, a crucial move will be Peirce's critique of the Berkeleyan conception of "images" as absolutely determinate in favor of the reality of generals, even in perception. This allows Peirce to deny the objection that inference deals only with generals, and therefore that intuition, whether intellectual or sensual, must be a distinct mental power.

First, recall that Descartes explicitly denies that he uses "intuition" in the scholastic sense, at least in his *Rules for the Direction of the Mind*. Rather, he claims to intend only the sense of the Latin, which includes "comprehend" and "look at." Nonetheless, Peirce's characterization of intuition in "Some Questions" captures the *role* of intuition in Descartes' philosophy, despite relying on scholastic terminology. That is, intuition is a faculty or capacity that generates knowledge, which is non-inferential and self-guaranteeing.[209] Thomas Prendergast's analysis of this essay underlines this point:

> From [Peirce's several definitions of intuition] an intuition is a cognition directly determined by the object out of consciousness and immediately referring to that object. If this is the case then the first characteristic of immediate (intuitive) knowledge is that it is non-inferential. It does not depend in any way on previous knowledge. A second characteristic is that immediate (intuitive) knowledge is self-guaranteeing. "By simple contemplation of the cognition" one could tell it is an intuition; i.e., refers to its object. Simply having the intuition is enough to guarantee its intuitive character.[210]

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[208] Fisch, "Peirce's Progress from Nominalism to Realism," p. 187 [1967]
[209] See Prendergast p. 289 [1977]
[210] Prendergast p. 289 [1977]

Peirce then continues, in good *disputatio* form, to deny these characteristics of intuition through seven questions. These roughly divide into questions 1-3 addressing the claim that an intuition guarantees itself, questions 4-6 addressing non-inferential knowledge, and question 7 denying intuition altogether.

Briefly, Peirce's first question is whether we can intuitively distinguish intuitions for other cognitions, his second is whether we have an intuitive self-consciousness, and his third is whether we can intuitively distinguish between the subjective elements of different kinds of cognitions. The answer to each question is 'No', and these denials motivate Peirce's positive thesis that all cognition is inferential, in the sense that all cognition is determined by previous cognitions and that there is no power of thinking without signs. Broadly, Peirce's objections to the first question are decisive, for if we cannot intuitively distinguish intuitions *as* intuitions then there is little reason to claim such a faculty. For example, Peirce notes the truism that witnesses before the court often have difficulty distinguishing between what they have seen and what they have inferred. Moreover, people claim intuitive certainty for perceptions that are in fact impossible, as the illusions of professional magicians show. Indeed, the blind spot in our retinas proves that our perceptual field is not the pure continuum it purports to be, but is rather woven from imperceptible saccades – "What more striking example could be desired of the impossibility of distinguishing intellectual results from intuitional data, by mere contemplation?"[211] The conclusion that thought consists in inferences

[211] *EP* 1: 15 "Questions Concerning Certain Faculties" [1868]

through signs returns us to the question of Peirce's realism, at least in the sense that for a realist in the real is the normal *outcome* of cognition, as Peirce claims in 1871. Hence, I will make a few comments on the development and nature of Peirce's realism now, and we will return to the consequences of Peirce's denial of intuition in more detail in the following sections.

Peirce's commitment to realism is one that largely escapes a charge of inconsistency, for in 1903 Peirce asserts "I have since very carefully and thoroughly revised my philosophical opinions more than half a dozen times, and have modified them more or less on most topics; but I have never been able to think differently on that question of nominalism and realism."[212] Nonetheless, Peirce came to consider his early pragmatism too nominalistic, especially as enunciated in 1878's "How to Make Our Ideas Clear." In addition, Max Fisch argues that Peirce was a nominalist prior to 1868, or even 1871. For example, "[w]hen Peirce in January 1868 raised questions about the Hegelian identification of *Being* and *Nothing*, [W.T.] Harris published them in his *Journal of Speculative Philosophy*, along with editorial replies, under the title "Nominalism *versus* Realism"—that is, the nominalism of Peirce versus the realism of Harris."[213] Furthermore, in a draft of the Cognition Series entitled "Questions Concerning Reality" Peirce asserts that his nominalism saves him from absurdity and identifies it with the "pure" doctrine of idealism.[214]

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[212] *CP* 1.20 [1903]
[213] Fisch, "Peirce's Progress from Nominalism toward Realism," p. 186 [1967]. Fisch notes that Peirce did not object to this classification.
[214] *W* 2: 181 [1868]

But what is the absurdity that this nominalism spares him, particularly in light of Peirce's association of this nominalism earlier in the draft with a position that sounds much like the realism of 1871, that "…the real is the object of an absolutely true proposition"?[215] Peirce follows this with a claim that this is nominalistic "…inasmuch as it based universals upon signs, [but] is yet quite opposed to that individualism which is often supposed to be coextensive with nominalism."[216] This opposition to individualism means that universal propositions have universals as their object, if they are true, and therefore universals can be as real as singulars. However, universals are not real *in the same way* as singulars, for then we have the absurdity of the blackness of this cat and of this dog being the same thing at two places at once. This is the absurdity that basing universals upon signs saves him from, for "[t]his blackness, upon my principles, is purely significative, purely cognitive; there is nothing I suppose to prevent signs being applied to different individuals in precisely the same sense."[217] This passage suggests that Peirce struggled with avoiding the "nominalistic Platonism" he attributes to Berkeley in 1871 several years earlier.[218] The problem lies in treating universals as things – that is, considering Platonic forms as existing in the same way as the chair on which I sit. Doing so means, again, that the "whiteness" of my cup cannot be in two different places at the same time any more than the cup itself can be. Hence,

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[215] *W* 2: 175 [1868]
[216] *W* 2: 175 [1868]
[217] *W* 2: 181 [1868]
[218] W 2: 464 [1871]: "Berkeley is an admirable illustration of this [British] character, as well as of that strange union of nominalism with Platonism, which has repeatedly appeared in history, and has been such a stumbling-block to the historians of philosophy." See also Anderson and Groff, "Peirce on Berkeley's Nominalistic Platonism."

the nominalistic doctrine that universals are nothing more than marks on paper or a *flatus vocis*, which leaves the question of how *this* mark and *that* voiced exhalation mean the same thing. In terms of another of Peirce's distinctions, for the nominalist there are only tokens and no types. Of course, for Peirce this is impossible, because tokens are only *instances* of types.[219] Therefore, we can see that Peirce's realism concerns an ontology that recognizes a mode of being other than existence even in this early period.[220]

It is noteworthy that by the publication of "Some Consequences of Four Incapacities" Peirce identifies the position that generals are real with the realism of John Duns Scotus, rather than the nominalism of the draft.[221] At minimum, Peirce's engagement with the scholastics during this period led to a revision of terminology when he learned that the early realists were not crude Platonists.[222] However, as noted above, Peirce came to consider this Scotistic realism as too close to nominalism – originally, its virtue – after the 1880's.

To conclude this additional brief review of Peirce's realism I want to add an expression of Peirce's realism in terms of his categories, one that helps shape the analysis of Descartes, Berkeley, and Reid to follow. In 1903 Peirce spends several of his

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[219] See CP 4.537 "Prolegomena for an Apology for Pragmaticism" [1906]

[220] Later, Peirce will explicitly say that existence "…is a special mode of reality, which, whatever characteristics, has that of being absolutely determinate…" which parallels his criticism of the Berkeleyan conception of images (*CP* 6.349 [1902]). In this passage, Peirce also considers reality as a special mode of being. Thus, the following nested hierarchy: BEING → Reality → existence

[221] See W 2: 239-240 [1868]

[222] Mayorga p. 88 [2007]. See also Boler's *Charles Peirce and Scholastic Realism* [1963] for a classic analysis of Peirce's relationship with medieval philosophy.

Harvard Lectures arguing for the irreducible reality of all three of his categories of Firstness, Secondness, and Thirdness; or, in one mode, Quality, Reaction, and Representation.[223] In lecture IV, Peirce proposes classifying all possible systems of metaphysics on the basis of which of the three categories they recognize as real – 3 systems that accept only one category, three that accept only two, and 1 class that accepts all three (to varying degrees). By this point, Peirce considers any philosophy that does not fully recognize all three categories as nominalistic, and yet not nominalistic in the same ways. Regarding the figures of this chapter, Peirce asserts the following:

> The Berkeleyans, for whom there are but two kinds of entities, souls, or centres of determinable thought, and ideas in the souls, these ideas being regarded as pure statical entities, little or nothing else than Qualities of Feeling, seem to admit Categories First and Third and to deny Secondness, which they wish to replace by Divine Creative Influence, which certainly has all the flavor of Thirdness [i iii]. So far as one can make out any intelligible aim in that singular hodge-podge, the Cartesian metaphysics, it seems to have been to admit Categories Second and Third as fundamental and to deny the First [ii iii].[224]

Under this classification, therefore, there should be distinctive differences between the forms in which nominalism appears in Berkeley and Descartes. Conversely, Peirce places Reid in his own camp as a metaphysics that recognizes all three categories, along with Kant, Plato, and Aristotle.[225] When a philosopher denies one of the universal

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[223] These lectures are collected in *EP* 2: 133-241 and Turrisi, ed., *Pragmatism as a Principle and Method of Right Thinking*.

[224] *CP* 5.81 [1903]

[225] This means only that these thinkers are broadly the same, as Peirce does not develop a typology of those metaphysics that recognize all three categories. At this point, "I [Peirce] should call myself an Aristotleian of the scholastic wing, approaching Scotism, but going much further in the direction of scholastic realism" (*PPM* p. 190 [1903]).

categories, we should expect not only a mischaracterization of associated phenomena, but also a peculiar blindness to those phenomena; indeed such blindness is Peirce's primary diagnostic evidence. For example, Cartesianism shows a denial of Firstness in its unease with feeling, novelty, and especially vagueness, while Berkeleyanism's denial of Secondness is a denial of haecceity, the brute particularity of experience. As I will show below, the respective issue Peirce takes with each philosopher is rooted in his particular categorial denial.

II.A.2: Descartes, Berkeley, and Reid

In his 1868 essay "Some Consequences of Four Incapacities" Peirce asserts the common claim that Descartes is the father of modern philosophy, although one whose philosophical spirit needs replacement.[226] Overall, Peirce considered Descartes wholly unpragmatic; as late as 1907 Peirce writes that, "…the monstrous error of Descartes and of the starry host of his progeny mark their blindness to light of the pragmatist color."[227] Moreover, in a variant of 1877's "The Fixation of Belief" Peirce writes that the only "κτήμα ἐς ἀεί (everlasting boon)" Cartesian philosophy offers is the barrier he erected between the scholastic and modern periods; specifically, in undermining the scholastic grounding of truth in external authority in favor of the certainty of individual reason –

[226] *W* 2: 211 [1868]; compare the following: "Descartes marks the period when Philosophy put off childish things and began to be a conceited young man. By the time the young man has grown to be an old man, he will have learned that traditions are precious treasures, while iconoclastic inventions are always cheap and often nasty" (*CP* 4.71 [1893]).
[227] *MS* 322.2 [c. 1907]

which Peirce considered also deficient.[228] Furthermore, at one point Peirce characterizes his negative appraisal of Descartes' methodology in terms of memory.

None of the above is new except in emphasis. However, Peirce's continuation of his critique of Descartes in "Some Consequences of Four Incapacities" includes a discursus on Berkeleyanism; furthermore, it is in an 1871 review of Berkeley that Peirce first fully declares for realism and offers a rough statement of the pragmatic maxim. In contrast to Descartes, Peirce holds "the good Bishop Berkeley" in high regard, especially in the pragmatic temper of his thought.[229] In fact, several times Peirce describes himself as a disciple of Berkeley, and in 1883 states that Berkeley, rather than Kant, deserves consideration as the father of modern philosophy.[230] In addition to, but for Peirce of a piece with, being "…a very distinguished master of the pragmatist mode of thinking," Berkeley explicitly, if infrequently, framed his philosophy in terms of signs.[231] In short, Berkeley deserves the title of father of modern philosophy over Descartes and even Kant because the seed of semeiotic sown by Locke comes to sprout, although not bloom, with Berkeley. "But the Truth of Berkeleianism [sic] lies in his hinging all philosophy,– all *Coenoscopy*, to borrow Bentham's excellent word,– on the concept of SIGN; and in his Methodeutic of Noölogy."[232] I take this comment regarding methodology (methodeutic) as a reference to Berkeley's pragmatic tendencies,

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[228] *MS* 334.H1 [1877]
[229] *MS* 663 [1910]
[230] In the 1907 manuscript quoted above, Peirce even suggests that Kant derives his pragmatistic tendencies from Berkeley.
[231] *MS* 322.2 [c. 1907]
[232] *MS* 641.18 [1909]. As quoted at the beginning of this chapter, in this same set of manuscripts Peirce avows that if he has done any work of value in noölogy, the study of mind, it originated in 1862-1868 and was expressed in the *Journal of Speculative Philosophy* series of 1868-1869.

especially considering Peirce's regard for Berkeley's analysis of vision. Thus, Berkeley is both a proto-pragmatist and a proto-semiotician.

Historically, figures such as Immanuel Kant and Thomas Reid have seen Descartes and Berkeley to be akin, in contrast to the broad disassociation of the two into rationalist and empiricist camps in the dominant narrative regarding the history of philosophy. In fact, at least one author has argued that Berkeley represents a self-conscious outgrowth of Descartes' philosophy; in particular, "…Berkeley marked an advance from Descartes' thinking substance toward the Kantian conception of the creative activity of thought."[233] Considering Berkeley as a transitional figure between Locke and Hume as well as between Descartes and Kant suggests his importance for pragmatism in general. That is, Berkeley's roles in the reduction of British empiricism to skepticism and in the reconception of mind as creative activity strongly evokes the generally pragmatist interests in a richer understanding of experience and the importance of the practical. Nonetheless, Peirce is strongly opposed to Berkeley's nominalism and asserts that his immaterialism is ridiculous.[234] More specifically for our current purpose, in "Some Consequences" Peirce is highly critical of the Berkeleyan conception of mental images in its account of memory, imagination, and perception.[235]

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[233] Kantonen p. 485 [1934]. Cornelis de Waal also emphasizes the common features of Berkeley and Descartes in "The Real Issue Between Nominalism and Realism: Peirce and Berkeley Reconsidered" [1996]. Although Peirce classes both Descartes and Berkeley nominalists, he considers Berkeley most influenced by Locke rather than Descartes. See *EP* 1: 96 "Fraser's *The Works of George Berkeley*" [1871].

[234] *MS* 641.18 [1909]

[235] Although it is important to note that late in life Peirce was highly critical of his own nominalistic tendencies during this period, and so his distance from Berkeley on this point likely grew over the years.

As for Thomas Reid, throughout his life Peirce asserted the merits of this strain of Scots philosophy, especially its avowal, along with Kant, of a doctrine of immediate perception. Quoting Peirce, "…I thought to own my adhesion, under inevitable modification, to the opinion of that subtle but well-balanced intellect, Thomas Reid, in the matter of Common Sense (as well as in regard to immediate perception, along with Kant)."[236] More substantively, after his initial efforts to distinguish his own version of pragmatism in 1903, Peirce came to articulate his distinctive vision as a form of *Critical Common-Sensism*. This is explicitly intended as a rapprochement between the philosophies of Kant and Reid, "…the two rival and opposed ways of answering Hume…"[237] In short, Peirce presents in own philosophy as a balance between these contrary schools resting on the fulcrum of their mutual turn away from nominalism to realism. Furthermore, Peirce offers a few intriguing remarks defending at least one element of Reid's account of memory; for instance, "[William] Hamilton stupidly objects to Reid's phrase 'immediate memory'…"[238] Nonetheless, Peirce seeks to distinguish himself from Reid and his following not only in utilizing the insights of Critical philosophy, but also through his own core pragmatist commitments, such as a high esteem for true doubt.[239] Thus, pursuing Reid's analysis of memory, in the context

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[236] CP 5.444 [c. 1905]; more on in what sense Peirce accepts a doctrine of immediate perception in Chapter III.
[237] *CP* 5.05 [c. 1905]
[238] *CP* 1.38 [c. 1890]
[239] "Yet a third mark of the Critical Common-sensist is that he has a high esteem for doubt. He may almost be said to have a *sacra fames* [accursed hunger] for it. Only, his hunger is not to be appeased with paper doubts: he must have the heavy and noble metal, or else belief" (*CP* 5.514 [c. 1905]). The Latin phrase is a reference to Virgil's *Aeneid* (3, 57), where the hunger is for gold, and as used here involves a bit of paronomasia, as *sacer* also means "dedicated, holy."

of Peirce's critique of Common Sense philosophy, will provide an additional element for distinguishing Peircean memory.

Overall, I hope to illuminate Peirce's largely implicit account of memory during his initial foray into philosophy and his later self-evaluations through his engagement with all three figures. I aim to show that, while the nature of memory is explicitly at issue in Peirce's remarks on Berkeley, it is implicitly and even more strongly at issue in his devastating analysis of the purported faculty of intuition that is essential to Cartesianism, and thus at the heart of his pragmatism as a critical approach to common sense.

A final note is in order, regarding my neglect of Kant.[240] The first reason is the tremendous amount of secondary literature exploring Peirce's indebtedness to Kant, such as the development of a 'transcendental semiotic' in the work of Karl-Otto Apel.[241] Of course, the same is as true, if not more so, of Peirce's relationship to Descartes. However, here I am in a position to contribute to the scholarship by explicating Peirce's remarks on Descartes and memory; conversely, he makes no such remarks on Kant's

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[240] Regarding Hume, Peirce's most sustained engagement with Hume's thought will be a topic in Chapter IV.

[241] For Apel's main investigation of Peirce, see his *Charles Peirce: from Pragmatism to Pragmaticism* [1981 (English)]. Overall, I agree with scholars such as Jerrold Abrams and Elizabeth Cooke, who argue that "[t]he problem here is that Apel's view ends up importing, yet again, infallibism in Peirce's system, but this time in the form of Kantian foundations" (Cooke, *Peirce's Pragmatic Theory of Inquiry* p. 121 [2006]; cf. Abrams' "Peirce, Kant, and Apel on Transcendental Semiotics: The Unity of Apperception and the Deduction of the Categories of Signs" [2004]). For an additional review of Apel's approach to Kant and Peirce, see C.B. Christensen's "Peirce's Transformation of Kant" [1994]. Finally, James Feibleman's "Peirce's Use of Kant" [1945] is a classic presentation of the variety of Kant's influence on Peirce. For a more recent study, see Tojus Midtgarden's "Peirce's Epistemology and Its Kantian Legacy: Exegetic and Systematic Considerations" [2007].

conception of memory. Indeed, Kant himself rarely addresses the topic of memory directly, and on the few occasions he does so, it is in some of the most obscure parts of his system. For example, the role of memory in the *Critic of Pure Reason* (Peirce's most dedicated exposure to Kant) is limited to the synthesis of recognition in the concept.[242] Nonetheless, it seems that all three syntheses presume some power of memory, even that of apprehension, as "[b]y *synthesis,* in its most general sense, I [Kant] understand the act of putting different representations together, and of grasping what is manifold in them in one knowledge," and putting representations together implies that they are available to do so.[243] However, this pushes us into questions of the transcendental unity of self-consciousness, which are even murkier waters. Given this absence, I will defer discussing Peirce's interpretation of Kant in more detail until the following chapter, wherein we will review Peirce's account of the modes of consciousness. For now, let us look at Peirce's understanding of Descartes, Berkeley, and Reid, and an interpretation of their philosophies in turn.

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[242] *Kritik* A104-A110 [1781/1787]. Indeed, in the extensive index to Werner Pluhar's translation of the *Kritik* 'memory' does not have an entry, not even a cross-reference to 'recognition'. Much more scholarship has been dedicated to the synthesis of reproduction in the imagination, but even then imagination is approached primarily through the *Critic of Judgment* – for example, see Rudolph Makreel's *Imagination and Interpretation in Kant: The Hermeneutical Import of the Critique of Judgment* [1990]. For a more thorough investigation of the role of imagination in the first Critique, see chapters 1 and 2 of Sarah Gibbons' *Kant's Theory of Imagination: Bridging Gaps in Judgement and Experience* [1994].

[243] *Kritik* A77/B103 [1781/1787]

II.B: Descartes and the Reliability of Memory

II.B.1: Peirce and Descartes

Scholars generally accept that Peirce offers a thorough critique of Cartesianism in his Cognition Series, even though the consistency and validity of the details of his arguments are subject to debate.[244] However, before turning to Peirce's arguments against Cartesian intuition, I want to examine the suggestion by Peirce that Descartes' error was denying memory. Complementing the implications of this suggestion is a thorough review of Descartes' remarks on memory throughout his career. In addition, I will analyze a strand of interpretation in the secondary literature concerning whether Descartes' proof of the existence of a veracious God secures the use of his reason or of his memory. In other words, the issue is whether Descartes avoids the circularity of using reason to prove the existence of a loving God as a guarantee for reason by having God guaranteeing the reliability of memory rather than that of reason. The purpose of this inquiry is to show that for Descartes the reliability of memory is parasitic on the self-justifying status of intuition. Thus, this exploration will serve to underwrite my interpretation of Peirce's attack on intuition and its relationship to memory, as well as offering a new element in assessing some critiques of Peirce's anti-Cartesianism.

[244] For example, see Jones, "Is Peirce's Theory of Instinct Consistently Anti-Cartesian" [1976] or Haack, "Descartes, Peirce, and the Cognitive Community" [1983].

In his 1893 work towards a book entitled *How to Reason,* Peirce revisits the Cartesian account of the *cogito*.[245] Here he argues that the fundamental mistake of Descartes is "…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."[246] Therefore, in Peirce's assessment, Descartes begs the question concerning both the *content* of the *cogito* – "I think, (therefore) I am" – and its *rationality*. That is, by denying memory Descartes is attempting to confirm the existence of the ego, which Peirce claims is only a "holder-together" of ideas, through the presence of only one idea. It is not quite clear here whether Peirce himself believes that the ego is nothing other than a holder-together of ideas or whether he is attributing this position to Descartes, though the latter is most likely.[247] As we will see in more detail later, Peirce links the ego to memory, and thus from his perspective Descartes is

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[245] At several places in the *Collected Papers* Peirce affirms that Descartes derives his *cogito* from St. Augustine: "Descartes convinced himself that the safest way was to "begin" by doubting everything, and accordingly he tells us he straightway did so, except only his *je pense,* which he borrowed from St. Augustine" (*CP* 6.498 [c. 1906]).

[246] *CP* 4.71 [1893]; emphasis added. This 'fundamental mistake' may be the same as the 'monstrous error' Peirce refers to in *MS* 322 from c. 1907. That is, asserting that a single idea is intelligible in itself is contrary to the pragmatic tenet that ideas gain their meaning from association with other ideas, especially from those in future experience. For example, well before explicitly defining the pragmatic maxim Peirce claims that "…no present thought (which is a mere feeling) has any meaning, any intellectual value; for this lies not in what is actually thought, but in what this thought may be connected with in representation by subsequent thoughts; so that the meaning of a thought is altogether something virtual" (*W* 2: 227 (1868)].

[247] *CP* 4.71 [1893]: "The *ego* of which he [Descartes] thinks is nothing but a holder together of ideas." Certainly in light of other passages, it is probable that Peirce would avoid the metaphor that the ego/mind is a *container* of ideas. For example, "Accordingly, just as we say that a body is in motion, and not that motion is in a body we ought to say that we are in thought and not that thoughts are in us" (*W* 2: 227 fn 4 [1868]). The question remains, then, in what way does the ego hold ideas together, if this conception even applies to Peirce's position at all?

denying his ego (by denying memory) in the attempt to certify its existence.[248] Moreover, while there may be a compulsion to believe the *cogito,* it cannot be rational, for "[i]f we could reduce ourselves to a single belief, or to only two or three, those few would not appear reasonable or clear."[249] As Descartes explicitly denies his memory in his Second Meditation – "I believe that none of what my deceitful memory represents ever existed" – his skepticism, even though methodological, cannot be anything other than "paper doubt" for Peirce because Descartes cannot know the *cogito* without the memory he has already denied.[250]

One place I find where Descartes elides the irrational compulsion possibly claimed for the *cogito* is in the unmarked transition from "I think, I am" to "I think, therefore I am." In the original Latin of the second Meditation [1641], Descartes asserts *Ego sum*, *ego existo*; *certum est* ("I am, I exist; it is certain"), with other variations including "I" being a "thinking thing," but the phrase *Cogito ergo sum* only appears in the objections and replies. Nonetheless, the fact that Descartes' correspondents implicitly take him to be asserting the latter supports Peirce's point. Descartes later does use the conditional formulation in §§7 and 10 of the *Principles of Philosophy.* The first and more common formulation is simply declarative, while the latter explicitly

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[248] For example, in *CP* 7.531 [undated]: "The past as above remarked is the *ego.* My recent past is my uppermost *ego;* my distant past is my more generalized *ego.* The past of the community is *our ego.* In attributing a flow of time to unknown events we impute a quasi-*ego* to the universe. The present is the immediate representation we are just learning that brings the future, or non-*ego*, to be assimilated into the *ego*."

[249] *CP* 4.71 [1893]

[250] Descartes, "Meditations on First Philosophy," p. 108 [1641]. Some might interpret Descartes as denying only deceitful memories and not memory in general, but this again contradicts his skeptical methodology. Moreover, the Latin text is clear that memory itself is deceitful: "…credo nihil unquam extitisse eorum quæ *mendax memoria* repræsentat…" (emphasis added).

takes the form of an inference. More specifically, under Peirce's analysis for the *cogito* to be an inference it must involve a rule. Thus, a more full statement is as follows:

(If I think, I am)	(*Si cogito, sum*)
I think	*Cogito*
Therefore, I am	*Ergo, sum*.[251]

Note that this suggests that even the double declaration of "I think, I am" tacitly implies the conditional relationship between *cogito* and *sum* expressed by *si*. As we will see below, for Descartes the *cogito* cannot be deductive for then it would be reliant somewhat on memory. In fact, in a reply to the second set of objections to the *Meditations*, Descartes explicitly states that the *cogito* is not a syllogistic inference. Instead, Descartes argues that a properly trained mind may grasp short deductions "at a glance," thereby elevating them to intuitive status. Of course, this claim is essential for maintaining the validity of Descartes' entire project. Now let us explore the relationship between intuition and deduction through a general look at Descartes conception of memory.

II.B.2: Cartesian Memory

Overall, Descartes rarely writes at length about memory in his philosophical career, although there are several consistent themes. One is the relationship between memory and deduction as one of the two sources of knowledge, both of which rest upon the fundamental faculty of intuition. Another is an identification of memory with the body conceived as a mechanical system, with some qualification. A final

[251] *MS* 891 [c. 1880-82]

interrelated theme is the necessity of avoiding the errors of memory by "deeply impressing" only what is important. I will now briefly address these themes in Descartes' work other than the *Meditations,* before returning to the *Meditations* proper, which seems to be the prime source for Peirce's understanding of Descartes.

In his decade long project *Rules for the Direction of the Mind*, Descartes establishes principles that he uses throughout his intellectual career.[252] For example, in section 3 Descartes asserts that scientific knowledge should rest upon intuition and deduction alone. Intuition is defined here as "…the indubitable conception of a pure and attentive mind arising from the light of reason alone," while proper deduction is a series of such intuitions.[253] Accordingly, deduction pursued rigorously is infallible, because it is an intuition at and between each step. However, this process of inference becomes increasingly dependent upon memory as its length extends beyond the human capacity for intuitive apperception – in terms derived from the *Meditations*, as the will outpaces the intellect. Deduction gains its certainty 'in a sense' from memory because it relies on the memory that the initial steps of the inference were intuited truly.[254] As memory is *not* infallible, Descartes notes that the certainty of deduction can be assured only through continuous motion of thought, repetition, and the use of brief signs for elements of a deduction that do not demand immediate attention. In other words, a

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[252] I want to note here that in the *Rules* Descartes affirms twice that there are four faculties: intellect, sense, imagination, and memory (in rules 8 and 12).
[253] Descartes, "Rules for the Direction of the Mind" in *Philosophical Essays and Correspondence*, p. 6 [1618-1628]. I also want to note here that Descartes is self-purportedly indifferent to the scholastic definition of *intuitus*, relying on the Latin meaning alone – most literally, "a look at or upon."
[254] Descartes, ibid, p. 6.

deduction can become familiar enough through repetition for intuition to grasp it as a whole, while continuous motion of thought and brief signs deny the mind the opportunity to misremember.[255] Regarding this account of deduction the editor Roger Ariew notes that "[t]he manuscript has *inductio*, but either *deductio* was intended or Descartes did not carefully differentiate between induction and deduction."[256] Indeed, in the index to this anthology – which spans Descartes' career – "Induction" only appears on four pages, all of which are in the *Rules for the Direction of the Mind*. This point is intriguing, because in "Questions Concerning Certain Faculties" Peirce argues that the practically indubitable certainty of our own existence – the most compelling reason to believe in Cartesian intuition – rests upon a kind of induction. Quoting Peirce: "In the same way [as the reliability of many concordant testimonies], to the developed mind of man, his own existence is supported by *every other fact*, and is, therefore more certain than any one of these facts."[257] In other words, while my own existence is dubitable at any particular moment, the vast amount of cumulative experience makes it practically certain; it is an hypothesis supported by a large set of evidence. Moreover, for Peirce there are three distinct kinds of inference, not one; indeed, it seems that a properly Cartesian deduction is not an inference at all.

In *The World*, *Discourse on Method*, a letter to Mesland, and *The Passions of the Soul* – that is, over most of his career – Descartes gives a material account of memory. The most explicit of these accounts is in the *Passions of the Soul* of 1649 wherein Descartes

[255] See rules 6, 11, and 16.
[256] Ariew in Descartes, *Philosophical Essays and Correspondence,* p. 6, note 3
[257] *W* 2: 203-204 [1868]

explains that when the soul recollects, the process is entirely mechanical. In particular, the soul stimulates the (pineal) gland such as to cause a motion of 'animal spirits' that finds the portion of the brain that corresponds to the desired object due to the 'greater facility' of the pores of the brain. "Thus these spirits, in coming into contact with these pores, enter into them more easily than into others, by which means they excite special movement in the gland which represents the same object to the soul, and causes it to know that this is what it wished to remember."[258] This obviously is consistent with the rules offered as many as 30 years before, as repetition would increase the immediacy and veracity of memory; that is, we better remember what is deeply impressed. On the other hand, in a letter to Mesland in 1644 Descartes offers a distinction between the memory of intellectual and material things, with only the latter residing in traces in the brain, akin to the folds in a piece of cloth or paper.

> …I believe that the memory of material things depends upon the traces that remain in the brain after some image has been imprinted there; and the memory of intellectual things depends on certain other traces that remain in thought itself. But the latter are of a different kind from the former, and I could not explain them by any example taken from corporeal things, which would require a very different example.[259]

Again, the analogy offered for material memory is that of folds in cloth or paper, which "…make it more fit to be folded again as it had been previously than if it had never been folded."[260] However, I have not found where Descartes elaborates, if he does at all, upon this distinction between intellectual and material memory, or provides the

[258] Descartes, "The Passions of the Soul," ibid., p. 311 [1649]
[259] Descartes, "To Mesland," ibid., p. 218 [1644]
[260] Descartes, "To Mesland," ibid., p. 218 [1644]

mysterious 'very different example' of the former. Richard Joyce explores this distinction in more detail, and argues that it gives rise to a consistent tension in Descartes' work. Nonetheless, "[Descartes] seems to realize that the validation of memory is important to his whole philosophical program, and that unless it is located in the domain of the intellect's clear and distinct perception the metaphysical foundation will crumble."[261]

As noted above, Descartes' search for an indubitable proposition in *Meditation Two* includes an explicit disbelief in his memory; that is, as at least some of his memories are doubtful or have been proven false, he must deny them all. However, memory quickly returns after the achievement of the *cogito*, for Descartes' status as a thinking thing means he is "[a] thing that doubts, understands, affirms, denies, wills, refuses, and also imagines and senses."[262] His capacities presumably include memory, because Descartes concludes *Meditation Two* with the declaration that he must keep his meditation short, "…so that by the length of my meditation this new knowledge [the certainty of the *cogito*] may be more deeply impressed upon my memory."[263] Note that this agrees with his mechanistic account of memory, as concentration "deeply impresses" upon memory by increasing the "facility" of associated pores in the brain.

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[261] Joyce, "Cartesian Memory" [1997]. Emily Grosholtz also notes that this suggested distinction between an "intellectual" and "material" memory points to a more general problem for Descartes: not only the relationship between body and mind, but also the relationship between the various faculties of the soul and the self. "The understanding or intellect is purely spiritual; imagination, memory, and sensation are increasingly corporeal, in the metaphoric sense that they depend upon or are oriented towards the body….But then the lack of proportion between the body and soul threatens the integrity of the self" (Grosholtz, *Cartesian Method and the Problem of Reduction* pp. 139-140 [1991]).

[262] Descartes, "Meditations on First Philosophy," ibid., p. 110 [1641]

[263] Descartes, "Meditations on First Philosophy," ibid., p. 113 [1641]

Descartes does not refer to memory again until *Meditation Four*, where after proving the existence of a veracious God he inquires into the source(s) of human error. There Descartes mentions memory as one of the faculties that is 'feeble and limited' in contrast to the infinite freedom of his will; it is in particular the limitation of the intellect, as opposed to the limitlessness of the will, which generates error. However, having discovered that whatever he clearly and distinctly perceives must be true, Descartes can now avoid error by *remembering* to restrain his will. That is, even though error is still be possible because of the intellect's limitation, "…nevertheless, I can avoid error the other way, which depends solely on my remembering to abstain from making judgments whenever the truth of a given matter is not apparent."[264] Descartes reasserts the importance of memory in avoiding error in his fifth *Meditation*, for the existence of a veracious God seemingly guarantees the truth of clear and distinct perceptions, *and* the memory of clear and distinct perceptions. "Hence even if I no longer attend to the reason leading me to judge this to be true, so long as I merely recall that I did clearly and distinctly perceive it, no counterarguments can be brought forward that might force me to doubt it."[265] For example, the discovery of the criterion of clear and distinct perceptions supposedly renders moot the fact that memory has failed previously, for if I remember something false, then I did not truly intuit it at the original time. Of course, there is an important distinction between remembering something false and

[264] Descartes, "Meditations on First Philosophy," ibid., p. 127 [1641]
[265] Descartes, "Meditations on First Philosophy," ibid., p. 131 [1641]

remembering something falsely, with Descartes apparently claiming that if I remember something true, I also remember it truly.

It is this final claim which is a main source for the interpretational trend that Descartes' proof of the existence of a veracious God avoids circularity because God guarantees our *memory* of clear and distinct perceptions, not these perceptions themselves; that is, reason is self-justifying while God ensures our other faculties. Before returning to Peirce, I want to address the general arguments for and against this interpretation through some specific twentieth century secondary literature that encapsulate two positions on this interpretation. In his 1955 article "The Cartesian Circle," Willis Doney argues that Descartes' reply to the charge of circularity is as follows.[266] First, Doney notes that Descartes' most common reply to the charge of circularity is simply to tell his objector to re-read his work. However, in his reply to Arnauld's charge of circularity in the fourth set of Objections and Replies Descartes repeats the position in his "Reply to the Second Set of Objections" that one must distinguish between a current clear and present perception and the memory of it. "For first of all it is manifest to us that God exists, since we are attending to arguments that prove this; but later on, it is enough for us to recall our having clearly and distinctly perceived something in order to be certain that it is true. This would not suffice, unless

[266] Willis Doney, "The Cartesian Circle" in *Journal of the History of Ideas*, vol. 16, no. 3 (June 1955), pp. 324-338. In footnote 6 on pages 324-325, Doney notes that his interpretation agrees with that of the following commentators: Louis Liard, O. Hamelin, S.V. Keeling, A. Gewirtz, and Étienne Gilson. Gilson's qualifies his interpretation with the claim that although this is what Descartes intended, it is not sound.

we knew that God exists and does not deceive us."[267] Thus, having intuited the existence of a benevolent God, this intuition guarantees our memory of it. Furthermore, Doney appeals to the account of intuition and deduction offered in Descartes' *Rules for the Direction of the Mind* that I outlined above. Again, intuition is infallible, and deduction is infallible insofar as it approaches intuition. Error is possible only through the limitations of memory or, as asserted in the *Meditations*, when the will outpaces the other faculties. Thus, Descartes intends the proof of God's existence to guarantee that our faculties beyond reason, though limited, are adequate in acquiring truth when used properly. This is because while God made our natures finite, except the will, His benevolence ensures that our natures are not inherently defective.[268] This certainly accords with Descartes' position at the end of the *Meditations* that the hyperbolic doubt caused by the argument from dreams and from the evil demon was "ludicrous," with the consistency of "waking memory" – as opposed to the fractious experience and memory of dreams – refuting the former argument.[269]

In contrast, in an article from 1962, "Memory and the Cartesian Circle," Harry Frankfurt strongly criticized the line of interpretation exampled by Doney.[270]

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[267] Descartes, "Reply to the Fourth Set of Objections," ibid., p.189 [1641]

[268] It is interesting that Descartes considers humans as made in the image of God in regards to will, rather than intellect, because it puts him closer to medieval voluntarism than is overall intellectualism would suggest. For an argument of how this element of Descartes' thought carried medieval nominalism and voluntarism forward into *Identitätphilosophie*, Romanticism, and ultimately a kind of nihilism, see chapters 1 and 2 of Gillespie's *Nihilism before Nietzsche* [1996].

[269] Descartes, "Meditations on First Philosophy," ibid., pp. 140-141 [1641]

[270] Harry Frankfurt, "Memory and the Cartesian Circle," in *The Philosophical Review*, vol. 71, no. 4 (October 1962), pp. 504-511. M.J. Levett offered another criticism of this view in 1937: "Notes on the Alleged Cartesian Circle." *Mind*, New Series, vol. 46, no. 182 (April 1937), pp. 206-213.

Frankfurt's rebuttal amounts to defending two claims: "As I shall show, his [Doney's] interpretation actually does Descartes little service and is, moreover, contradicted by plain evidence in Descartes' writings."[271] Regarding the first point, Frankfurt sides with A. Boyce Gibson's claim that "…the wicked genius is genuinely presented as the enemy of the principle of reason in the universe, and not merely as a minor interloping devil playing tricks on our memory."[272] Descartes' emphasis on the incorrigibility of the *cogito* supports this interpretation – the evil demon *cannot* deceive reason on this point precisely because it must be deceiving *something*. Or, from another direction, it does not matter how truly I remember something if there is nothing true for me to remember. This concern about the status of reason itself places Descartes back into the circularity that Doney attempts to avoid. Moreover, Doney's own interpretation puts Descartes into another vicious circle, for "[i]t would obviously be circular for Descartes to validate a memory on the ground that he remembers having proven that God guarantees memory."[273] To avoid such a circularity would require clearly and distinctly (that is, intuitively) perceiving the proof of God's guarantee of our memory every time we invoke the memory of a truly intuitive perception to ensure the certainty of its relationship with a current intuitive perception. This requirement certainly is unwieldy. Finally, Descartes admits that a reliable memory is necessary for the doubt generated in the first two of Meditations and its subsequent resolution in his reply to

[271] Frankfurt, p. 504 [1962]
[272] Gibson, *The Philosophy of Descartes*, 310 [1932]; quoted in Frankfurt, p. 506 [1962]
[273] Frankfurt, p. 508 [1962]

the second set of objections.[274] Most conclusively, when Burman raises precisely this point about the reliability of memory Descartes replies thus: "Concerning memory I can say nothing: it is up to each man to determine, by his personal experience, whether or not he has a good memory. And if has doubts about it, he ought to make use of notes or of some such aid."[275] Of course, there is a strong therapeutic element within Descartes' *Meditations*, and so perhaps Descartes intended his banal advice to Burman on memory to be for one already free of atheism and skepticism. Nonetheless, Frankfurt is right to suggest, "[t]hese are hardly the comments of a man who regards the reliability of memory as a basic metaphysical problem, much less as one which he had recently solved."[276]

In light of these interpretational issues, what is the status of Peirce's criticism? If we take Descartes' project in the *Meditations* as certifying the use of memory through intuitively proving that God exists and is not a deceiver, then he falls into the trap of using memory to prove memory. On the other hand, if we consider Descartes as attempting to guarantee his reason, then he uses fallible memory to underwrite the infallibility of intuition. Thus, under either interpretation it appears that Peirce's

[274] Descartes implies this in a reply to Marsenne: "For I expect that hardly any of my readers will be prepared to give such careful attention to everything I have written that they will remember all the contents by the time they come to the end. Those who don't remember everything may easily fall prey to certain doubts; and they will subsequently see that their doubts have been dealt with in these replies of mine, or failing that, these replies will at least give them the opportunity to examine the truth more deeply."
[275] Quoted in Frankfurt, p. 511 [1962]
[276] Frankfurt p. 511 [1962]

criticism stands: Descartes illicitly uses memory even after explicitly denying it.[277] That is, in either case, Descartes relies upon the fallible faculty of memory to prove the infallibility of reason. This concern is at the root of Peirce's consistent claim that a person using Descartes' method will rapidly return to all his actual beliefs, now adorned with the false luster of "proof."[278] On one hand, Descartes could readily reply that memory has little or nothing to do with the *logical*, as opposed to literary, structure of his *Meditations*. That is, that the deduction involved is short enough for the intuition to see its truth in its entirety. However, this again raises the specter of intuitively perceiving the truth of the *Meditations* whenever intuitively perceiving. One the other hand, Descartes may simply accept the "circularity" charge and assert that reason is self-justifying. Of course, Peirce attacks precisely this sort of appeal to Cartesian intuition in "Questions Concerning Certain Faculties Claimed for Man." Moreover, for Peirce a Cartesian claim about the self-justification of reason conflates several different issues. The first concerns the indubitability of clear and distinct intuition; while it is true that I do not doubt what I do not doubt, it does not follow that I can *never* doubt it. To say otherwise is to deny fallibilism – *errare humanum est*. Secondly, Peirce does think that reason is self-justifying in a sense, that sense being *self-correcting* over the long run. For example, from 1869's "Grounds of the Validity of the Law of Logic": "…it cannot

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[277] Again, I am sympathetic to the view that Descartes' *Meditations* are primarily therapeutic, and thus might meet a different standard than the rest of his philosophy. Nonetheless, if the cure for skepticism is a new form of dogmatism then Peirce is right to oppose the spirit of Cartesianism.

[278] See *W* 2: 212 [1868] for a characteristic passage in this vein: "Hence this initial skepticism will be a mere self-deception, and not real doubt; and no one who follows the Cartesian method will ever be satisfied until he has formally recovered all those beliefs he has in form given up."

be said that we know an inductive conclusion to be true, however loosely we state it; we only know that by accepting inductive conclusions, in the long run our errors balance one another."[279] But this involves forms of inference unrecognized by Descartes. Thus, in the wake of Descartes we find the reliability of memory resting upon an infallible intuition, one whose circularity implies confusion. In rejecting Cartesian intuition, we retain a memory as reliable as before, with the recognition that its luster is that of pyrite.

In section A I examined Peirce's attempted demolition of intuition in favor of his brand of realism. Although Peirce expressly directs his essay towards Cartesianism, it is important to realize that from Peirce's perspective the Cartesian spirit is endemic among modern philosophers. Accordingly, we will see that Peirce's anti-intuitionism applies to empiricists as well as rationalists.[280] Overall, Peirce's denial of intuition, of "…a cognition not determined by a previous cognition of the same object, and therefore so determined by something out of consciousness" leaves memory as our sole source of knowledge, as memories are almost by definition cognitions determined by previous cognitions.[281] So we see the position expressed by Peirce in 1903 – that, for a pragmaticist, "…the Past is the storehouse of all our knowledge" – intimated in 1868.[282] And so, on the empiricist side, let us turn to Peirce and Berkeley

[279] *EP* 1: 79 "Grounds of the Validity of the Laws of Logic" [1869]
[280] As Murray Murphey and others note. See Murphey, *The Development of Peirce's Philosophy* pp. 108-109 [1961/1993].
[281] *W* 2: 193 [1868]
[282] *CP* 5.460 [1903]

II.C: Berkeley and the Content of Memory

II.C.1: Peirce and Berkeley

As already noted, late in his career Peirce described himself as a Berkeleyan. However, the fuller quotation also indicates the points on which Peirce deeply disagreed with Berkeley:

> Permit me, by the way, to express my satisfaction that every competent critic will recognize in me a disciple of Berkeley, although I am utterly opposed to his Nominalism, and although his denial of Matter, bad enough in his own day, has become ridiculous in ours. His attack on infinitesimals is of a piece with his Nominalism. But the Truth of Berkeleianism lies in his hinging all philosophy, – all *Coenoscopy*, to borrow Bentham's excellent word, – on the concept of SIGN; and in his Methodeutic of Noölogy.[283]

Accordingly, it seems that Peirce considered Berkeley to be at least a proto-semeiotician. Furthermore, in light of the many claims by Peirce concerning the implicit pragmatism of Berkeley's philosophy, we may provisionally identify this "methodeutic of noölogy" with pragmatism. On the other hand, Berkeley's immaterialism and nominalism are untenable in Peirce's view.

As Peirce more often attributes a pragmatic method to Berkeley, I will begin with exploring in what sense Berkeley is a pragmatist. H.S. Thayer has identified two broadly pragmatic elements in Berkeley's philosophy: "[Berkeley] argues for a new and more adequate conception of *mind*, *experience*, and *knowing*; at the same time he is acutely sensitive to the uses and abuses of language in philosophy."[284] More specifically, Berkeley argues for a conception of mind as an activity of perceiving rather

[283] *MS* 641.18 [1909]. "Coenoscopy" is study based upon the observation of common experience.
[284] Thayer p. 500 [1981]

than a container of ideas, a mechanism, or a passive spectator, and uses an experiential criterion for meaning. Both of these elements come together in Berkeley's account of vision, which greatly influenced Peirce, because my perception of a tree in the distance is an *inference* based upon habits of associating vision with touch. That is, part of the meaning of "There is a tree over there" when the image of the tree is of a certain size and indistinctness is that *if* I reach out, *then* I would not be able to touch it.[285] Of course, Berkeley attacks materialism upon the same principle. For example, the idea that matter is a substratum or support for ideas/sensations/qualities illicitly trades on the linguistic confusion between applying a relationship among ideas to a relationship between ideas and non-ideas without a change in meaning.[286] Moreover, Berkeley concludes, "Hence it is evident the production of ideas or sensations in our minds, can be no reason why we should suppose matter or corporeal substances, since it is acknowledged to remain equally inexplicable with, or without this supposition."[287] In short, for Berkeley the only difference that makes a difference between immaterialism and materialism is that the former presumes less and thereby avoids the conceptual difficulties involved with grounding experience on something other than experience. However, this is another point where Peirce disagrees with Berkeley. Specifically, Berkeley mistakenly takes the hypothesis of matter as an explanation of the *origin* of our

[285] "For, clearly, Berkeley was setting forth a theory of empirical knowledge in which the act of knowing finds expression in a conditional form…and in which the significance of an idea (e.g., fire) *is* the class of empirical consequences ('connexions') that *would* follow from the fulfillment of certain antecedent conditions" – Thayer p. 502 [1981]
[286] See *Principles* §16 [1734]
[287] *Principles* §19 [1734]

sensations, rather than their *regularity*. Indeed, Berkeley's appeal to God as the source of the regularity of experience then commits him to much more than a materialist: "Peirce notes correctly that this line of argument forces Berkeley to assume right from the start that the unity of accidents is a rational one – i.e., a product of God's infinite wisdom."[288] Finally, Berkeley explicitly recognizes both that language involves more than the communication of ideas – "There are other ends [of language], as the raising of some passion, the exciting to, or deterring from an action…"[289] – and that knowledge is purposive – "[Experience] gives us a sort of foresight, which enable us to regulate our actions for the benefit of life."[290]

All of this is quite pragmatic, excepting his mistake about matter, but then in what way is Berkeley a semiotician? James Moore is right in both that Peirce more strongly associates Berkeley with pragmatism and that Berkeley is hardly systematic in account of signs.[291] On the other hand, Berkeley is most explicitly semiotic in his work on vision which so influenced Peirce. Regarding the specifics of Berkeley's theory of vision, our ideas (sensations) of vision are signs of our ideas of touch. Furthermore, the relationship between signifier and signified is an arbitrary production of habitual association:

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[288] de Waal, "Having an *Idea* of Matter," p. 302 [2006]; see *EP* 1: 100-101 "Fraser's *The Works of George Berkeley*" [1871]: "His [Berkeley's] want of profound study is also shown in his so wholly mistaking, as he does, the function of the hypothesis of matter. He thinks its only purpose is to account for the production of ideas in our minds, so occupied is he with the Cartesian problem. But the real part that material substance has to play is to account for (or formulate) the constant connection between accidents."

[289] *Principles* §20 [1710/1734]

[290] *Principles* §31 [1710/1734]

[291] Moore pp. 325-326 [1984]

> All the various sorts, combinations, quantities, degrees, and dispositions of light and colours, would, upon the first perception thereof, be considered in themselves only as a new set of sensations or ideas. As they are wholly new and unknown, a man born blind would not, at first sight, give them the names of things formerly known and perceived by his touch. But, after some experience, he would perceive their connexion with tangible things, and would, therefore, consider them as signs, and give them (as is usual in other cases) the same names with the things signified.[292]

In general, Berkeley concludes, "…the proper objects of vision constitute an universal language of the Author of nature…And the manner wherein they signify…the objects which are at a distance is that same with that of languages and signs of human appointment."[293] Visual perception is therefore of the same piece as textual interpretation. In addition, Berkeley flirts with generalizing this visual language to all of the sense in the early editions of *A Treatise Concerning the Principles of Human Knowledge*.[294] Charles Hardwicke argues that Berkeley's view that "…reality was a network of interrelated signs, and the theory of interpretation of signs constitutes the foundation of any theory of human understanding…" is consistent with, and may have influenced, Peirce's own semiotic turn.[295] Moore supports this with two passages in which Peirce somewhat obliquely associates Berkeley with the position that all thought is in signs, a central insight of the Cognition Series.[296] However, the lateness of these remarks suggests other considerations are more pertinent in Peirce's development.

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[292] *Theory of Vision* § 45 [1733]
[293] *Essay on Vision* §147 [1709/1732]
[294] This is evident especially in the references to a general grammar of nature in the 1710 versions of §§66, 108 and 110 of the *Principles*.
[295] Hardwicke p. 84 [1981]
[296] Specifically, *CP* 5.470 [c. 1906] and 6.481 [1908]; see Moore p. 339 [1984]

At any rate, Berkeley moves away from the universal semiosis implied by the language of Nature and generally talks about thought in terms of ideas rather than signs. The latter point is especially significant as Peirce's critique of Berkeleyan images in "Some Consequences of Four Incapacities" really concerns the nature of our ideas.

II.C.2: Berkeleyan Memory

Berkeley opens his *Principles* with the following assertion:

> It is evident to any one who takes a survey of the objects of human knowledge, that they are either ideas actually imprinted on the senses, or else such as are perceived by attending to the passions and operations of the mind, or lastly ideas formed by the help of memory and imagination, either compounding, dividing, or barely representing those originally perceived in the aforesaid ways.[297]

Despite our interest in memory, the second clause is more pertinent. This is so because of the ambiguity as to *what* is perceived in introspection – objects or ideas? This is problematic because Berkeley consistently holds that ideas, being wholly passive, cannot represent the activity of the mind.[298] E. J. Furlong argues that philosophically the passage should read "such objects" while syntactically it should read "such ideas." This ambiguity may arise from Berkeley's move away from a Lockean conception of "ideas" during the drafting of the *Principles*, a move leaving editorial traces.[299] More specifically, I think that this passage foreshadows Berkeley's "doctrine of notions," his attempt to propose how we can have knowledge of our own minds without ideas. Accordingly, the above passage should read that there are three objects of human

[297] *Principles* §1 [1710/1734]
[298] See *Principles* §§8, 25, 27, 137, etc. [1710/1734]
[299] Furlong pp. 334-344, passim [1964]

knowledge: sensation-ideas, notions, and image-ideas. Why must Berkeley add notions to the menagerie of knowledge? Because by positing a radical dualism between ideas and spirits, Berkeley is at risk of making our own minds unknowable.[300] Berkeley is explicit on this point in §137 of the *Principles*: "That an *idea* which is inactive, and the existence whereof consists in being perceived, should be the image or likeness of an agent subsisting by itself, seems to need no further refutation, than barely attending to what is meant by these words." Certainly, this is self-contradictory under Berkeley's conception of what these words mean.[301] Moreover, as his arguments against materialism amount to the claim that we cannot have a proper idea of matter, our inability to have an idea of mind brings the force of his objections to matter against his own position. This threat of self-reduction is why Hume claimed that Berkeley is a skeptic.[302]

However, what is the difference between an idea, whether of sense or of imagination, and a notion? Berkeley characterizes the two kind of ideas in the following manner: "The ideas imprinted on the sense by the Author of Nature are called *real things* : and those excited in the imagination being less regular, vivid and constant, are more properly termed *ideas*, or *images of things*, which they copy and

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[300] Berkeley inherits this dualism from Descartes, at least in part. Section 30 of *De Motu* [1721/1752] shows this, wherein Berkeley adopts the terminology of *res cogitans* and *res extensa* to describe "spirits" and "ideas." See Kantonen 495 [1934]

[301] Note also that for Berkeley the impossible representational relationship between ideas and spirits is one of resemblance; in Peirce's terms, of iconicity – one of three basic kinds of signs

[302] For example, see §12.1 of *An Enquiry Concerning Human Understanding*. Peirce notes this point at *EP* 1: 102 "Fraser's *The Works of George Berkeley*" [1871].

represent."[303] Both sensations/things and ideas/images are dependent upon a spirit, although the former depend more on the will that "excites" them than on the spirit that perceives them. Peirce savages this copy-theory, in part because it reduces all relations to that of resemblance – memory-images are faded resemblances of sense-images. In contrast, notions cannot be resemblances because ideas and spirits have nothing in common. However, Berkeley suggests "[i]n a large sense indeed, we may be said to have an idea, or rather a notion of *spirit*, that is, we understand the meaning of the word, otherwise we could not affirm or deny anything of it."[304] Although Berkeley will continue to say that our knowledge of other spirits comes from our own spirit acting like an idea, putatively possible because an active thing does resemble another active thing, he also says that this knowledge is mediated by ideas acting as signs.[305] As Berkeley will distinguish between different kinds of sign-relations in *Theory of Vision Vindicated*, offering a trichotomy that intimates both the associationalist trivium of resemblance, causality, and contiguity and Peirce's icon-index-symbol distinction, perhaps notions are "ideas" involving a relationship other than resemblance.[306] For example, knowing what the word "memory" means would involve a set of conditional statements generated from habitual experience, without implicitly presupposing that this set of statements is what "memory" is *like*. That is, a notion may be a symbol rather than an icon. Nonetheless, Berkeley's doctrine of notions does seem to be an *ad hoc*

[303] *Principles* §33 [1710/1734]
[304] *Principles* §140 [1710/1734]
[305] See *Principles* §145 [1710/1734]
[306] See *Theory of Vision Vindicated* §39 [1733] and Moore p. 334 [1984]

effort, which explains why Berkeley says very little about memory – again, we cannot have an idea of an activity of the soul.[307]

Considering the greatly underdeveloped state of Berkeley's doctrine of notions, let us return to the distinction between sense-ideas and image-ideas. In §33 of his *Principles of Human Knowledge* Berkeley offers at least two interrelated distinctions between sensations (sense-ideas) and ideas (image-ideas), or in Berkeley's language between "real things" and "images of things." As noted above, ideas of sense are more constant, regular, and vivid than image-ideas, which are more or less faded copies of the former. In addition, ideas of sense "…are also less dependent on the spirit, or thinking substance which perceives them, in that they are excited by the will of another and more powerful spirit…"[308] In other words, my sense-ideas of a red book resist my will – I cannot *but* see that red book – because its being depends upon the will of God. Berkeley suggests that the conditions of constancy, resistance, and vivacity are jointly sufficient to distinguish "chimeras" from reality; a fever-dream may be immensely vivid and even resist my will, but its discontinuity with the main current of my experience marks it as unreal.[309] Accordingly, memories are less constant, resistant, and vivid than sense-images, of which they are copies, and ostensibly more constant, resistant, and vivid than imaginations. Berkeley asserts that memory and imagination can create new ideas only in the sense of "…compounding, dividing, or barely

[307] In a 1729 letter to American philosopher Samuel Johnson, Berkeley claims that the second part of his *Principles* was lost in Italy, and that he did not return to the subject, in part because of its unpleasantness.
[308] Berkeley *Principles* §33 [1710/1734]
[309] See Berkeley *Works* 2.235 (*Three Dialogues Between Hylas and Philonous*) [1713]

representing…" those generated by external or internal perception.[310] Nonetheless, Berkeleyan memories cannot be "abstract" ideas, for he vigorously denies the possibility of such entities. As Peirce's critique of Berkeley in the Cognition Series concerns the nature of images, it behooves us to be clear as to what Berkeley denies, and on what grounds.

Let us first note an exception to Berkeley's denial – he himself is capable of abstracting a property from an object (sense-image) if the object can exist (be perceived) without that property. Quoting Berkeley: "To be plain, I own my self able to abstract in one sense, as when I consider some particular parts or qualities separated from others, with which though they are united in some object, yet, it is possible they may really exist without them."[311] An example would abstracting the property "book" from the object (sense-image) of "book-on-desk" as both my book and desk may exist without each other; Berkeley's examples include a hand considered separately from the rest of a body. Regardless, Berkeley holds that this is not abstraction in its proper sense, the two forms of which he does deny: "But I deny that I can abstract one from another, or conceive separately, those qualities which it is impossible should exist so separated; or that I can frame a general notion by abstracting from particulars in the manner aforesaid. Which two last are the proper acceptations of *abstraction*."[312] Accordingly, Berkeley claims that one cannot conceive of motion without a moving body, and, famously, that "…the idea of man that I frame to my self, must be either of a white, or a

[310] Berkeley, *Principles* §1 [1710/1734]
[311] Berkeley, *Principles* §10 [1710/1734]
[312] Berkeley, *Principles* §10 [1710/1734]; italics in the original

black, or a tawny, a straight, or a crooked, a tall, or a low, or a middle-sized man."[313] E.J. Craig argues that Berkeley actually objects to three distinct notions of "abstract ideas" in different ways. Briefly, these are 1) the "single property view" in which one conceives of a property without its necessary concomitants; 2) the "common properties view" in which an idea is abstracted from all of its instantiations; and 3) the "full representation view" in which an abstract idea contains of all the properties of its possible instantiations, even contradictory ones.[314] Examples of each include 1) spaceless color, 2) manhood apart from any particular man, and 3) a triangle that is both and neither scalene, isosceles, or equilateral. Without denying the differences between these kinds of abstract ideas – for example, type 3 necessarily violates the principle of contradiction, while type 2 need not – I think that Peirce reaches the crux of the matter when he points out the presumption that images must be determinate.[315] For example, when imagining a color the claims is that I must imagine a particular color with a particular extension; likewise with a person or a triangle.

The confusion between the determinacy of images and the impossibility of abstract ideas explains the following insertion in the *Principles*: "And here it must be acknowledged that a man may consider a figure merely as triangular, without attending to the particular qualities of the angles, or relations of the sides. So far he

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[313] Berkeley, *Principles* §10 [1710/1734]

[314] See Craig, "Berkeley's Attack on Abstract Ideas" pp. 425-430 [1968]; Monroe Beardsley's "Berkeley on 'Abstract Ideas'" roughly supports this Craig's analysis, although Beardsley focuses on the compatibility of Berkeley's account of perception and his denial of abstract ideas [1943].

[315] *EP* 1: 47 "Some Consequences of Four Incapacities" [1868]

may abstract: but this will never prove, that he can frame an abstract inconsistent idea of a triangle."[316] Thus, I can "abstract" by focusing on a particular feature of an idea/image, but the image itself must be determinate.

This account is both logically and phenomenologically false according to Peirce, for on his analysis the propositional structure of ideas/images necessarily contains general elements. Furthermore, abstraction is the process that generates images, not an action performed upon given images, as shown by the limitations of our physiology. That is, my image of the white page to my left, whether when I perceive it directly or recall it, is already infused with hypotheses of continuity, let alone the conceptual supposition that it is a piece of paper, which contains expectations for particular tactile sensations, etc.

II.D: Reid and the Force of Memory

II.D.1: Peirce and Reid

Similar to Berkeley, Peirce held the "…subtle but well-balanced intellect…," Thomas Reid in high regard.[317] Indeed, Peirce's assessment of the 'ideal system' or 'way of ideas' could have come from Reid's own pen: "Nothing can be more completely false than that we can experience only our own ideas. That is indeed without exaggeration the very epitome of all falsity."[318] However, Peirce also insisted on distinguishing his own brand of common sense philosophy from that of the Scottish

[316] Berkeley, *Principles* Intro. §16; added in the 1734 addition
[317] *CP* 5.444 [1905]
[318] *CP* 6.97 [1903]

school on 4 or 6 points, and in particular came to see his critical common-sensism as a consequence of pragmatism. Let us now turn to a review of Peirce's own account of his debt to Reid and his follows, before turning to Reid's account of memory directly.

In the 1905 article "Issues of Pragmaticism" Peirce asserts that he held two doctrines 9 years before he formulated the maxim of pragmatism, but in retrospect considers these two doctrines as corollaries of pragmatism.[319] One of these is the doctrine of Critical Common-Sensism, which Peirce proceeds to distinguish from the Scotch Common Sense School on six points. If we take the first direct and public formulation of pragmatism as 1878's "How to Make Our Ideas Clear," then by Peirce's own assessment he espoused Critical Common-Sensism in the Cognition Series of 1867-1868.[320] The second doctrine, which antedates and yet is a corollary to pragmatism, is Scholastic Realism.[321] By way of a reminder, we will begin with a couple of quotes from "Some Consequences of Four Incapacities" to establish some "common sense" aspects of Peirce's early thought. Then, we will turn to Peirce's late explication of the differences between his philosophy and that of the Scotch Common Sense School.

Although not stated as a distinctive doctrine, Peirce's critically common-sensical approach to philosophy is evident in his rejection of Cartesian skepticism: "We must begin with all the prejudices which we actually have when we enter upon the study of

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[319] *CP* 5.439, "Issues of Pragmaticism" [1905]

[320] However, Andrè de Tienne has found a strong resonance between Critical Common-Sensism and what he calls Peirce's "fideist methodology" of 1861-1862 – see de Tienne, "Peirce's Early Method of Finding the Categories" p. 394 [1989].

[321] As stated in *CP* 5.453, "Issues of Pragmatism" [1905]. As further anecdotal evidence, in a c. 1905 letter to Calderoni describing "Issues of Pragmaticism" Peirce turns immediately to pragmatism's inherent realism, despite the infelicitous diamond example in "How to Make Our Ideas Clear" – see *CP* 8.208.

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."[322] Furthermore, Peirce's rejection of Cartesian individualism points to another connotation of common sense: "We individually cannot reasonably hope to attain the ultimate philosophy which we pursue; we can only seek it, therefore, for the community of philosophers. Hence, if disciplined and candid minds carefully examine a theory and refuse to accept it, this ought to create doubts in the mind of the author of the theory himself."[323] Conversely, the critical side of Peirce's philosophy is expressed by his denial of a common sense belief in introspection, at least insofar as the common sense introspection means "…a direct perception of the internal world, but not necessarily a perception of it as internal."[324] Peirce makes this denial of introspection, "…that man possesses no infallible introspective power into the secrets of his own heart…" one of the clauses of his Critical Common-Sensism.[325] Reid asserts that the prime source of knowledge of the mind is accurate self-reflection, but that this reflection must be supplemented by the study of the structure of language, and furthermore attention to human actions and opinions throughout history.[326] However, we must distinguish this power of reflection from consciousness proper because it requires habits of attention: "Attention is a *voluntary* act; it requires an active assertion to begin and to continue it, and it may be *continued* as long as we will; but consciousness is *involuntary* and of no continuance,

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[322] *CP* 5.265, "Some Consequences of Four Incapacities" [1868] – Peirce's italics
[323] *CP* 5.264 "Some Consequences of Four Incapacities" [1868] – Peirce's italics
[324] *CP* 5.244 "Questions Concerning Certain Faculties Claimed for Man" [1867] – Peirce's italics
[325] *CP* 5.498 [c. 1905]
[326] Reid, *Essay on the Intellectual Powers of Man* pp. 23-25 [1785].

changing with every thought."[327] In addition, in a later edition of his *Essay on the Intellectual Powers of Man* Reid adds a chapter concerning five reasons for the difficulty of reflection, and especially the errors that insufficient attention to these difficulties has led philosophers. I will quote only a portion of the fifth that could have been written by Peirce: "...for indeed, the same precision in the use of words, the same cool attention to the minute differences of things, the same talent for abstraction and analyzing, which fit a man for the study of mathematics are no less necessary in [the study of mind]."[328]

Of course, it is insufficient to show that both men agreed that introspection is hard, as Descartes and Berkeley would agree as well. However, Peirce and Reid also agree that there are indubitable first principles of thought, indubitable not because they are absolutely certain, but because they are necessary for the conduct of life, especially when we deliberate together.[329] Nonetheless, as Reid puts it, "Yet it is not impossible that what is only a vulgar prejudice may be mistaken for a first principle. Nor is it impossible that what is really a first principle may, by the enchantment of words, have such a mist thrown about it, as to hide its evidence, and to make a man of candour doubt it."[330] In other words, these principles are practically indubitable, as they are

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[327] Reid, *EIP* p. 26 [1785].

[328] Reid, *EIP* in *The Works of Thomas Reid* Volume 1 p. 241 [1863]. Compare Peirce on the faculties necessary for phenomenology: "The third faculty we shall need is the generalizing power of the mathematician who produces the abstract formula that comprehends the very essence of the feature under examination purified from all admixture of extraneous and irrelevant accompaniments" (*CP* 5.42 [1903]).

[329] For example, "Common sense is that degree of judgment which is common to men with whom we can converse and transact business" (Reid *EIP* p. 271 [1785]). On the following page, Reid offers an additional qualification for a person of common sense, that we can call them to account for their conduct.

[330] Reid *EIP* p. 17 [1785]

actually undoubted, and often are presupposed by the very activity of doubt.[331] In addition, Reid characterizes his common sense defense of the evidence of our senses explicitly in the language of semiotics; for example, "In original perception, the signs are the various sensations which are produced by the impressions upon our organs. The things signified, are the objects perceived in consequence of those sensations, by the original consequence of our nature."[332] Indeed, talk of our knowledge as an achievement through signs, natural or artificial, is a constant feature of Reid's account. But here is not the place to clarify Reid's semiotic tendencies.[333] Instead, let us push on to the points on which Peirce claims to depart from Reid and the Common Sense school.

Again, in 1905 Peirce continued to seek an audience for his conception of pragmatism, and dedicated his efforts in part to establishing pragmatism's relationship to what he called Critical Common-Sensism: "This is the doctrine of Critical Common-sensism, and the present pertinency of it is that a pragmaticist, to be consistent, is obliged to embrace it."[334] The simplest, although perhaps not the best, reason for this obligation is that the pragmaticist insistence upon the close relation between thinking and action conjoined with the largely instinctive nature of action naturally leads her to the question of irresistible instinctive beliefs. However, in addition to the somatically-

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[331] As John Greco argues, "[w]e may conclude that Reid embraced a broad and moderate foundationalism. His foundationalism is broad because it allows for a variety of sources of immediate knowledge. It is moderate because it does not require that these sources be infallible" ("Reid's Critique of Berkeley and Hume: What's the Big Idea?" p. 294 [1995]).

[332] Reid *EIP* Chapter XXI: On the Improvement of the Senses" p. 147 [1785]

[333] For one detailed account of Reid's account of signs and the importance it plays in his arguments denying skepticism, especially regarding the external world, see Jacquette's "Thomas Reid on Natural Signs, Natural Principles, and the Existence of the External World" [2003].

[334] *CP* 5.499 [c. 1905]

grounded instincts of our animal life, Common Sense includes the accumulated wisdom of our cultural heritages.[335] It is no accident that Peirce's interest in common sense evokes his dedication to communities of inquiry, for as he says, "[i]t is impossible rightly to apprehend the pragmaticist's position without fully understanding that nowhere would he be less at home than in the ranks of individualists, whether metaphysical (and so denying scholastic realism), or epistemological (and so denying innate ideas)."[336] These innate ideas are provided by the Author of our nature, to use Reid's phrase, and on Reid's terms are utterly inexplicable. For Peirce, these instinctive beliefs are accountable for through evolution, and ultimately an evolutionary cosmology.[337] This appeal to evolution offers the primary difference between Peirce's Critical Common-sensism and the philosophy of Reid, while the secondary difference is more a matter of emphasis on the inherent vagueness of indubitable growing out of

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[335] Interestingly, Reid often based his appeal to common sense on cross-linguistic commonalities; for example, "Such operations [e.g., seeing] are, in all languages, expressed by active transitive verbs; and we now that, in all languages, such verbs require a thing or person, which is the agent, and a noun following in an oblique case, which is the object" (*EIP* p. 8 [1785]). This putatively universal feature of human languages provides evidence for the common sense belief that the object of my perceiving is distinct from my perceiving it. I do not know the extent of Reid's knowledge of non-European languages. However, his emphasis on the structures of *all* languages evokes Peirce's criticism that too much of philosophy is simply the prejudice of Indo-European grammar; for more on this, see Chapter IV.

[336] *CP* 5.504 [c. 1905]. Here is Peirce's clarification of 'innate ideas' from the same passage: "Now every animal must have habits. Consequently, it must have innate habits. In so far as it has cognitive powers, it must have *in posse* innate cognitive habits, which is all that anybody but John Locke ever meant by innate ideas."

[337] Regarding the explanation of the 'guessing instinct' at the heart of abduction: "I infer in the first place that man divines something of the secret principles of the universe because his mind has developed as a part of the universe and under the influence of these same secret principles; and secondly, that we often derive from observation strong intimations of truth, without being able to specify what were the circumstances we had observed which conveyed those intimations" (*CP* 7.46 [c. 1907]).

Peirce's semeiotic. Here is a list of the distinctive features of Critical Common-sensism:[338]

- All veritably indubitable beliefs are vague, and there is a relatively fixed list of such opinions.[339]
- Indubitable beliefs refer to a somewhat primitive mode of life; we outgrow the applicability of instinct[340]
- High esteem for real doubt[341]
- Criticizes Critical Philosophy[342]

In short, Peirce's Common-sensism is critical in that advances in science have shown us some limitations of our instinctive beliefs. Furthermore, we should be critical in a more Kantian sense in that we should perform with due diligence inquire into the limitations of our beliefs. Nonetheless, only the commands of experience give us cause to criticize our beliefs, and then the criticism is of some particular belief or set of beliefs, not of *all* of our beliefs at once.[343]

II.D.2: Reidian Memory

Thomas Reid devotes the third essay of his *Essays on the Intellectual Powers of Man* to memory, and thus it is there where I will focus my commentary. In particular, in this essay Reid argues for a form of direct realism regarding memory, for "[i]t is by memory

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[338] In an alternative draft Peirce offers six clauses of Critical Common-sensism, which largely repeat these features, which the addition that indubitability does not guarantee truth. See *CP* 5498 [c. 1905]

[339] *CP* 5.505 & 509 [c. 1905]

[340] *CP* 5.511 [c. 1905]

[341] *CP* 5.514 [c. 1905]

[342] *CP* 5.523 [c. 1905]

[343] The Critical Philosopher seems to opine that the fact that he has not hitherto doubted a proposition is no reason why he should not henceforth doubt it…Now if it happens that he *does* actually doubt the proposition, he does quite right in starting a critical inquiry. But in case he *does not* doubt, he virtually falls into the Cartesian error of supposing that one can doubt at will" (*CP* 5.524 [c. 1905]).

that we have an immediate knowledge of things past."[344] As René Van Woudenberg argues, here Reid is using a form of the immediate/mediate distinction that is relative to reason.[345] That is, in saying that memory provides immediate knowledge of the past, Reid means that memory provides knowledge of a past object without involving argument or reasoning.[346] Furthermore, "Memory is always accompanied with the belief of that which we remember…this belief, which we have from distinct memory, we account real knowledge, no less certain than if it was grounded on demonstration."[347] That is, a memory, in so far as it is distinct, is necessarily accompanied by the belief that the event remembered occurred. Even more strongly, remembering something on Reid's account also entails that what one remembers is true. This sounds odd, perhaps, but Van Woudenberg argues, along with Norman Malcolm, that cases of supposedly incorrect memory are actually a mixture of a true memory and a false supposition. For example, when I 'remember' that there were four people in a room when there was actually five: "Psychologically a truth and a falsehood became mixed up and this mixing up accounts for our speaking of *remembering incorrectly*. Still, although these things are jumbled together, only one thing is remembered (viz., that

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[344] Reid, *EIP* p. 339 [1785].
[345] Van Woudenberg, "Thomas Reid on Memory" pp. 119-120 [1999]
[346] Compare John Greco's assessment: "Reid divides all knowledge into two classes: immediate knowledge, or knowledge not involving any inference from evidence; and mediate knowledge, or knowledge involving some inference from evidence" (Greco, "Reid's Critique of Berkeley and Hume: What's the Big Idea?" [1995]).
[347] Reid *EIP* p. 340 [1785]; for Reid, 'belief' is one of the common language words that he takes to be innately intelligible, and simple in the sense that it is incapable of a non-circular definition: "Everyone who understands the language has some notion of what those words mean, and everyone who is capable of looking in on himself can form a clear and distinct notion of them by attending to the workings of his own mind, but they can't be logically defined" (*EIP* p. 4 [1785]).

there were people in the room), and the other is not (viz., that there were four people in the room)."[348] This is clearly Reid's position given the constant qualification that it is distinct memory that provides knowledge.[349]

However, despite Reid's insistence on distinctness and veracity, the example provided actually falls closer to Peirce's own insistence on vagueness and veracity. That is, what is remembered truly is the more general (vague) proposition that there were people in the room, even when I distinctly remember there being four people instead of five. Here we have something of a muddle between the distinct-as-determinate and distinct-as-forceful, and while the determinacy of a memory lends credence to its truth, the force of memory provides credence even to the false suppositions with which it may be mixed.

However, how are we to understand Reid's claim that memory provides us with immediate knowledge of the past? As suggested above, the notion of mediation that Reid uses is reasoning, and thus memory presents an 'arational' or non-inferential knowledge of the past. While this is in apparent contradiction with Peirce's argument that all cognition is inferential (reviewed in Section A), Reid's remarks on the Aristotelian distinction between memory and reminiscence offers a route to conciliation. Reid asserts that what distinguishes reminiscence from memory is the spontaneity of the latter, while reminiscence requires willing. Now, it is unclear whether Reid would

[348] Van Woudenberg, "Thomas Reid on Memory" p. 125 [1999]
[349] "There are cases in which a man's memory is less distinct and determinate, and where he is ready to allow that it may have failed him; but this does not in the least weaken its credit, when it is perfectly distinct" (Reid, *EIP* p. 213 [1785]).

mean the same thing as Peirce by 'willing', but this does suggest that for Reid memory proper is 'irrational' in that it does not require effort. This is quite in line with Peirce's own claims that reasoning involves self-control without refuting his position that uncontrolled processes are still inferential. However, for Reid the immediacy of memory includes another sense, in that the past object is remembered, not a present idea: "Upon strictest attention, memory appears to have things that are past, and not present ideas, for its object."[350] Thus, the immediacy of memory involves also that we are in direct contact with the past object – memory is not a present idea accompanied by a feeling of 'pastness,' as Bertrand Russell argued in accordance with the tradition Reid rejects. Instead, it is a present operation with a past object. Thus, in addition to a doctrine of immediate perception (a 'direct realism') Reid also argues for immediate memory.[351] Moreover, memory is a 'natural principle' of belief, along with sensation and perception.[352] However, the nature of the force of memory, that it compels belief in the existence of its object like perception but not imagination, is a question that Reid

[350] Reid, *Inquiry into the Human Mind* p. 160 [1764]

[351] For a detailed analysis for Reid's direct realism and its seeming contradiction with his contention that sensations are natural signs in twentieth century terms, see Buras' "The Problem with Reid's Direct Realism" [2002].

[352] See Bourdillon's "Thomas Reid's Account of Sensation as a Natural Principle of Belief" [1975] for a sustained investigation of Reid on sensation. One of the innovations of Reid's system is maintaining a clear distinction between sensation and perception, wherein sensations proper have no objects other than themselves. Quoting Reid, "I will conclude this chapter [On Sensation] by observing, that, as the confounding our sensations with that perception of external objects which is constantly conjoined with them has been the occasion of most of the errors and false theories of philosophers with regard to the senses, so the distinguishing of these operations seems to me to be the key that leads to a right understanding of both" (*EIP* p. 149 [1785]). As we will see in the following chapter, Peirce offers his own analysis of the differences between sensation (feeling) and perception.

leaves unanswered.[353] Unanswered, that is, except for an appeal to common understanding. However, for Peirce this suggests the lowest grade of clarity, familiarity, and thus a further argument would be needed to show that this is the highest degree of clarity for the concept. As we saw in Chapter I, the pragmatic definition of belief in terms of habit offers an abstract definition of belief and shows us the path to the third grade of pragmatic clarity. To expand upon Peirce's clarification of the common sense conception of 'belief' offered by Reid will require the deeper investigation of phaneroscopic psychology given in Chapter III.

Conclusion

For Peirce, memory is the most direct proof for his synechism, and thus for realism: "The argument which seems to me to prove, not only that there is such a conception of continuity as I contend for, but that it is realized in the universe, is that if it were not so, nobody could have any memory."[354] However, as the undeniable experiential fact that we remember proves a specific conception of continuity, it should disallow certain conceptions of memory. In denying intuition, we have seen Peirce throw Descartes and Berkeley back upon memory as a basis for knowledge. Regarding Cartesianism, without the self-certification of intuition our only recourse is with the fallibility of memory – which is exactly where we were before the effort to defeat

[353] Reid does offer a criticism of Hume's account of belief; in short, that it is a novel conception of belief consistent with the theory of ideas, and thus leads to the kinds of contradictions that Reid sees throughout the ideal theory. However, Reid's positive rejoinder to Hume is only that everyone knows what belief is, and it is not the sort of thing that Hume claims it to be.
[354] *CP* 4.641 [1908]; in brief, synechism entails realism in that the reality of continuity in Peirce's conception includes generality.

skepticism. In terms of Peirce's realism, the Cartesian error is nominalist in that it seeks a definitive basis for the origin of our ideas, rather than seeing the real as the normal outcome of cognition. That memory is not perfectly reliable does not entail that it is less reliable than we have always found it to be. Regarding Berkeleyanism, this form of empirical intuition seeks certainty in the absolute determination of our impressions. This contradicts another element of Peirce's realism, in that it postulates impressions, and the memories we have of them through ideas, as singular rather than general. Indeed, memory is a process of selecting general features (i.e., regularities) of an experience, a process of abstraction and generalization. That I clearly remember the route between my home and office while being completely incapable of remembering the number of leaves visible on the trip does not mean my memory is false. Memory involves generalities about generals, or in other words, signs about signs. Peirce's insistence that his common-sensism differs from Reid's by emphasizing the inherent vagueness of our common beliefs does a bit to make this clear. Nonetheless, memory *forces* belief in the existence of its object, and so is indubitable in Peirce's sense of undoubted until there is a sufficient cause to doubt. However, the agreements between Peirce and Reid *contra* the ideal theory of Descartes and Berkeley raise a deeper question. That is, Peirce applauds Reid's doctrine of immediate perception, and even of immediate memory, that we are somehow in direct contact with the past. And yet, we have no power of intuition, all cognition is determined by a previous cognition, and all thinking occurs through signs. Resolving the apparent contradiction between the

consequences of denying intuition while accepting a doctrine of immediacy will be the task of the following chapter.

There are such vast numbers of ideas in consciousness of low degrees of vividness, that I think it may be true, -- and at any rate is roughly true, as a necessary consequence of my experiments, -- that our whole past experience is continually in our consciousness, though most of it sunk to a great depth of dimness.

-C.S. Peirce, *CP* 7.547 [undated]

If an animal does something, we call it instinct; if we do the same thing for the same reason, we call it intelligence.

-Will Cuppy [1884-1949]

Chapter III: Perception and Instincts

Introduction

Thomas Cadwallader, among others, rightly notes Peirce's abiding and broad interest in psychology, and argues that understanding the development of Peirce's psychological views is a key feature of his overall philosophical project.[355] The purpose of this chapter is to pick up this strain of Peirce's work to underscore his interest in unconscious processes of thought and their role in his theory of mind. For this purpose, we will outline some of Peirce's work as an experimental psychologist studying sensation and his engagement with other psychologists, especially William James and Wilhelm Wundt. These psychological explorations will prepare us for both Peirce's account of the three modes of consciousness and his mature theory of perception. Finally, these will allow us to understand how Peirce can maintain a doctrine of immediate perception while denying intuition as presented in the previous chapter.[356]

[355] See Cadwallader, "Peirce as an Experimental Psychologist" [1975]

[356] For example, in his 1871 review of Fraser's *Berkeley* Peirce, as a realist, asserts the following: "The realist will hold that the very same objects which are immediately present in our minds in

In other words, I seek to reinforce the conclusion that memory is of vital importance for Peirce's philosophy by developing a more nuanced presentation of his thought via his work in psychology. In particular, understanding perception as unconscious inference will lead us to Peirce's interest in instincts and their fundamental role in cognition.

III.A: Peirce as Psychologist

Peirce's relationship to psychology is complicated for several reasons, as one may expect. First, Peirce was acutely aware of the nascence of psychology as a separate discipline using, and in search of, rigorously experimental methods. That is, while consistently applauding the German approach to psychology Peirce saw the danger in giving it an exalted explanatory position. Here is an example from Peirce's 1905 review of Wundt's *Principles of Physiological Psychology*:

> To the question what could have been Wundt's motive in putting himself forward as a leader in philosophy, for which he had never displayed any genius, but rather the reverse, the answer to which the study of his writings must lead is that the results of experimental psychology, meagre though they be as compared with those of other sciences, so dazzled the imagination of Wundt as to make him think that that study alone must be set up as the queen of the sciences, and prompted him to try to prove that logic, ethics, and philosophy could be securely based on that special science.[357]

In other words, psychologists tend to be insufficiently philosophical. Less parochially, we can say that the promise of new psychological methods led to an overextension of

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experience really exist just as they are experienced out of the mind; that is, he will maintain a doctrine of immediate perception" (*CP* 8.16 [1871]).

[357] *CP* 8.202 [1905]

psychological concepts.[358] This suggests Peirce's longstanding critique of psychologism, especially in the specific form of reducing logic to psychology.[359] That is, Peirce consistently opposed the tendency to understand logic as the study of human intellection, with some logicians going so far as to define validity as a *feeling* (*Gefühl*) of logicality.[360] In contrast, Peirce asserts as early as 1865 that "[l]ogic has nothing at all to do with operations of the understanding, acts of the mind, of facts of the intellect."[361] Broadly, Peirce's rejection of psychologism stands on the claim that logic is an essentially normative science, concerned with how one should think rather than how one happens to think.[362] Nonetheless, Peirce conducted his own researches into psychological topics, and often appealed to psychological facts as at least *illustrations* of philosophical/logical conclusions; one example we have already seen is the appeal to

[358] Moreover, there is a concurrent tendency to neglect the history of psychological inquiry.

[359] With Peirce's robustly semeiotic conception of logic, we may say that a current manifestation of this debate occurs at the boundaries of psychology and what is now called epistemology. At one point Peirce identifies epistemology (as a translation of *Erkenntnisstheorie*) with the *Grammatica Speculativa* of Duns Scotus, which Peirce adopts as the first subdivision of logic (*CP* 2.206 [1902]; *CP* 1.191 [1903]). However, during this same period Peirce translates *Erkenntnislehre* as the theory of cognition, and identifies epistemology with *Wissenschaftlehre*, or the doctrine of science, which seems closer to the third subdivision of logic, Methodeutic (*CP* 2.60 [c. 1902]).

[360] Peirce's primary foil in this point is the German logician Christoph von Sigwart (1830-1904). For example: "Some writers maintain that the goodness and badness of reasonings is not merely indicated by, but is constituted and composed of the satisfaction and dissatisfaction, respectively, of a certain logical feeling, or taste, within us. This opinion is held by one of the acutest and most in fashion of the logicians of today, Christopher Sigwart…" (*CP* 2.19 [c. 1902]). J.S. Mill is the main figure that Peirce castigates for a more general attempt to base logic upon the facts of human psychology (see *CP* 2.50 [c. 1902]).

[361] *W* 1: 164 "Harvard Lecture I" [1865]

[362] For a detailed account of Peirce's anti-psychologism, see Colapietro, "The Space of Signs: C.S. Peirce's Critique of Psychologism" [2003].

developmental psychology in arguing that there is no intuitive self-consciousness.[363] More importantly, there is a sense in which 'psychological' considerations do play into Peirce's logic because logic depends upon phenomenology (*phaneroscopy*), the analysis of experience broadly construed.[364] This is what will allow Peirce to offer an extended account of perception while claiming to be indifferent to the psychological (physiological?) explanation of the origins of percepts, as we will see. With this brief orientation let us turn to Peirce's own psychological research into the nature of sensation.

III.A.1: Peirce and Jastrow

Peirce's work as an experimental psychologist is largely a continuation of with his work as a physical scientist. That is, the metrological components of his research into gravity and light seemingly spurred his interest in psychophysics. Peirce makes this clear in his only published book, *Photometric Researches*; for example, "Chapter I shows the application of the known principles of physiological optics to the subject of star magnitudes."[365] Let me only remark on Peirce's most important psychophysical

[363] Specifically, in "Questions concerning Certain Faculties Claimed for Man" (*CP* 5.236 [1867]). However, Peirce himself does claim that he falls prey to psychologism, at least in presentation, when establishing the pragmatic maxim on the doubt-belief model of inquiry in "How to Make Our Ideas Clear" [1877] – see *CP* 5.27-5.28 [1903]. For more on this issue, see Kasser, "Peirce's Supposed Psychologism" [1999].

[364] "Phenomenology ascertains and studies the kinds of elements universally present in the phenomenon; meaning by the *phenomenon*, whatever is present at any time to the mind in any way" (*CP* 1.186 [c. 1896]). Alternatively, "Phaneroscopy is the description of the *phaneron*; and by the *phaneron* I mean the collective total of all that is in any way or in any sense present to the mind, quite regardless of whether it corresponds to any real thing or not" (*CP* 1.284 [1905]).

[365] *W* 3: 180, "*[*Early Abstract of *Photometric Researches]*" [1875]

research, 1884's "Small Differences of Sensation."[366] In this article, co-authored by his then-student Joseph Jastrow, Peirce argues against the notion of an *Unterschiedsschwelle* ("difference-threshold") used in the psychology of Gustav Fechner et al. This principle is a component of Fechner's adoption of the "law" of Ernst Weber that the "just noticeable difference" between two stimuli is a constant proportion of the original stimulus.[367] Fechner further maintained that sensation and stimulus vary logarithmically in proportion to the difference-threshold.[368] Rather than accept that there are differences in sensation (stimulus) that conscious could never bring forth, Peirce and Jastrow developed a series of experiments involving evaluations of differences in pressure. In addition, the test subject evaluates their *confidence* in assessing a difference in pressure. Peirce and Jastrow's work demonstrated two things: First, it showed that a person's assessment of pressure differences is more often right than wrong, even when they have zero confidence in their assessment. Second, it showed that a person's accuracy increases over the number of trials. In other words,

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[366] Reprinted in *W* 5: 122-135. Peirce also published the results of experimental research into perception in 1877, entitled "Notes on the Sensation of Color" (reprinted in *W* 3: 211-216). In this brief technical article, Peirce argues that the three primary colors of human vision are violet, green, and blue, and offers various amendments to Fechner's Law (loosely, that there is a logarithmic relation between sensation and perception) under limit conditions. Note that in *Photometric Researches* Peirce instead works within the now common, although not entirely accurate, red-green-blue primary color model. See *W* 3: 385 [1878].

[367] As stated by Fechner: "Weber's law, that equal relative increments of stimuli are proportional to equal increments of sensation, is, in consideration of its generality and the wide limits within which it is absolutely or approximately valid, to be considered fundamental for psychic measurement" (*Elemente der Psychophysik*, Langfield transation [1860]).

[368] Quoting Fechner: "The magnitude of the sensation (g) is not proportional to the absolute value of the stimulus (b), but rather to the logarithm of the magnitude of the stimulus, when this last is expressed in terms of its threshold value(b), i.e. that magnitude considered as unit at which the sensation begins and disappears. In short, it is proportional to the logarithm of the fundamental stimulus value" (*Elemente der Psychophysik*, Langfield transation [1860]).

that person may make accurate judgments based upon sensations outside of conscious awareness. Quoting Peirce and Jastrow:

> The general fact has highly important practical bearings, since it gives new reason for believing that we gather what is passing in one another's minds in large measure from sensations so faint that we are not fairly aware of them, and can give no account of how we reach our conclusions about such matters. The insight of females as well as certain "telepathic" phenomena may be explained in this way.[369]

As noted by Denis Sullivan, the conclusion of this line of research is that "…Peirce argues that whenever there is *any excitation of the sensory nervous system we have some kind of sensation.*"[370] As for the perhaps puzzling result that we have unconscious sensations, Peirce asserts that there is a difference between a feeling and a reflex feeling, or awareness that there is a feeling. "There is as it were, an upper layer of consciousness to which reflex consciousness, or self-consciousness, is attached."[371] In other words, much of our 'consciousness' consists of un-self-conscious feelings which nonetheless have some effect on both our behaviors and self-conscious awareness. Thus, the results of experimental psychology support the phaneroscopic principles of common sense, wherein much of human thought rests upon reasonable, but unreasoned, hunches or 'gut feelings' – in a word, on intuition.[372] This raises a second issue for this chapter. That is, we must clarify in what sense Peirce is committed to direct (immediate) perception and memory, and now also how his relatively late explicit commitment to

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[369] *W* 5: 135 [1884]
[370] Sullivan, "Peirce's Notion of Pre-perceptual Cognition: A Reinterpretation" p. 185 [1976]; italics in original
[371] *CP* 7.547 [undated]
[372] *Hunch* originally meant "push, shove, thrust" and came to mean "intuitive feeling" only in the early twentieth century. As we will see, there is something delightfully Peircean about saying, "I've been pushed" rather than "I have a hunch."

'sentimentalism' and instinctive thought stands before his devastating critique of intuition in 1868.[373] Our next step along this inquiry is one of Peirce's disagreements with his good friend William James.

III.A.2: Peirce and James

Peirce's 1891 review of James' *Principles of Psychology* for *The Nation* is in many respects scathing; for example, "…the one thing upon which Prof. James seems to pin his faith is in the general incomprehensibility of things."[374] Moreover, "The principle of the uncritical acceptance of data, to which Prof. James clings, practically amounts to a claim to a new kind of liberty of thought, which would make a complete rupture with accepted methods of psychology and of science in general."[375] Nonetheless, we must follow Peirce's own qualification that the forcefulness of his criticisms is a mark of respect, and therefore engage James' work charitably and critically. Before turning to the main critique of Peirce's review – James' denial that perception is unconscious inference – it will be helpful to explore some of Peirce's other comments on James' account of consciousness.[376] For example, Peirce balks at James' claim that the cortex is

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[373] "But what after all is sentimentalism? It is an *ism,* a doctrine, namely, the doctrine that great respect should be paid to the natural judgments of the sensible heart" (*CP* 6.292 "Evolutionary Love" [1893]).

[374] *CP* 8.58, [1891]

[375] *CP* 8.61 [1891]. However, James' own rhetoric lends itself to such replies: "There is little of the grand style about these new prism, pendulum, and chronograph-philosophers [experimental psychologists like Wundt]. They mean business, not chivalry. What generous divination, and that superiority in virtue which was thought by Cicero to give a man the best insight into nature, have failed to do, their spying and scraping, their deadly tenacity and almost diabolic cunning, will doubtless some day bring about" (James, *Principles of Psychology*, p. 193 [1890]).

[376] Reprinted in part in *CP* 8.72-8.90 [c. 1891]

the sole organ of consciousness, asking what 'consciousness' means in this usage.[377] Interestingly, James in fact defines "consciousness" in the sentence prior to that quoted by Peirce. Here is a fuller passage:

> For practical purposes, nevertheless, and limiting the meaning of the word consciousness to the personal self of the individual, we can pretty confidently answer the question prefixed to this paragraph by saying that the cortex is the sole organ of consciousness in man. If there be any consciousness pertaining to the lower centres, it is a consciousness of which the self knows nothing.[378]

Peirce's objection to James here continues in three strands, the first being an intriguing claim that the tongue is more the organ of personality than the brain. Quoting Peirce: "…physicians are highly privileged that they can ask to see people's tongues; for this is inspecting the very organ of personality. It is largely because this organ is so sensitive that personality is so vivid. But it is more because it is so agile and complex a muscle. Its muscular habits are the basis of personality, which need not be lodged in the brain."[379] How should we understand this seemingly bizarre claim? First, it is evidently not some contrarian outburst, for Peirce makes the same claim roughly a decade later:

> Again, the psychologists undertake to locate various mental powers in the brain; and above all consider it as quite certain that the faculty of language resides in a certain lobe; but I believe it comes decidedly nearer the truth (though not really true) that language resides in the tongue. In my opinion it is much more true that the thoughts of a living writer are in any printed copy of his book than that they are in his brain.[380]

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[377] *CP* 8.72 [c. 1891]
[378] James, *Principles* pp. 66-67 [1890]
[379] *CP* 8.84 [c. 1891]
[380] *CP* 7.364 [1902]

Here we can see that Peirce's resistance to James and other psychologists concerns their notion of personality in general. Nonetheless, tongues are important for linguistic and other forms of communication (e.g., taste), and as such tongues are subject to controlled action in a way that the cortex is not. In particular, "The phenomena of personality consist mainly in ability to hold the tongue."[381] This underscores the agential, social, and somatic nature of the self that psychology neglects when locates feeling in a particular region of the brain alone.[382]

Peirce supplements his review of James' *Psychology* with over two score unpublished questions on specific points, but in the review itself focuses on the key question for us: Is perception unconscious inference? As we may expect, Peirce's answer is "Yes." Furthermore, Peirce notes that both British and German psychologists, relatively independently, support this position.. Indeed, Peirce notes that association broadly construed has the logical form of a hypothetic inference, or abduction:

> A well-recognized kind of object, M, has for its ordinary predicates P1, P2, P3, etc., indistinctly recognized.
> The suggesting object, S, has these same predicates, P1, P2, P3, etc.
> Hence, S is of the kind M.
>
> This is hypothetic inference in form. The first premise is not actually thought, though it is in the mind habitually. This, of itself, would not make the inference unconscious. But it is so because it is not recognized as an inference; the conclusion is accepted without our knowing how.[383]

James admits that association and perception are inferential, and therefore involve reasoning, but balks at the claim that this reasoning is unconscious: "Only one sees no

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[381] *CP* 8.82 [c. 1891]
[382] For more on this point, see Patricia Muoio, "Peirce on the Person" [1984]
[383] *CP* 8.64-65 [c. 1891]

room in it for any unconscious part. Both associates, the present sign and the contiguous things which it suggests, are above board, and no intermediary ideas are required."[384] In response, Peirce sees two errors. The first involves confusion between being unconscious of the propositions or terms involved in an inference, and being unconscious of making the inference between them. James is objecting to the first claim because we are aware of both the perceptual object ('white rectangle') and the accompanying idea ('paper'), but again the issue is that we are *not* aware of the inference relationship from that object to the idea. The second error on James' part is a claim that perception is at best an *immediate* inference, like contraposition, and that there is no explanatory need for syllogizing such an inference by adding an unconscious middle term, as in the following schematization:

> 'This' is M;
> but M is A;
> therefore 'this' is A.

Peirce's rejoinder is that while this syllogism is open to attack, when put into *modus ponens* it is clear that what we unconscious of is not the middle term, but rather the association itself. That is, perception is of the form A → B, but A, thus B, where A is the perceptual object and B is the accompanying idea. What we are unconscious of is then the *process* of inferring B from A, and the *principle* of that inference: "The proposition 'If A, then B,' is represented by the association itself, which is not present to consciousness, but exists in the mind in the form of a habit, as all beliefs and general propositions

[384] James, *Psychology*, quoted in *CP* 8.67 [c. 1891]

do."[385] This is much what we would expect from Peirce's characterization of perception as an abductive inference. However, Peirce makes some additional points supporting his criticism of James that are especially important for us: "Namely, perception attains a virtual judgment, it subsumes something under a class, and not only so, but virtually attaches to the proposition the seal of assent — two strong resemblances to inference which are wanting in ordinary suggestions."[386] This will lead us into Peirce's account of the logic of assertion in the following chapter. However, the claim that perception is a kind of judgment, and moreover is inferential in nature, sustains the question of how Peirce can avow a doctrine of immediate perception. Perhaps surprisingly, the propositional structure of judgments, and thus of perceptions, will provide the answer, as we will see in the third section of this chapter. Before doing so, I propose one more preparatory excursus into Peirce's account of consciousness to clarify more fully the ways in which mental activity is unconscious.

III.B: Modes of Consciousness

I have already established Peirce's interest in and support of unconscious mental processes, and some of the ways in which psychology's focus on consciousness has hindered the development of that field, in Peirce's view. For example,

> For if psychology were restricted to phenomena of consciousness, the establishment of mental associations, the taking of habits, which is the very market-place of psychology, would be outside its boulevards. To say of such departments of psychology, -- from every point of view, the most essential parts of it, -- that they are studies of phenomena of

[385] *CP* 8.67 [c. 1891]
[386] *CP* 8.66 [c. 1891]

> consciousness, is as if an ichthyologist were to define his science as a study of water.[387]

Yet, we have said little about what 'the' unconscious is. This is due, in part, to the fact that unconsciousness is defined apophatically; Peirce's own definition of *unconsciousness* in the *Century Dictionary* is simply "[t]he state of being unconscious, in any sense; absence of consciousness or of self-consciousness."[388] *Consciousness*,' in contrast, is "[t]he state of being conscious; the act or state of mind which distinguishes a waking from a sleeping person; the state of being aware of one's mental acts or states."[389] Later we will explore briefly Peirce's positive conception of unconscious mind through his accounts of instinct (dispositions and habits), but for now it appropriate to sketch the development of Peirce's theory of consciousness.[390]

As early as 1866, Peirce claims that consciousness has three distinct components or modes: "This division leads us to three elements of consciousness: 1st, Feelings or

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[387] *CP* 7.367 [1902]. Colapietro has interrogated Peirce's insistence that psychology must be more than the study of consciousness, especially in "Notes for a Sketch of a Peircean Theory of the Unconscious" [1995]. To extend another rich suggestion by Colapietro – the Peircean claim that 'introspection' is always *retro*spection – balking at the psychological focus on consciousness is concomitant with a resistance to a presumption of presentism. For example, it is this presumption that leads Bertrand Russell to argue that memories, as "…wholly analysable into present contents…" are distinguished from other cognitions only by *feelings* of familiarity and 'pastness' (Russell, *The Analysis of Mind* [1921]).

[388] *Century Dictionary* p. 6590 [1891]

[389] *Century Dictionary* p. 1203 [1891]; the second entry under this heading emphasizes self-consciousness: "Attributing, or capable of attributing, one's sensations, cognitions, etc., to one's self; aware of the unity of the self in knowledge; aware of one's self; self-conscious." The comment on the sixth definition ("Aware of some element of character as belonging to one's self") offers an interesting distinction: ""*Aware* refers commonly to objects of perception outside of ourselves; *conscious*, to objects of perception within us…*Aware* indicates perception without feeling; *conscious*, generally recognition of some degree of feeling."

[390] My account here is greatly indebted to Nathan Houser's "Peirce's General Taxonomy of Consciousness" [1983].

Elements of comprehension; 2nd, Efforts or Elements of extension; and 3rd, Notions or Elements of information, which is the union of extension and comprehension."[391] To be clear, this early division of the elements of consciousness does not rest directly upon the logical division of abduction/hypothesis, deduction, and induction. That is,

> We found that all modifications of consciousness are inferences and that all inferences are valid inferences. At the same time we found that there were three kinds of inference: 1st, Intellectual inference with its three varieties Hypothesis, Induction and Deduction; 2nd, Judgments of sensation, emotions, and instinctive motions which are hypotheses whose predicates are unanalyzed in comprehension; and 3rd, Habits, which are Inductions whose subjects are unanalyzed in extension.[392]

Apparently, intellectual inference is (primarily) deductive in this broader division. One question to pursue is how Peirce's evolving conceptions of the difference between abduction and induction affects the details of his trichotomy of modes of consciousness, in particular because of the association of hypothesis with instinct and induction with habit. However, rather than pursue the formally logical side of this question, let us advance twenty some years to Peirce's "A Guess at the Riddle" to obtain a clearer grasp of the different modes of consciousness in more familiar terms.

Peirce's guess at the riddle of the universe in 1887-1888, and the remainder of his life, is his universal ('cenopythagorean') categories of Firstness, Secondness, and Thirdness. In this fragmentary work, Peirce probates his universal categories by

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[391] *CP* 7.580 [1866]; Peirce also notes that this sort of tri-fold division is part of a long history, with the notion of a unitary soul becoming prevalent only after Descartes. Peirce refers to comprehension, extension and information in "On a New List of Categories," and expounds upon them in the companion piece "Upon Logical Comprehension and Extension" (*W* 2: 49-59 and 71-86 [1867]).

[392] *CP* 7.580 [1866]).

exploring their role in various sciences, with the section "the triad in psychology" of special pertinence for the question at hand.[393] Here Peirce opens with the Kantian question as to the basis for the plausibility of his three categories: "We find the ideas of First, Second, and Third, constant ingredients in our knowledge. It must then be either that they are continually given to us in the presentations of sense, or that it is the peculiar nature of the mind to mix them with our thoughts."[394] Peirce goes with the Kantian response that these categories are mental rather than continual presentations of sense as the alternative worthy of further inquiry.[395] Again, Peirce remarks on the tradition of triadic divisions of mind, noting that Kant adopted the of Knowing, Feeling, and Willing from Johannes Tetens and thereby from the ancient Greeks, especially through a Platonic rendition of Pythagoreanism.[396] However, in doing so Kant alters the domain of Feeling to only pleasure and pain – "This is not, however, the original

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[393] Intriguingly, Peirce suggests that the prior chapter on metaphysics is also of importance: "This chapter is one of the best, is to treat of the theory of cognition" (*EP* 2: 246 [1887-1888]). However, the published versions of this text are quite unsatisfactory on this point.

[394] *EP* 2: 257 [1887-1888]. I use "plausibility" in a Peircean sense: "By plausibility, I mean the degree to which a theory ought to recommend itself to our belief independently of any kind of evidence other than our instinct urging us to regard it favorably" (*CP* 8.223 [c. 1910?]).

[395] This seems in tension with later claims, such as "Chance [Firstness] itself pours in at every avenue of sense: it is of all things the most obtrusive" (*CP* 6.612 [1893]) or "Thirdness pours in upon us through every avenue of sense (*CP* 5.517 [1903]). However, 'pouring in' from every avenue of sense is consistent with an at least somewhat Kantian account of cognition; moreover, Peirce's fallibilist approach to this 'transcendental deduction' further avoids any outright contradiction on this point.

[396] Here is a fuller account of the connection to classical rhetoric: "It may be asked where Tetens got his idea that Feelings, Cognitions or Knowledges, and Volitions or acts of willing made up the mind. I have never seen this question answered. Yet the answer is not far to seek. He took it from the ancient writers upon rhetoric. For they instruct the orator to begin his discourse by creating a proper state of feeling in the minds of his auditors, to follow this with whatever he has to address to their understandings, that is, to produce cognitions, and finally to inflame them to action of the will. For the rhetoricians, therefore, the triad names three states of mind; and most of the psychologists of our century have considered Feeling, Cognition, and Volition to be three general states of mind" (*CP* 7.541 [?]).

doctrine of Tetens, who includes under this head all that is immediately present, or at least the subjective element of it."[397] It is this original doctrine that is much closer to Peirce's own – Feeling as a mode of consciousness concerns what is immediately present to the mind, in any way. On this definition, it is important to distinguish Feeling as a mode of consciousness from the more general understanding of feeling emotions, pressure, etc., because such feelings necessarily involve other modes of consciousness. This is so because the 'immediacy' of Feeling is a temporal one, and "[w]hen an instant has once past, that immediate consciousness can never be recovered…We can cannot compare any subsequent feeling with it, as immediate feeling, because we cannot have the second in our mind until the first has utterly gone from us."[398] Here Peirce turns to a restatement of his decade old critique of a Berkeleyan approach to memory, asserting that memories are not a reproduction of a prior feeling, similar to a visual hallucination, but rather a *habit* of recognizing similar feelings.[399] The question here is how to reconcile this habit of recognition with the claim that immediate consciousness is absolutely singular. Peirce's consistent response to this question is to emphasize that all three cenopythagorean categories always occur together. Concerning our current topic, this means that all three elements of consciousness are always present together, although to greater or lesser degrees – thus, in one sense a "feeling" is an experience *dominated* by quality, but not consisting *entirely* of quality. However, when discussing feeling as an immediate and absolutely singular

[397] *EP* 2: 258 [1887-1888]
[398] *EP* 2: 259 [1887-1888]
[399] See Chapter II.C

element of consciousness, Peirce is considering a hypothetical entity discovered by logical and phenomenological analysis of experience. Quoting Peirce:

> That there is a cream colored surface with black characters on it is as near as I can readily describe the datum of my consciousness at this minute, -- but in truth the moment I pick it to pieces, as I must do to describe it, it ceases to be a datum. As for the pure feeling, *that* is a hypothetical entity, and is as completely veiled from me by its own immediacy as a material particle, as it exists in itself, is veiled by the somewhat absurd requirement that it shall be considered in itself.[400]

An immediate consequence of this view is that the tendency of psychologists to focus on feeling is greatly mistaken. For example, in reaction to James' claim that "Through feelings we become acquainted with things," Peirce asserts "This seems to me to be at the root of a good deal of bad metaphysics."[401]

Peirce continues on to reconfigure the category of Willing into that of a 'polar sense' or a general sense of acting and being acted upon. One reason for this is that the common association of willing and desire confuses the issue because desire incorporates feeling, a different element of consciousness. Later in life, Peirce will call this 'polar sense' *molition* "…which is volition minus all desire and purpose, the mere

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[400] *CP* 7.465 [1893]; see also Houser p. 333 [1983]

[401] *CP* 8.79 [c. 1891?], quoting James' *Psychology* p. 222 [1890]. Thomas Reid makes a similar claim in his *Essays on the Intellectual Powers of Man* [1785] in denying the 'theory of ideas':
We are at a loss to know how we perceive distant objects; how we remember things past; how we imagine things that have no existence. Ideas in the mind seem to account for all of these operations: they are all by the means of ideas reduced to one operation – to a kind of feeling, or immediate perception of things present and in contact with the percipient; and feeling is an operation so familiar that we think that it needs to explication, but may serve to explain other operations.
But this feeling, or immediate perception, is as difficult to comprehend as the things we pretend to explain by it.

consciousness of *exertion* of any kind."[402] This dual mode of consciousness is where Peirce locates sensation, which is perhaps the most important of his clarifications of the traditional trichotomy of mind.[403] This association of sensation and volition follows Peirce's notion of 'degenerate' modes of the cenopythagorean categories: "Note, too, that just as we have seen that there are two orders of Secondness, so the polar sense splits into two, and that in two ways, for first, there is an active and a passive kind, or Will and Sense, and second, there are External Will and Sense, in opposition to Internal Will (self-control, inhibitory will) and Internal Sense (introspection)."[404]

Let us dwell a bit longer with Peirce's understanding of sensation. We have already seen that part of Peirce's interest in unconscious mental processes arose from his research into minute differences of sensation. How are we to reconcile sensation as a mode of consciousness with the evidence that "unconscious" sensation is a real factor in our psychical lives? I think that Peirce's recognition of sensation as a subtype of the polar sense can help with this. That is, sensation *as a mode of consciousness* is an awareness of being acted upon, of being in a dynamic relationship with something else. However, being unaware of this dynamic relationship does not entail that we are not in such a relationship. Accordingly, we can think of "unconscious" sensation as on a

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[402] *CP* 8.303 [1909], italics in original. See also *CP* 8.304 [1909]: "Molition is a double consciousness of exertion and resistance."

[403] See *CP* 7.542 [undated]: "But in my opinion, by a slight modification [associating sensation with volition] the triad may be made to stand for three radically different kinds of elements of all consciousness, the only elements of consciousness, which are respectively predominant in the three whole states of mind which are usually called Feeling, Knowing, and Willing. It is thus raised from a mere loose grouping into a scientific and fundamental analysis of the constituents of consciousness."

[404] *EP* 1: 260-261 "A Guess at the Riddle" [1887-1888]

continuum with Peirce's favored example of being poked in the back unexpectedly.[405] Both experiences *indicate* that one is in a dynamic relationship, but the former possesses so little force that it requires extensive experimental research to confirm that such a relationship is in play.[406]

Having clarified the nature of Feeling and Willing, Peirce turns to Knowing, or Cognition in general. First, note that for Peirce cognition involves all three kinds of consciousness, and as such is typically even more confused than willing. However, upon removing (prescinding) immediate feeling and the polar sense, Peirce finds "…that element of cognition which is neither feeling nor the polar sense, is the consciousness of a process, and this is in the form of the sense of learning, of acquiring, of mental growth is eminently characteristic of cognition."[407] Again, there is some perhaps unfortunate ambiguity to the equivocation between *consciousness* and *cognition* and this synthetic consciousness as the 'cognitive' element of consciousness/cognition in addition to the equivocation between Cognition and Knowing.[408] As the element of consciousness corresponding to Thirdness, synthetic consciousness has at least two

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[405] E.g., "Let the Universe be an evolution of Pure Reason if you will [a la Hegelianism]. 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…" (*CP* 5.92 [1903]).

[406] Obviously, my use of the term 'indicate' is an intentional evocation of Peirce's conception of an index as a kind of sign/sign-process. For one example: "I [Peirce] define an Index as a sign determined by its dynamic object by *virtue of being in a real relation to it*" (*CP* 8.335 [1904]; italics added).

[407] *EP* 1: 260 "A Guess at the Riddle" [1887-1888]

[408] Here are Peirce's first two definitions of "cognition" in *The Century Dictionary*: "1. Knowledge, or certain knowledge, as from personal view of experience; perception; cognitizance...2. A mental act or process, or the product of an act, of the general nature of knowing or learning" [1891].

degenerate forms in addition to its relatively genuine form. The two degenerate forms of synthetic consciousness are reflected in the ideas of association by contiguity and association by resemblance while necessarily being broader than these principles of associationalist psychology.[409] Naturally, this suggests that the relatively genuine mode of synthetic consciousness corresponds to something like association by causality, although Peirce does not make this connection directly.

We can summarize Peirce's categorial account of consciousness by appealing to an alternative description that more clearly states the varieties of synthetic consciousness. In an undated manuscript, Peirce suggests the term *Primisense* for Feeling and *Altersense* for polar consciousness, with its two modes of Sensation and Willing. Finally, Peirce offers synthetic consciousness the name *Medisense*, with its three modes of Abstraction, Suggestion, and Association.[410] Here Peirce identifies Abstraction as "…the centrifugal tendency of thought, by which any idea by following out its own development becomes separated from those with which it is connected."[411] Peirce's example here is one of perception, wherein attention is paid to one component of an object over others, as in asserting "Grass is green" neglects its shape. Suggestion is the "…opposite influence by which when one idea has its vividness increased it gives an upward impulse to a number of other ideas with which it is connected so that it

[409] Specifically, The first degenerate form, related to association by contiguity, "…is where there is an external compulsion upon us to think things together…" while the second degenerate form, related to association by resemblance is where "…we are internally compelled to synthesise them or to sunder them" (*EP* 1: 261 "A Guess at the Riddle" [1887-1888]).
[410] *CP* 7.551 [undated]
[411] *CP* 7.554 [undated]. This is properly prescissive abstraction.

forms one set with them."[412] More specifically, Suggestion concerns the mutual activation of ideas already in a set, while Association is the process that forms sets of ideas. Peirce asserts that associated sets of ideas may be inherited or spontaneous, accidental or natural.[413] For example, a particular flavor and illness may be accidentally associated due to temporal contiguity.[414] However, as this association determines future action in response to a stimulus, we can understand these associated sets of ideas as habits; furthermore, inherited sets of associated ideas obvious candidates for instincts. Finally, Association can occur unconsciously: "It is a great mistake to suppose that ideas only become associated into sets in the upper layer of consciousness, although such action is livelier there."[415]

By this light, we can see that perception involves the Abstraction of an idea in Feeling/Sensation, which Suggests previously Associated ideas, thereby both strengthening that Association and engendering a habitual response. However, this rough sketch of perception requires much more detail, to which we now turn.

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[412] *CP* 7.548 [undated]
[413] *CP* 7.550 [undated]
[414] This is Peirce's example; the phenomenon is the conditioned taste aversion, or the Garcia Effect, of contemporary psychology. Conditioned taste aversion is an interesting case for the theory of classical conditioning because a strong response develops after a single association between a flavor and illness, even if separated by several hours.
[415] *CP* 7.548 [undated]

III.C: Peirce's Account of Perception

We have already seen in Chapter II that part of Peirce's critique of Berkeley's Cartesianism consists in the claim that perception does not contain images, at least in the sense of completely determinate images.[416] Peirce's argument on this point consists in part of two specific claims. First, all sense modalities are indeterminate as to the other modalities; e.g., a red object is indeterminate in regards to its taste. Second, physiology proves the unified field of visual perception must involve some interpretative element – for example, the *invisibility* of the blind spot in the retina. It is this latter argument that is of particular interest for us now, because it leads Peirce to claim that "[i]f, then, we have a picture before us when we see, it is one constructed by the mind at the suggestion of previous sensations."[417] In addition to the claim that our senses are abstracting mechanisms that unconsciously *produce* the objects of conscious perception, Peirce argues that the finitude of our conscious perceptions is definitive evidence against the absolute determination of images, even given the largely unconscious nature of said images. Quoting Peirce:

> But the conclusive argument against our having any images, or absolutely determinate representations in perception, is that in that case we have the materials in each such representation for an infinite amount of conscious

[416] One way to characterize Peirce's disagreements with Berkeley, whom Peirce holds in high regard, is that Berkeley is untrue to his fundamentally semiotic approach to vision because of his (qualified) rejection of the doctrine of 'abstract' ideas. For example, "To be plain, I own my self [sic] able to abstract in one sense, as when I consider some particular parts or qualities separated from others, with which though they are united in some object, yet, it is possible they may really exist without them. But I deny that I can abstract one from another, or conceive separately, those qualities which it is impossible should exist so separated; or that I can frame a general notion by abstracting from particulars in the manner aforesaid. Which two last are the proper acceptations of *abstraction*" (Berkeley, *Principles of Human Knowledge* §10 [1710]).
[417] *CP* 5.303 "Some Consequences" [1868]

> cognition, which we yet never become aware of. Now there is no meaning in saying that we have something in our minds which never has the least effect on what we are conscious of knowing.[418]

However, how are we to reconcile this position with Peirce's consistent approval of the doctrine of *immediate* perception of Reid, Kant and others?[419] Furthermore, the claim that it is meaningless to speak unconscious objects or processes of which we could never become conscious alludes to a possible ambiguity in Peirce's account of instinct; specifically, that instincts are unconscious habits, and yet for humans these instincts *are* conscious, or at least semi-conscious.[420] We will return to the question of instinct at the conclusion of this chapter; for now, let us concentrate on Peirce's theory of perception, especially concerning its 'immediate' and yet unconsciously inferential nature. To do so, we will need to look at Peirce's later – that is, post-1900 – accounts of perception; or, more specifically, of the relationship between *percepts* and *perceptual judgments* as components of the process of perception.

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[418] *CP* 5.305, "Some Consequences" [1868]

[419] Compare 1871's review of Fraser's *Berkeley*: "The realist will hold that the very same objects which are immediately present in our minds in experience really exist just as they are experienced out of the mind; that is, he will maintain a doctrine of immediate perception" (*CP* 8.16) and a post-1901 letter to William James: "That is that I am quite sure the doctrine is not at all so novel as you say . Of course it is all the better for not being novel. My recent delvings in the psychologies showed me that. Besides, it is nothing in the world but the well-known doctrine of immediate perception (followed out, of course, into other fields)" (*CP* 8.261). An early exception to this approval is 1864's "On the Doctrine of Immediate Perception," wherein Peirce argues against the Doctrine of Common Sense and its application to perception, concluding that "Perception is in fact a mere residuum of analysis, and what belongs to it is not a question of common sense but of analytic simplicity" (*W* 1: 155).

[420] Compare "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 *ego*" (*CP* 1.631 [1898]) and "In man, at least, this behaviour is always conscious, and not purely spasmodic. More than that, unless he is under some extraordinary stress, the behaviour is always partially controlled by the deliberate exercise of imagination and reflexion; so much so that to the man himself his action appears to be entirely rational, so far is it from being merely sensori-motor" (*CP* 7.381 fn 19 [c. 1902]).

III.C.1: Percepts and Perceptual Judgments

"Let us say that, as I [Peirce] sit here writing, I see on the other side of my table, a yellow chair with a green cushion. That will be what psychologists term a 'percept' (*res percepta*)."[421] Of course, Peirce recognizes that others commonly call this 'percept' of a chair an 'image' – however, he hastens to add that the terminology of images carries an inappropriate connotation insofar as images are representations. Instead, percepts do not profess to stand for anything else. Nonetheless, "[i]t is very insistent, for all its silence. It would be useless for me to attempt to pooh-pooh it, and say, "Oh come, I don't believe in the chair."'[422] More fully, a percept possesses the three following properties:

> 1st, it contributes something positive. (Thus, the chair has its four legs, seat, and back, its yellow color, its green cushion, etc. To learn this is a contribution to knowledge.)
> 2nd, it *compels* the perceiver to acknowledge it.
> 3rd, it neither offers any reason for such acknowledgment nor makes any pretension to reasonableness.[423]

As a compelling, yet 'unreasonable', qualitative content, a percept exemplifies the categories of Firstness and Secondness, each in at least two ways. Regarding Firstness, the positive qualitative content of a percept seems *sui generis*, or independent of whatever else there is; in addition, the percept presents itself as a unified whole. The

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[421] *CP* 7.619 "Telepathy and Perception [1903]

[422] *CP* 7.620 "Telepathy and Perception [1903]. Peirce is quite fond of the formulation 'pooh-pooh' for a dismissive form of argument, even using it as a synonym for a rudimentary form of induction. Quoting Peirce: "The first order of induction, which I will call *Rudimentary Induction*, or the Pooh-pooh argument, proceeds from the premiss that the reasoner has no evidence of the existence of any fact of a given description and concludes that there never was, is not, and never will be any such thing" (*CP* 7.111 [1903]). For more on this form of argumentation, see Chapter IV.

[423] *CP* 7.622 "Telepathy and Perception" [1903]

compulsive force upon a perceiver is the Secondness of a percept perceiver – without physical effort, such as closing one's eyes, one cannot help but see a yellow chair. In addition, the percept presents itself as a set of definite relations between qualitative parts, and these relations are elements of Secondness. These elements of Secondness is what provides a percept with its singularity: "These two kinds of definiteness, first, that the percept offers no range of freedom to anybody who may undertake to represent it, and secondly, that it reserves no freedom to itself to be one way or another way, taken together, constitute that utter absence of 'range' which is called the *singularity*, or singleness, of the percept, the one making it individual and the other positive."[424] This characterization evokes Peirce's account of generality and vagueness in terms of the freedom of utterers and interpreters: "A sign is objectively *general*, in so far as, leaving its effective interpretation indeterminate, it surrenders to the interpreter the right of completing the determination for himself… A sign is objectively *vague*, in so far as, leaving its interpretation more or less indeterminate, it reserves for some other possible sign or experience the function of completing the determination."[425] It sounds inconsistent to claim that a percept is both a unified whole and a set of relations among parts, but Peirce adds this qualification: "[A percept] has parts, in the sense that in thought it can be separated; but it does not represent itself to have parts. In its mode of being as a percept it is one single and undivided whole."[426]

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[424] *CP* 7.625 "Telepathy and Perception" [1903]
[425] *CP* 5.505 [c. 1905]
[426] *CP* 7.625 "Telepathy and Perception" [1903]

The recognition that percepts are qualitative wholes that are analyzable retrospectively leads Peirce to offer another concept, that of a perceptual judgment. Thus, "…once having a percept, I may contemplate it, and say to myself, 'That appears to be a yellow chair'; and our usual language is that we "perceive" it to be a yellow chair, although this is not a percept, but a judgment about a present percept."[427] Perceptual judgments are nearly as forceful as a percept, and more properly are the matter when one sees a yellow chair because one has already judged that English expresses the quality judged by the term 'yellow,' – note the inherent vagueness of such a term. Perceptual judgments are about percepts, and therefore 'represent' them in some sense. Peirce argues that the relationship between percepts and perceptual judgments cannot be 'logical,' as percepts are not propositions, nor can perceptual judgments be copies of percepts, as there is no resemblance between the two. Instead, their relationship is indexical. "There is no warrant for saying that the perceptual judgment actually *is* such an index of the percept, other than the *ipse dixit* of the perceptual judgment itself. And even if it be so, what is an index, or true symptom? It is something which, without any rational necessitation, is forced by blind fact to correspond to its object."[428] Nonetheless, perceptual judgments fall short of the irrational forcefulness of percepts because they introduce a degree of mediation, or Thirdness, by professing to represent a percept. In more psychological terms, "[i]n a perceptual judgment the mind professes to tell the mind's future self what the character

[427] *CP* 7.626 "Telepathy and Perception" [1903]
[428] *CP* 7.628 "Telepathy and Perception" [1903]

of the present percept is. The percept, on the contrary, stands on its own legs and makes no professions of any kind."[429] This introduction of Thirdness by perceptual judgments is shown by the recasting percepts into a propositional form, such as "This chair is yellow," which distinguishes a subject and a predicate while also maintaining a relationship between them. Finally, Peirce casts the difference between percepts and perceptual judgments in terms of freedom of clarification and interpretation. That is, while percepts are themselves completely definite, perceptual judgments allow for both kinds of freedom, first by allowing the more or less rough comparison of the yellow chair to other yellow things, and second by being vague in its designation of the chair as "yellow." Quoting Peirce:

> It thus directly invites the exercise of a freedom of choice on the part of the interpreter (any one yellow thing answering as well as any other) which freedom the percept sternly and stupidly precludes…The perceptual judgment carelessly pronounces the chair yellow. What the particular shade, hue, and purity of the yellow may be it does not consider.[430]

Peirce also adds another terminological caveat regarding the relationship between percepts and perceptual judgments. Again, "[w]e know nothing about the percept otherwise than by testimony of the perceptual judgment, excepting that we feel the blow of it, the reaction of it against us, and we see the contents of it arranged into an object, in its totality…" and for this immediate interpretation (testimony) of a percept by a perceptual judgment Peirce suggests the term *percipuum*.[431] However, there is some ambiguity in the text here, because when Peirce first introduces the term he

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[429] *CP* 7.630 "Telepathy and Perception" [1903]
[430] *CP* 7.632-633 "Telepathy and Perception" [1903]
[431] *CP* 7.643 "Telepathy and Perception" [1903]

intends it to include both percepts and perceptual judgments, at least when they are functionally equivalent. "But the differences [between percept and perceptual judgment] are so minute and so unimportant logically that it will be convenient to neglect them. Perhaps I might be permitted to invent the term *percipuum* to include both percept and perceptual judgment."[432] As suggested above, the minuscule differences between percepts and perceptual judgment are in regards to their forcefulness and arationality. For example, while one can abstain from making a perceptual judgment, such as *not* stating a proposition regarding an object in your visual field, one may also avoid the forcefulness of percepts by closing one's eyes. Nonetheless, "[i]f one *sees*, one cannot avoid the percept; and if one *looks*, one cannot avoid the perceptual judgment. Once apprehended, it absolutely compels assent."[433] Likewise, perceptual judgments are less 'irrational' than percepts because they to do profess to represent something, namely a percept, even though this mode of representation is indexical rather than symbolic. Nonetheless, despite Peirce's designation of percipuum as indifferently a percept or a perceptual judgment, he most consistently identifies a percipuum as the immediate interpretation of a percept, and so his usage implies a rough equivalence between percipua and perceptual judgments. Unfortunately, this once again raises a question concerning the relationship between

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[432] *CP* 7.629 [c. 1902]; see also *CP* 7.629 fn 9 [1903]: "Formed from *percipio* on the analogy of *praecipuum* from *praecipio.* I am quite sure that it would be well if philosophers were bolder in forming new words instead of giving old ones so many meanings. What if we were to use words ending in *-cept* for different kinds of acquisition of cognition? There would be of good Latin words accept, antecept, decept, except, incept, intercept, occept, precept, suscept, besides many others quite supportable." *Praecipuus, -a, -um:* that is taken before other things; particular, peculiar, especial

[433] *CP* 7.627 [c. 1902]

percepts and perceptual judgments (or percipua) by underscoring the apparently pre-cognitive nature of percepts. In other words, how do we reconcile the apparent inconsistency between Peirce's claims that percepts are the product of 'mental elaboration' with those that they are first premises?

I should note that Peirce's quest for terminology on occasion added a third concept that also seems equivalent to perceptual judgment – that of *perceptual fact*. For example, "The data from which inference sets out and upon which all reasoning depends are the *perceptual facts*, which are the intellect's fallible record of the *percepts*, or 'evidence of the senses.'"[434] However, again this cannot be a simple equivalence, for in nearly the same period Peirce asserts that perceptual facts are *given* in perceptual judgments.[435] Moreover, we may further distinguish perceptual facts from perceptual judgments by their degree of compulsiveness. That is, Peirce implies that perceptual facts are the product of effort – "…the only thing I carry away with me is the *perceptual facts*, or the intellect's description of the evidence of the senses, made by my endeavor."[436] Finally, of particular interest for our purposes is the identification between perceptual facts and memory; for example: "For besides being involuntary, [perceptual facts] are strictly memories of what has taken place in the recent past, while all conclusions of reasoning partake of the general nature of expectations of the

[434] *CP* 2.143 [c. 1902]
[435] See *CP* 5.54 [1903]
[436] *CP* 2.141 [c. 1902]

future."[437] By this light, perceptual facts are closer perhaps to what Peirce calls a *ponecept*, or 'recent memory.'[438] Quoting Peirce:

> It is a difficult question whether the serial principle permits us to draw sharp lines of demarcation between the percept and the near anticipation, or say the *antecept*, and between the percept and the recent memory (may I be permitted to call this the *ponecept*, a distant and dubious memory being perhaps quite another thing?), or whether the percept is at once but an extreme case of an antecept and an extreme case of a ponecept.[439]

This serial principle is an application of Peirce's doctrine of synechism, "…that tendency of philosophical thought which insists upon the idea of continuity as of prime importance in philosophy and, in particular, upon the necessity of hypotheses involving true continuity."[440] In particular, for our purposes the application of the serial principle has further consequences for the relationships among imagination, memory and perception both of which bear on his approval of the doctrine of immediate perception.[441]

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[437] *CP* 2.145 [c. 1902]; moreover: "A perceptual fact is a memory hardly yet separated from the very percept" (*CP* 2.146 [c. 1902]).

[438] This is a point where Peirce's phenomenological investigations bring up quite close to Husserl; in particular here, the difference between memory and the retentional structure of perception.

[439] *CP* 7.648 "Telepathy and Perception" [1903]; this passage concludes: "Or rather, -- I beg the reader's pardon for my awkwardness of statement, -- the precise question is not about percept, antecept, and ponecept, but about percipuum, *antecipuum*, and *ponecipuum*, the direct and uncontrollable interpretations of percept, antecept, and ponecept."

[440] *CP* 6.169 [1902]; note also that "Synechism is not an ultimate and absolute metaphysical doctrine; it is a regulative principle of logic, prescribing what sort of hypothesis is fit to be entertained and examined" (*CP* 6.173 [1902]). Specifically, "The principle of continuity is the idea of fallibilism objectified" (*CP* 1.171 [c. 1897]).

[441] From the essay we have been using to explore Peirce's account of perception: "In particular, I shall endeavor to bring into a clear light the truth that although what I have already said implies the truth of that doctrine of the direct, or "immediate," perception of the external world which is taught by the Aristotelians, by Kant, and by the philosophers of the Scotch school, yet we cannot refuse the name of perception to much which we rightly reject as unreal; as indeed,

First, Peirce asserts that for 'logical' purposes there is no essential difference between a real perception and a hallucination; that is, there is no difference when taken in themselves. Rather, "[t]he difference is that rational predictions based upon the hallucination will be apt to be falsified…But this difference between hallucinations and real perceptions is a difference in respect to the relations of the two cases to other perceptions: it is not a difference in the presentations themselves."[442] Indeed, the indistinguishability of hallucinations and perceptions in the moment is a corollary of one consequence of applying Peirce's serial principle to perception – that there is no strict demarcation between imagination and perception.[443] On this point, Peirce offers several examples of common perceptual illusions to support the continuity of imagination and perception, such as the ambiguous figure known as Schroeder's Stair.[444] In particular, while initially there is a distinctive feeling of 'flipping' from one interpretation of the image to another, Peirce emphasizes that with some practiced

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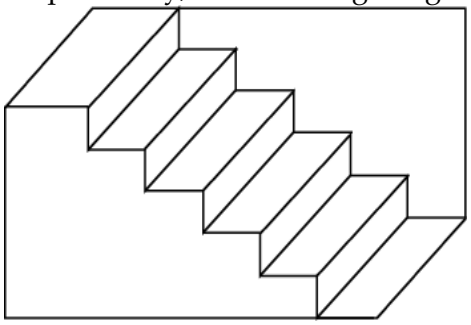
dreams and hallucinations are quite commonly classed as perceptions" (*CP* 7.639 "Telepathy and Perception [1903]).

[442] *CP* 7.644 "Telepathy and Perception" [1903]

[443] *CP* 7.646 "Telepathy and Perception" [1903]: "The serial principle will not permit us to draw a hard and fast line of demarcation between perception and imagination. Physiological psychology may be justified or compelled to separate them, for aught I know or care. But, in regard to their relation to knowledge and belief, the percipuum is nothing but an extreme case of the fancy."

[444] Specifically, the following image:



familiarity which aspect dominates can come under self-control. "Doubtless frequent repetition of the experiment would give one complete control over it. You will thus have converted an uncontrollable percipuum into a controllable imagination by a brief process of education. It is one of the recognized difficulties of all psycho-physical measurement that the faculties rapidly become educated to an extraordinary degree."[445] The compulsive force of a percipuum is a 'sham' as long as one knows the appropriate trick in this instance. Here is Peirce's prime definition of imagination in *The Century Dictionary:* "1. The act or faculty of forming a mental image of an object; the act or power of presenting to consciousness objects other than those directly and at that time produced by the action of the sense; the act or power of reproducing or recombining remembered images of sense-objects…"[446] Although this definition is fairly straightforward, as befitting a dictionary entry, it does demand two qualifications in light of Peirce's specific philosophy. First, as we have just seen the continuum between imagination and perception is more properly one of self-control for Peirce, which parallels but is quite distinct from the force and vivacity of the British empiricist tradition. Second, Peirce is highly critical of the traditional account of what an 'image' is, and accordingly his understanding of what the faculty of (re)producing images does requires careful explication.

To do so, however, we need to attempt a resolution for the tensions in Peirce's account of perception. To do so we will turn to some key texts in the secondary

[445] *CP* 7.647 "Telepathy and Perception" [1903]
[446] *The Century Dictionary* p. 2992 [1891]

literature to focus on the following questions: 1) the relationship between percepts and perceptual judgments, 2) the relationship between perception and sensation, and 3) the semiotic status of percepts.

III.C.2: Semeiotic Perception

Richard Bernstein works to understand the seeming inconsistencies in Peirce's account of perception by situating it within the broader philosophical context of Peirce's denial of intuitionism. In particular, for Peirce a denial of intuitionism has bearing on both empiricism and rationalism, and his struggle to articulate a theory of perception is to retain the insights of both without reinstating their nominalistic errors.[447] Quoting Bernstein: "The central problem, however, is one of giving proper due *both* to the compulsiveness ingredient in perceptual judgments and to the fact that *qua* judgments, perceptual judgments are essentially like any other judgments (*without* having recourse to some variety of the myth of the cognitive given."[448] Much like the preceding presentation, Bernstein appeals to the indexicality of percepts and perceptual judgments emphasized by Peirce (in categorial terms, the element of Secondness) as key to giving proper due to both horns of the above dilemma.[449] In addition, Bernstein interprets the distinction marked by Peirce's term percipuum in light of another

[447] Recall that Peirce considered all of modern philosophy nominalistic – see *CP* 1.19.
[448] Bernstein, "Peirce's Theory of Perception" p. 167 [1964]
[449] Here is another definition of an index especially suggestive in for our main inquiry: "A sign, or representation, which refers to its object not so much because of any similarity or analogy with it, nor because it is associated with general characters which that object happens to possess, as because it is in dynamical (including spatial) connection both with the individual object, on the one hand, and with the senses or memory of the person for whom it serves as a sign, on the other hand" (*CP* 2.305 [1901]).

distinction between kinds of abstraction – *hypostatic* and *prescissive*. Hypostatic abstraction is the process by which we create abstract nouns (*entia rationis*), while prescissive abstraction (or *prescission*) involves attending to one aspect of a phenomenon while ignoring the rest.[450] For example, one may *prescind* color from shape, such as 'white' from 'cube' and this is a different than abstracting from 'white' to 'whiteness.' Furthermore, prescission is an asymmetrical process, for while we may prescind color from space, we cannot prescind space from color – that is, can think of an uncolored space, but not of a color without extension.[451] Using this distinction, Bernstein argues that the *prima facie* contradictions between Peirce's statements regarding percepts – that they are absolutely dumb and yet products of cognitive elaboration – by recognizing that the former characterization of percepts are a prescission from percipua. That is, "We may speak *as if* the percept *per se* consists solely of elements of Firstness and Secondness…[b]ut strictly speaking the percept *per se* is abstracted or *prescinded* from the percipuum. What we *know* is the percipuum, the percept as interpreted."[452] Yet, Bernstein argues that percipuum is what forces itself upon us, even though it is

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[450] Peirce apparently conflates these two senses of abstraction in "A New List of Categories" [1867], but otherwise keeps them fully distinct. I am using this spelling to maintain the difference between *prescission* as a form of abstraction and *precision* as a measure of accuracy, etc., although Peirce is not entirely consistent in this regard. See *CP* 5.449 "Issues of Pragmaticism" [1906] for a late discussion of the etymological confusion between these two nouns. In addition, at least once Peirce suggests that prescission is not a matter of attention: "In general, prescission is always accomplished by imagining ourselves in situations in which certain elements of fact cannot be ascertained…Thus, if the definition usually given of abstraction, that it is attention to a part of an idea with neglect of the rest, be accepted, the term must be applied, no longer to prescission but exclusively to subjectifaction" (*CP* 2.428 [1893]). *Subjectifaction* is Peirce's suggested replacement for the term 'abstraction' precisely to avoid the endemic confusion between its hypostatic and prescissive forms.

[451] See *CP* 1.549 "A New List of Categories" [1867]

[452] Bernstein, "Peirce's Theory of Perception" p. 176 [1964]

inherently general. Nonetheless, this does not commit Peirce to some form of intuition despite his constant denials of such a faculty, "[f]or while it is a brute fact that the percipuum is forced upon us, this fact does not bestow any special *authority* on the percipuum."[453] That is, the compulsiveness of perception is insufficient to qualify it as a foundation for knowledge in the manner expected by empiricists and rationalists alike.

Carl Hausman offers a different tact in evaluating Peirce's account of perception by appealing to Peirce's broader architectonic framework. In particular, it will be informative to examine Hausman's interpretation of Peircean perception through the semeiotic concepts of dynamic and immediate objects. First however, a clarification is in order. Hausman begins with the two distinct senses of percepts marked by Bernstein while rejecting that the identification of the second sense of percept with percipua or perceptual judgments. Hausman characterizes these two senses in the following manner: "The first sense ($percept_1$) is assumed in the passages in which [Peirce] refers to percepts as brute, pre-cognitive, and uncontrollable. The second sense ($percept_2$), is …in which percepts seems to be the outcomes of cognitive controlled thought."[454] The reason for my qualms about this distinction lies in the content of the passages that Hausman uses to establish the sense of $percept_2$.[455] In the passages referenced, Peirce does repeatedly claim that percepts are the product of mental processes: "Since 1709, they have been in possession of sufficient proof (as most of them agree,) that,

[453] Bernstein, "Peirce's Theory of Perception" p. 176 [1964]
[454] Hausman, "In and Out of Peirce's Percepts" p. 278 [1990]
[455] The passages cited are *CP* 2.141 [c. 1902], 4.542 [1906], 5.146 [1905], and 7.624 [1903]. However, the citation should be 4.543, not 4.542, and 5.416, not 5.146.

notwithstanding its apparent primitiveness, every percept is the product of mental processes, *or at all events of processes for all intents and purposes mental*, except that we are not directly aware of them; and these are processes of no little complexity."[456] However, there is little to suggest that these (quasi-)mental processes are subject to self-control. In fact the opposite claim is made: "In place of the *percept*, which, although not the first impression of sense, is a construction with which *my will has had nothing to do*…"[457] Later in the sentence just quoted Peirce does claim that perceptual facts are made by 'my endeavor,' but this does not entail that this endeavor is conscious necessarily, let alone self-controlled. Moreover, it is unclear still what the relationship between perceptual judgments, percipua, and perceptual facts is. Instead, I suggest that the references to effort and endeavor in this passage fall under Peirce's conception of the second mode of consciousness, the "polar sense," which includes both sensation and will.[458] Furthermore, even allowing that perceptual facts are made through a self-controlled effort, as when I tell myself that "I see a blue cup" (in line with Peirce's own examples), this has little bearing on the nature of percepts. Indeed, a large portion of

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[456] *CP* 7.624 "Telepathy and Perception [1903]; emphasis added. 1709 witnessed the publication of Berkeley's *Essay towards a New Theory of Vision*, in which he argues that perception of distance is an inference derived from the association of visual and tactile signs. Quoting Berkeley: "Having of a long time experienced certain ideas, perceivable by touch, as distance, tangible figure, and solidity, to have been connected with certain ideas of sight, I do upon perceiving these ideas of sight, forthwith conclude what tangible ideas are, by the wonted ordinary course of Nature like to follow" (Berkeley, *Essay towards a New Theory of Vision* §45 [1709]).

[457] *CP* 2.141 [c. 1902]; emphasis added

[458] Recall *CP* 1.380 "A Guess at the Riddle" [1887-1888]: "The evidence, however, seems to be pretty strong that the consciousness of willing does not differ, at least not very much, from a sensation. The sense of hitting and of getting hit are nearly the same, and should be classed together."

Peirce's claims in this passage concern the hundreds of percepts that escape our grasp in a moment, leaving only the fallible record of perceptual facts.[459]

Although Hausman's distinction between percept$_1$ and percept$_2$ is at the heart of much of his analysis, and there is reason to question the root of this distinction, again his architectonic interpretation of Peirce's account of perception is immensely rich. I want to focus here on only one aspect of this architectonic approach; specifically, Hausman's use of Peirce's semeiotic notion of dynamic and immediate objects. This will help us also to incorporate some of Peirce's later remarks concerning percepts and perceptual judgments from a semeiotic point of view. In a 1908 letter to Lady Welby Peirce restates his triadic conception of a sign as that which is determined by an object as to determine and interpretant with the following clarification.

> But it is necessary to distinguish the *Immediate Object,* or the Object as the Sign represents it, from the *Dynamical Object,* or really efficient but not immediately present Object. It is likewise requisite to distinguish the *Immediate Interpretant,* i.e. the Interpretant represented or signified in the Sign, from the *Dynamic Interpretant,* or effect actually produced on the mind by the Sign; and both of these from the *Normal Interpretant,* or effect that would be produced on the mind by the Sign after sufficient development of thought.[460]

Hausman focuses on the distinction between dynamical and immediate objects, arguing that the former corresponds to his percept$_1$ and the later to percept$_2$. In particular, he emphasizes the constraint that dynamical objects place upon immediate objects as the

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[459] "The perceptual facts are a very imperfect report of the percepts; but I cannot go behind that record" (*CP* 2.141 [c. 1902]).

[460] *CP* 8.343 "To Lady Welby" [1908]; the distinctions offered, at least between dynamic and immediate objects, occur over a decade earlier, but this is perhaps the most succinct statement on the matter.

representation of the object of a sign.[461] However, this account his complicated by Hausman's claim that percipua/perceptual judgments mediate between $percepts_1$ and $percepts_2$, which would imply additional forms of mediation between dynamical and immediate objects. Perhaps we can see a percipuum as the Sign which represents a dynamical object immediately.

Despite the risk of getting lost in 'darkest semeiotica,' I find it intriguing that Hausman mildly neglects the role of interpretants in the structure of a sign, especially since Peirce explicates the difference between percepts and perceptual judgments in such terms.[462] Let us quote the full passage in question before exploring it in detail.

> A fact of Immediate Perception is not a Percept, nor any part of a Percept; a Percept is a Seme, while a fact of Immediate Perception or rather the Perceptual Judgment of which such fact is the Immediate Interpretant, is a Pheme that is the direct Dynamical Interpretant of the Percept, and of which the Percept is the Dynamical Object, and is with some considerable difficulty (as the history of psychology shows), distinguished from the Immediate Object, though the distinction is highly significant.[463]

Thus, we see that a perceptual judgment is the 'direct' dynamical interpretant of a percept which is its dynamical object, with a 'fact of Immediate Perception' (a perceptual fact?) being its immediate interpretant. In a paragraph prior to the one quoted above, Peirce defines a Seme as "…anything which serves for any purpose as a

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[461] "The outcome is the immediate object [≈$percept_2$], but which, as something that is in some sense real ('external), sustains, or is sustained by, the constraining function of the dynamical object [≈$percept_1$]" (Hausman, "In and Out of Peirce's Percepts" p. 285 [1990]).

[462] "Let us journey into darkest semeiotica. I refer, of course, to Peirce's system for the classification of sign: immense, obscure, crabbed with dense tangles, and never before traversed" (Short, "Life Among the Legisigns 285 [1982]). I say that Hausman's neglect of kinds of interpretants is mild because he does describe "…$percepts_2$ as what immediate interpretations refer to…" (Hausman, "In and Out of Peirce's Percepts p. 284 [1990]).

[463] *CP* 4.539 "Prolegomena to an Apology for Pragmaticism" [1906]

substitute for an object of which it is, in some sense, a representative or Sign…" and a Pheme as "…a Sign which is equivalent to a grammatical sentence, whether it be Interrogative, Imperative, or Assertory."[464] The propositional structure of a Pheme, and therefore of a perceptual judgment, illuminates several features of Peirce's account of perception. First, for Peirce a proposition consists of a (complex) Index as the Subject term and a (complex) Icon as the Predicate term, which agrees with Peirce's claim that "…the perceptual judgment which I have translated into 'that chair is yellow' would be more accurately represented thus: '☞ is yellow,' a pointing index-finger taking the place of the subject."[465] More significantly, the propositional structure of a perceptual judgment means that it is *assertible*. Peirce's emphasis on the possibility of assertion helps bridge the gap between perception as unconscious inference and Peirce's examples of explicitly declaring that some object has some property. That is, in its strict sense for Peirce "[a] judgment is the mental act by which the judger seeks to impress upon himself the truth of a proposition."[466] Thus, a perceptual judgment proper is a declaration regarding a percept. However, our mental lives do not consist of a self-conscious litany of 'S is P' – rather, perception is a process that forms propositions

[464] *CP* 4.538 "Prolegomena to an Apology for Pragmaticism" [1906]. Peirce asserts that the usage of Seme and Pheme corresponds to, but is more expansive than, Terms and Propositions respectively. Furthermore, the editors note that Peirce appears to use the term Rheme as equivalent to Seme and dicisign as equivalent to Pheme.
[465] *CP* 7.635 "Telepathy and Perception" [1903]. Interestingly, the 'index' (also 'fist' or 'manicule') was a common punctuation mark between the 12th and 18th centuries, but now is generally limited to an optional cursor skin.
[466] *CP* 2.252 [c. 1902]

which *could be* asserted.[467] For Peirce, a proposition has meaning due to its relationship with its interpretant, regardless of it being actually asserted: "I define a dicent [pheme] as a sign represented in its signified interpretant *as if it were* in a Real Relation to its Object. (Or being is, if it is asserted.)"[468] Again, a perceptual judgment presents itself as true without reason, and to assert the proposition expressed in a perceptual judgment (i.e., to judge in the strict sense) is "…an exhibition of the fact that one subjects oneself to the penalties visited on a liar if the proposition asserted is not true."[469] This is so even for the silent assertion to one's self, although the colloquial equivalent is that one is subject to the penalties of being mistaken.[470]

The following chapter details the logic of assertion more thoroughly, as it is a key component of Peirce's investigation into testimony. However, the semeiotic presentation of the structure of propositions, and thus of judgments, allows us to clarify Peirce's doctrine of immediate perception. First, it is clear that 'immediate' here cannot mean *un-mediated*, as perception involves the colligation and synthesis of signs like all cognition. Similarly, 'immediate' cannot mean strictly instantaneously. This is why I have previously equivocated between 'direct' and 'immediate', as Peirce himself

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[467] Again, see *CP* 2.309 fn10 [c. 1902]: "To explain the judgment in terms of the 'proposition' is to explain it by that which is essentially intelligible. To explain the proposition in terms of the 'judgment' is to explain the self-intelligible in terms of a psychical act, which is the most obscure of phenomena or facts."

[468] *CP* 8.337 [1904]

[469] *CP* 8.337 [1904]

[470] More specifically, the present self is responsible to the future self: "It is a genuine assertion, just as the vernacular phrase represents it ['I says to myself, says I']; and solitary dialectic is still of the nature of dialogue. Consequently it must be equally true that here too there is contained an element of assuming responsibility, of 'taking the consequences'" (*CP* 5.546 [c. 1908]).

does.[471] So the issue is the nature of *direct* perception, or even memory, and the key is the (complex) index that is essential to the propositional structure of a judgment. Indices represent via contiguity with their object, "…by virtue of being really affected by that Object…," and therefore perception involves a dynamic relation with *external* objects, not untethered presentations of Icons.[472] This does not make perception infallible, as indices are themselves brute and in need of interpretation, but it does help explain the forcefulness of perceptions and thus their indubitability in the moment. Indeed, it may be more appropriate to say that while Peirce aligns himself with the tradition of Aristotle, Kant, and Reid, he also realigns that tradition into a doctrine of indexically *directed* perception. What holds true for perception obtains for cognition in general, even memory:

> For the Past really acts upon us, and *that* it does, not at all in the way in which a Law or Principle influences us, but precisely as an Existent object acts. For instance, when a *Nova Stella* bursts out in the heavens, it acts upon one's eyes just as a light struck in the dark by one's own hands would; and yet it is an event which happened before the Pyramids were

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[471] "By the continued application of the same principle, I shall widen more and more our notion of what perception includes. In particular, I shall endeavor to bring into a clear light the truth that although what I have already said implies the truth of that doctrine of the direct , or 'immediate,' perception of the external world which is taught by the Aristotelians, by Kant, and by the philosophers of the Scotch school, yet we cannot refuse the name of perception to much which we rightly reject as unreal; as indeed, dreams and hallucinations are quite commonly classed as perceptions" (*CP* 7.639 "Telepathy and Perception" [1903]).

[472] *CP* 2.248 [c. 1903]. This clearly commits Peirce to a causal theory of perception and memory of some fashion, such as the externalist reliabilism of Alvin Goldman. For one investigation along these lines, see Daniel Kruidenier's "A Peircean Critique of and Alternative to Intentionalism about Perceptual Experience" [2007]. More broadly, following this suggestion also opens up the deep question of Peirce's understanding of causation; for some explorations of this topic see Hookway's "The Idea of Causation: Some Peircean Themes" [1992], and the work of Menno Hulswit, such as "Semeiotic and the Cement of the Universe: A Peircean Process Approach to Causation" [2001]. One hint is that, for Peirce, a causal sequence is a subtype of logical sequence (cf. *CP* 3.111 fn. 2 [1870]).

> built. A neophyte may remark that its reaching the eyes, which is all we know, happens but a fraction of a second before we know it. But a moment's consideration will show him that he is losing sight of the question, which is not whether the distant Past can act upon us *immediately,* but whether it acts upon us just as any Existent does.[473]

In other words, the combination of the doctrines of synechism and of direct perception entail that we also have direct(ed) memory. While symbolic mediation increases over time, we remain ensconced in a more or less dynamically determined relation with the past, one that for Peirce is constitutive of the self: "My recent past is my uppermost *ego;* my distant past is my more generalized *ego.* The past of the community is *our ego*."[474] As I have argued, following Peirce, this ego cannot merely, or even primarily, be the empirical ego of self-conscious, but rather the vast cognitive (social) unconscious.[475] As instincts are the traditional home for questions of unconscious thought, let us turn to some remarks on Peirce's account of instincts.

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[473] *CP* 5.359 [1905]

[474] *CP* 7.536 [undated], italics in original. At another point (*CP* 8.113 [c. 1900]), Peirce claims that notion is the upshot of Berkeleyanism

[475] On this point Peirce looks to be vindicated by developments in cognitive psychology that seek to rehabilitate psychoanalysis, such as the work on nonconscious information acquisition by Pawel Lewicki, and by research into embodied (George Lakoff) and distributed cognition (Edwin Hutchins). More philosophically, the Continentally-informed analytic critique of psychology by Hubert Dreyfus and John McDowell, among others, also supports at least some of Peirce's insights.

III.D: Instinct

Much of Peirce's writing about instinct occurs around the turn of the twentieth century. It seems that the prime reason for this is Peirce's clarification of abduction as a fully distinct form of inference, one grows from instinct and the 'automatic' judgments of perception. Here is one example of Peirce's self-assessment of the development of his account of abduction:

> Upon this subject [abduction/hypothesis], my doctrine has been immensely improved since my essay "A Theory of Probable Inference" was published in 1883. In what I there said about 'Hypothetic Inference' I was an explorer upon untrodden ground…But I was too much taken up in considering syllogistic forms and the doctrine of logical extension and comprehension, both of which I made more fundamental than they really are. As long as I held that opinion, my conceptions of Abduction necessarily confused two different kinds of reasoning.[476]

Accompanying this insight regarding abduction is Peirce's deep engagement with the history and methodology of science, which also suggested the importance of instinct in inquiry. For example, Peirce asserts that one of the roots of the distinction between physical and psychical sciences is in fundamental biological instincts: "…the instinct of feeding, which brought with it elementary knowledge of mechanical forces, space, etc., and the instinct of breeding, which brought with it elementary knowledge of psychical motives, time, etc."[477] These basic drives have focused our guessing-instinct onto two

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[476] *CP* 2.102 [c. 1902]

[477] *CP* 1.118 [c. 1896]. Here is a later statement of the same point: "…there is evidence that man's power of penetrating the secrets of nature depends upon this [biological instinct], in the fact that all the successful sciences have been either mechanical in respect to their theories or psychological. Now, some notions of mechanics are needed by all animals to enable them to get food, and are needed most by man; while correct ideas of what passes in his neighbours' minds are needed for the existence of society, and therefore for the propagation of his kind" (*CP* 6.491 [c. 1910]).

broad types of relations in our experience and thereby led to the development of two broadly different kinds of special sciences. Quoting Peirce: "In fact, the two great branches of human science, physics and psychics, are but developments of that guessing-instinct under the corrective action of induction."[478] Thus, Peirce's understanding of instinct is significant for his account of the sciences and scientific methodology. For example, Peirce explicitly invokes our instinctive trust in the testimony of other's in his rules for evaluating hypotheses concerning ancient history.[479]

Accordingly, Peirce's account of instinct can offer insight into his pragmatism, especially as the logic of abduction. Likewise, looking at instinct may offer further insight into Peirce's notion of common sense and the characterization of his philosophy as *critical common-sensism*, especially since Peirce himself makes the connection:

> The fourth part of the first book of Hume's *Treatise of Human Nature* affords a strong argument for the correctness 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 winds himself up in silly paper doubts if he undertakes to throw common sense, i.e. instinct, overboard and be perfectly rational.[480]

In this light, outlining his work on instincts should serve as a valuable transition between Peirce's work on memory, unconscious cognition, and the role of pragmatism as a methodological maxim of scientific inquiry. To this end, we will begin with some

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[478] *CP* 6.531 [1901]

[479] "An excellent method in the great majority of those cases in which it is applicable and in which it leads to any unequivocal results is to give precedence to that hypothesis which reposes upon a deep and primary instinct, such as is the instinct to believe testimony, without which human society could not exist. There is no surer mark of inexperience in dealing with witnesses than a tendency to believe that they are falsifying, without any definite, objective, and strong reason for the suspicion" (*CP* 7.224 [1901]).

[480] *CP* 6.500 [c. 1906]; a *succedaneum* is a substitute.

of Peirce's general definitions of instinct, and then turn towards his attempt to classify instincts around 1902.

III.D.1: Distinguishing Instincts

Most broadly, Peirce defines an instinct "…in the proper sense of the word, as an inherited habit, or in more accurate language, an inherited disposition. 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."[481] Moreover, instincts are "…those habits of which we are not prepared to render an account…"[482] This definition nicely encapsulates Peirce's developmental psychology and commitment to evolution, as well as the large role of unconscious cognition in human activity. That is, instincts include both the inheritance of our species and the habituations of our youth, both of which escape our self-control to various degrees because of our lack of full awareness. It is on these grounds that Peirce argues for the limitations of reason in most affairs; Peirce consistently notes that the instincts of animals rarely err, while human reasoning is but a little more often right than wrong over the long run.[483] However, in this same period Peirce claims that "…the three essential characters of [human] instinctive conduct are that it is conscious, is determined

[481] *CP* 2.170 [c. 1902]
[482] *CP* 2.175 [c. 1902]
[483] For example, "It is only a remarkable man or a man in a remarkable situation, who, in default of any applicable rule of thumb, is forced to reason out his plans from first principles. In at least nine such cases out of every ten, he blunders seriously, even if he manages to escape complete disaster. We shall therefore be well within bounds in pronouncing Reason to be more than a thousand times as fallible as Instinct" (*CP* 2.176 [c. 1902]).

to a quasi-purpose, and that in definite respects it escapes all control."[484] This definition is prima facie in conflict with the first one given, but we have already seen some of the difficulties in equating "awareness" and "consciousness" on Peirce's terms. However, for the moment we can say that Peirce's position is when humans act instinctively, they are conscious *that* they are acting, but not as to *why* they are acting at the time. As quoted above, "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 ego."[485]

Of course, Peirce is far from alone in drawing these conclusions from the evolutionary *zeitgeist* of the nineteenth century, as is clear from an example like Friedrich Nietzsche's second *Untimely Meditation* "On the Use and Abuse of History for Life."[486] Or compare the boldness of the British explorer and philosopher William Winwood Reade (1838-1875):

> Not only are the bodies, but also the minds of man constructed on the same pattern as those of the lower animals. To procure food; to obtain a mate; and to rear offspring; such is the real business of life with us as it is with them. If we look into ourselves we discover propensities which declare that our intellects have arisen from a lower form; could our minds be made visible we should find them tailed.[487]

On a related point, Peirce approvingly cites the authority of the German philosopher Eduard von Hartmann (1842-1906) and his 1869 work *The Philosophy of the Unconscious*, which "…goes to show that the mental phenomena may be strong where the

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[484] *CP* 7.381 Fn 19 [c. 1902]
[485] *CP* 1.631 [1898]
[486] *Vom Nutzen und Nachteil der Historie für das Leben*, originally published in 1874
[487] *The Martyrdom of Man* [1872]

consciousness, if there be any, is almost nil, and where there is reason to believe that more consciousness would be rather unfavorable than otherwise to the action of mind."[488] This is a commonplace when it comes to musical performance, but the lesson is broader. Accordingly, an appeal to instincts is an appeal to unconscious (not self-controlled) thought. Emphasizing the illative nature of cognition, this becomes a call to attend to the largely enthymematic major premises of syllogisms or the typically implicit leading principles of inference. Indeed, thought would be impossible without these generalized propositions to guide it.

III.D.2: Classifying Instincts

We have already noted that Peirce attributes the division of idioscopy into physics and psychics to the two fundamental instincts of feeding and breeding.[489] Under the heading of *psychotaxy*, or the classificatory subdivision of psychics, Peirce

[488] *CP* 7.366 [1902]

[489] In addition, he implies that the broadest division of science into Theoretical, Retrospective, and Practical, arise from instinctual drives. That is, theoretical sciences rest upon the *gnostic instinct*, or curiosity, although the gratification of curiosity is not their aim. Instead, inquiry for the sake of satisfaction, even of curiosity, is a manifestation of *gust-instinct*, or love of pleasure (see *CP* 7.58 [c. 1902]). At first, it seems that gust-instinct manifests in practical science, leaving the motivation of retrospective science a bit mysterious. Let us compare another of Peirce's trichotomies that parallels the division of science: "If we endeavor to form our conceptions upon history and life, we remark three classes of men. The first consists of those for whom the chief thing is the qualities of feelings. These men create art. The second consists of the practical men, who carry on the business of the world. They respect nothing but power, and respect power only so far as it [is] exercized. The third class consists of men to whom nothing seems great but reason (*CP* 1.43 [c. 1896]). Here, practical science is clearly associated with practical men, who love power, and further suggests that curiosity is a love of reason. However, this presents the odd implication that retrospective science is the purview of artistic men, who love pleasure. Peirce does claim that artistic men view nature as a picture, and pictures typically possess an organized composition. Nonetheless, the parallelism in question does not seem to fit, which makes sense from Peirce's general theoretical neglect of retrospective science.

offers a fuller draft of a classification of instincts. It will be convenient to first present this classification in outline:[490]

Within Psychotaxy

I: Kinds of Performances ["Faculties"]
- A: Elements of Performance
  - 1: Kinds of Sensations and their relations
  - 2: Kinds of Emotion and their relations
- B: Systems of Performance
  - 1: Animal Performances
    - a: Individual Preservation
      - i: Feeding/Food Getting
      - ii: War
        - •Active War
        - •Self-preservation
      - iii: Minor Instincts (e.g., cleanliness)
      - iv: Construction Instincts
    - b: Social Preservation
      - i: Reproductive Instinct in particular
      - ii: Communicative Instinct
        - •Cries and Songs
        - •Facial Expression
      - iii: Architectural Instincts
      - iv: Locomotive/Migration Instincts
      - v: Game-playing Instincts
      - vi: Adornment/Decoration Instincts
  - 2: Human Performances
    - a: Selfish Instincts
      - i: Agriculture
      - ii: Warfare
      - iii: Medicine
    - b: Social Instincts
      - i: Reproductive Instincts
      - ii: Home-making
      - iii: Language

[490] Adapted from *CP* 7.378-9 [c. 1902]. Peirce's overall classification of the sciences is a topic of Chapter V.

Certainly, elements of this classification feel a bit arbitrary, which indicates the tentative nature Peirce's effort as well as the inchoate nature of the field.[491] Nonetheless, it is clear from the parallels between animal and human performances that Peirce saw human instincts as outgrowths of general animal instincts. That is, agriculture is a developed form of food-getting, while medicine is a developed form of instincts for cleanliness and health, such as dogs eating grass (Peirce's own example). However, let us focus on the incomplete parallel between the social instincts of animals and humans, for "[t]he Social Instincts were more sympathetic to Reason; and it is they that have been the efficient cause of most human performances, and of the higher ones."[492] In particular, Peirce includes under the Communicative Instincts of animals the study of all instincts for understanding mind, and thus the fundaments of human language and psychology. Here Peirce's brief account of language moves into an excursus on the origin of language. However, what he says of animal communication is intriguing, especially for what follows: "Not only do animals of the same species convey their assertions, but different classes of animals do so, as when a snake hypnotizes a bird."[493] It is clear from this and from the further subdivision between 'Cries and Songs' and 'Facial Expressions' that for Peirce the conveyance of an assertion is not solely a linguistic matter, for a smile can be as an effective assertion of a proposition as an oral

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[491] For example, ethology as an independent subfield of animal psychology did not arise until the work of Nikolaas Tinbergen, Konrad Lorenz, and Karl von Frisch in the 1930s. Moreover, the controversies surrounding E.O. Wilson's sociobiology, and its offspring evolutionary psychology, in part show the difficulty of approaching human psychology from the perspective of instincts.

[492] *CP* 7.384 [c. 1902]

[493] *CP* 7.379 [c. 1902]

utterance. Moreover, the evolutionary continuity of our instincts for presenting and interpreting the assertions of others (including animals) returns us to Peirce's amendments to Reid's Common Sense Philosophy. In particular, Peirce's evolutionary philosophy both explains and supports Reid's Principles of Credulity and Veracity as constitutive principles of language and psychology in the broad sense of efforts to understand others and ourselves.[494] Quoting Reid's *Inquiry*, "the first of these principles is, a propensity to speak truth, and to use the signs of language, so as to convey our real sentiments…Another original principle implanted in us by the Supreme Being, is a disposition to confide in the veracity of others, and to believe what they tell us."[495] As Reid argues, if we were born *in aequilibrio* honesty and dishonesty, trust and distrust, would occur in equal measures in children, which they clearly do not.[496] These natural propensities are part of what makes life, and the life of inquiry, possible, and as such will be the starting point for Peirce's account of testimony – the topic of the next chapter.

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[494] As Christine Korsgaard argues on Kantian lines, constitutive principles are both descriptive and prescriptive, as describing a class also involves prescribing the conditions for class membership. Peirce claims that Kant's distinction between constitutive and regulative principles is unsound (*CP* 3.215 [1880]), but I have been unable to find a specific argument for this claim. Thus, I will not venture further on this point.

[495] Reid, *Inquiry* 193-194 [1764]

[496] Recent research by Dr. Victoria Talwar of McGill University suggests that the onset of lying is a developmental milestone tied to overall intelligence, as it involves the complex activity of imagining something other than the truth as well as selecting something perspicacious. This confirms the adage going back to at least Quintilian that *mendacem memorem esse oportet* – "A liar ought to have a good memory" (*Institutio Oratoria* iv.ii [c. 95 CE]).

Conclusion

The primary goal of this chapter is to understand Peirce's approval of a doctrine of direct perception and memory in light of his fundamental rejection of intuition. In short, we related directly to the objects of perception and memory through indexical signs that do not, in themselves, represent these objects. Rather, they direct our attention, and thereby determine cognition. Explaining this required an extended analysis of Peirce's semeiotic account of perception as a form of unconscious judgment, revealing its propositional and inferential structure. Through indices we are not cut off from the external world, present or past; instead, we live and think in and through the past. Furthermore, Peirce's account of the cognitive unconscious led us to instincts as innate dispositions or habits for the interpretation of experience in accordance with his Critical Common-Sensism.[497] These innate ideas are the accumulated wisdom of our phylogeny in its efforts to understand the universe. This further solidifies Peirce's recognition of our debt to the past, and sets the stage for our investigation of testimony as a fundamental source for knowledge.

The last fifty years have taught the lesson of not trifling with facts and not trusting to principles and methods which are not logically founded upon facts and which serve only to exclude testimony from consideration.

-C.S. Peirce, *CP* 1.110 (c. 1896)

History is thus the believing of someone else when he says that he remembers something.

-R.G. Collingwood, "The Historical Imagination" (1935)

Chapter IV: The Logic of Assessing Testimonies

Introduction

In the previous two chapters, I have established Peirce's deep appreciation for the past through the essential role of memory in his philosophy. Now we turn from our personal direct relations with the past to the more indirect method of acquiring knowledge through testimony. The canonical history of Western Philosophy is noticeably scant with investigations of testimony, with the notable exception of Chapter X of Hume's first *Enquiry*, "On Miracles."[498] However, since the publication of C.A.J. Coady's *Testimony: a Philosophical Study* in 1991 this topic has become essential to contemporary epistemology. As Coady notes, the neglect of testimony in at least the modern era is due largely to its individualist temperament, a temperament that we have seen Peirce reject. Indeed, Peirce's insistence on the public nature of truth and his ideal of a community of inquiry requires an account of testimony. Fortunately, Peirce provided such an account in 1901 – "The Logic of Drawing History from Ancient

[498] An exception that should be more noted is Ibn Khaldun (1332-1406), particularly his *Muqaddimah* (*Prolegomena*) of 1377.

Documents, especially Testimonies." While his focus in this monograph is ancient history, the principles established apply to inquiry more generally. In particular, we will flesh out Peirce's characterization of the nature of assertion sketched in the previous chapter by emphasizing the fundamentally ethical nature of making and evaluating assertions. To do so, we will review the critical portion of Peirce's 1901 monograph and his characterization of the three forms of inference. Then, we will expand upon the nature of assertions, and supplement this account into issues of testimony through the related topics of evidence and explanation. Thirdly, we will present one of Peirce's applications of his method, the biography of Pythagoras, and in the final section bring out some of the lessons of Peirce's approach to testimony into the ethics of inquiry.

IV.A: Peirce's 1901 Monograph

In the fall of 1901, Peirce completed a monograph of 150 typed pages entitled "The Logic of Drawing History from Ancient Documents, especially Testimonies."[499] Peirce begins with a critique assessing testimonies by the "method of balancing likelihoods" he considers common to David Hume and the German higher critics, especially the historian of philosophy Eduard Zeller.[500] From here Peirce moves to a

[499] Partially published in *CP* 7.164-7.255 and EP 2: 75-114; see *MSS* 690 and 691 for the full versions (one handwritten, one typed).

[500] Peirce focuses his disdain on Zeller, who wrote a very popular history of Greek philosophy (*Philosophie der Griechen* [1844-1852]). This is likely because of Peirce's explicit omission of biblical criticism done in a similar fashion. Quoting Peirce: "But the German critics (I [Peirce] speak only of those who treat of the history of philosophy, for I have never looked into the Biblical criticisms) are as illogical as Hume and in much the same way" (*CP* 6.513 "Answers to Questions Concerning the My Belief in God [c. 1906]).

detailed exposition of his maturing logic of science, featuring a full distinction between abduction and induction and including an account of the role of economy in evaluating hypotheses worth holding.[501] Finally, this monograph concludes with three extensive examples of Peirce's method applied to topics of ancient history: the tradition regarding the transmission of Aristotle's texts, the dating of Plato's dialogues in light of the stylometric analysis of Wincenty Lutoslawski (1863-1954), and the biography of Pythagoras.[502]

In addition to its intrinsic interest, this monograph also rests at a transition in Peirce's philosophical career, as mentioned in Chapter I. Specifically, William James' announcement of pragmatism in his 1898 address "Philosophical Conceptions and Practical Results" led to a burgeoning philosophical movement, accompanied by vigorous debate. Although James explicitly attributes the principle at the heart of pragmatism to Peirce, especially 1878's "How to Make Our Ideas Clear," there is evidence that Peirce was not aware of this until two years later.[503] This evidence is a postcard Peirce wrote to James on November 10th, 1900 concerning the origin of the term "pragmatism" for an entry on it in James Baldwin's *Dictionary of Philosophy and*

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[501] See, for instance, *CP* 8.227 [c. 1910]: "Only in almost everything I printed before the beginning of this century I more or less mixed up Hypothesis and Induction…"

[502] In particular, Lutoslawski's *The Origin and Growth of Plato's Logic. With an Account of Plato's Style and of the Chronology of His Writings* [1897].

[503] Note that "How to Make Our Ideas Clear" does not contain the term "pragmatism" in any form (in spite of the headings added by the editors of the *Collected Papers*). Moreover, Peirce declined to include his sense of "pragmatism" in the *Century Dictionary*, despite writing the entry for "pragmatic" – see *CP* 5.13 [c. 1906]. As an intriguing aside, one of Peirce's sub-definitions of "pragmatic method" is as follows: "the treatment of historical phenomena [by historians] with special reference to their causes, antecedent conditions, and results" (*Century Dictionary*, p. 4667 [1889-1914]).

Psychology of 1902.[504] Peirce asks whether he or James invented the term, and when it first appeared in print, to which James replies that Peirce originated the term and that James used it in 1898. In addition, James remarks that he sent Peirce two copies of his 1898 address, but had not received acknowledgement of receipt.[505] Peirce does not use the term "pragmatism" in his 1901 monograph; however, in light of his 1903 claim that pragmatism is the logic of abduction (i.e., hypothesis), the sustained account of abduction in 1901 can offer substantial insight into Peirce's pragmatism, in part precisely because Peirce is not engaged in distinguishing his pragmatism from that of others claiming the mantle.

For this section, we will begin with the background to Peirce's 1901 monograph; specifically, its antecedents in an unpublished essay entitled "The Laws of Nature" concerning Hume's critique of miracles. From here, I will briefly recount Peirce's explanation of the various species of deduction and induction before focusing on abduction. Then, we will return to this monograph in section C of this chapter and present Peirce's method through his illustration of "Abduction under difficulties" – the life of Pythagoras – supplemented by other presentations of this hypothesis made by

[504] The entry for "Pragmatic and Pragmatism" in Baldwin's *Dictionary* asserts that the concept, if not the name, originated in 1878, while James' 1898 statement of pragmatism "…pushed this method to such extremes as must tend to give us pause" (*CP* 5.3 [1902]).
[505] *CP* 8.253 and 8.253 n. 8 [1900]. Peirce's questions may sound odd in light of his later self-presentations as the founder of pragmatism; nonetheless, the issue of who *invented* the term is different from whether Peirce *used* the term to describe his position.

Peirce.[506] Finally, we will conclude with some remarks on Peirce's implicit ethics for assessing testimonies.

IV.A.1: the error of Hume and the German Higher Critics

Peirce's 1901 monograph appears to originate in his correspondence with Samuel P. Langley, at that time the Secretary for the Smithsonian Institute. In response to Peirce's behest for an opportunity to publish his work on logic, Langley requested an essay on the topic of the change in conception of a "law of nature," especially since the time of David Hume. More specifically, Langley desired an evaluation of Hume's argument against miracles in 1748's *An Enquiry concerning Human Understanding*. However, Peirce and Langley fundamentally disagreed as to the nature of the topic, and the Smithsonian ultimately published an essay on "The Laws of Nature" written by Langley alone.[507] As Peirce opens his unpublished monograph with reference to "Hume's Theory" of balancing likelihoods in assessing testimonies, and that he considers this the implicit methodology of the German higher critics, a closer look at Peirce's evaluation of Hume's argument is appropriate. We will begin with a brief

[506] Peirce uses the quoted phrase in his Lowell Lecture on Abduction in 1903: "In order to illustrate Abduction under difficulties, I want a case where the evidence is extremely slight and the testimonies are open to grave suspicion so that we cannot make the most distant approach to certainty in any way. I can think of no question that will answer this purpose better than the life of Pythagoras" (MS 476 [1903]).

[507] From a letter from Peirce to Langley: "Certainly nothing can be farther from my desire to quarrel with you any task you may set me, but the difficulty of bringing subjects so remote from one another, and so complex, as Hume's argument and the Laws of Nature into one piece was extreme. *Hume's argument has nothing to do with the Laws of Nature*. That is the difficulty" (*VUC* 286 [1901], italics in original).

summary of Hume's well-known argument, distinguished by reference to Hume's other uses of the terminology involved, before turning to Peirce's critique.

Although the publication of Hume's first *Enquiry* included an open disavowal of his first work, *A Treatise on Human Nature*, therein he does offer a set of distinctions relevant to the issue of the laws of nature and miracles.[508] Specifically, Hume asserts that there are (at least) three meanings of the term 'nature': the first is in opposition to the miraculous, the second is in opposition to the rare and unusual, which Hume claims is the common meaning, and the third is in opposition to the artificial.[509] Thus, the existence of shoes is 'natural' in the first and second sense, while 'unnatural' in the third sense. On the other hand, miracles seem 'unnatural' in all three senses – the first by definition, the second by their rarity, and in the third by analogy between human and divine action. Admittedly, the third case is controversial, but overall this set of distinctions shows Hume's prejudice against miracles. And what of the phrase 'the laws of nature'? Curiously, in his *Treatise* Hume only uses the phrase 'laws of nature' as a synonym for 'rules of justice' – "Tho' the rules of justice be *artificial*, they are not *arbitrary*. Nor is the expression improper to call them *Laws of Nature*; if by natural we understand what is common to any species, or even if we confine it to mean what is

[508] From Hume's "Advertisement" to his first *Enquiry*: "Yet several writers, who have honoured the Author's Philosophy with answers, have taken care to direct all their batteries against that juvenile work, which the Author never acknowledged…Henceforth, the Author desires, that the following Pieces may alone be regarded as containing his philosophical sentiments and principles" (*Enquiry* p. 83 [1748/1777]).
[509] See *Treatise* 3.1.2.7-10 [1739-1740]

inseparable from the species."[510] This is in accordance with the second definition of nature given above, while somewhat at odds with the third.

Nonetheless, by the publication of his first *Enquiry* Hume seemingly expands the reference of the phrase 'law of nature' to include the physical world.[511] For instance, "But to convince us, that all the laws of nature, and all the operations of bodies without exception, are known only by experience, the following reflections may, perhaps, suffice." [512] However, it is not quite clear whether 'laws of nature' and 'operations of bodies' are equivalent. That is, one could read this passage as asserting that knowledge of *both* the laws of (human) nature and the operations of bodies derive from experience, which puts on interesting gloss on Peirce's claim that Hume's argument against miracles has nothing to do with the laws of (physical) nature. Accordingly, a miracle is a violation of the laws of (human?) nature on Hume's terms. For example, transubstantiation is a miracle because Catholics claim to know something that is *not* based on perception – that wine *really is* blood. Moreover, it is a 'aw'of human nature that food does not replicate in accordance with my will without ancillary labor. Nonetheless, most of Hume's interpreters take his claim to mean that miracles violate the laws of physics, and Peirce's criticism of Hume rests on largely different grounds.

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[510] *Treatise* 3.2.1.19 [1739-1740]

[511] See *CP* 6.542 "Hume on Laws of Nature" [1901]: "Aquinas had not spoken of a violation of a law of nature, because the phrase "law of nature" bore, in his day, no such meaning as Hume attached to it. The phrase itself is very old. It occurs in the early Greek poet Pindar, and in Plato. In Latin it is met with in the early poet Lucretius. But until modern times, it had meant a rule of natural morality. For a scholastic, therefore, it would have been simple nonsense to say that a violation of a law of nature would be a miracle. That is why he spoke of the 'order of nature'which meant for him substantially what we mean by a "law of nature.'"

[512] *Enquiry* 4.1.9 [1748/1777]

Hume asserts that "[t]here must, therefore, be a uniform experience against every miraculous event, otherwise the event would not merit the appellation. And as a uniform experience amounts to a proof, there is here a direct and full *proof*, from the nature of the fact, against the existence of any miracle…"[513] A miracle is then, by Hume's definition, that which has never been experienced, and so naturally no testimony has been, or perhaps could be, sufficient to properly establish belief in a miracle. However, Hume is more forgiving when it comes to marvelous testimony:

> It is the business of history to distinguish between the *miraculous* and the *marvelous*; to reject the first in all narrations merely profane and human; to doubt the second; and when obliged by unquestionable testimony, as in the present case, to admit of something extraordinary, to receive as little of it as is consistent with the known facts and circumstances.[514]

Of course, distinguishing the marvelous from the truly miraculous is itself a question. Peirce uses Laplace's denial of meteors in accordance with Aristotleian astronomy as a favored example of how preconceptions can resist evidence.[515] As Coady notes, "That Laplace and like-minded scientists could go so wrong by taking the unexpected for the improbably is revealing."[516] In particular, it reveals the meager value of 'balancing likelihoods' when what are balanced are subjective assessments of probabilities.[517]

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[513] *Enquiry* 10.1.12 [1748/1777]; Peirce notes that this definition of a miracle is the only one relevant to Hume's argument – see *VUC* 313 [1901]

[514] From *The History of England* [1754-1762] "The Maid of Orleans"

[515] "'Stones do not fall from heaven,' said Laplace, although they had been falling upon inhabited ground every day from the earliest times. But there is no kind of inference which can lend the slightest probability to any such absolute denial of an unusual phenomenon" (*CP* 1.140 [c. 1899]). This is Pierre-Simon Laplace (1749-1827), one of the most accomplished astronomers and mathematicians of his day.

[516] Coady, *Testimony* p. 195 [1992]

[517] Moreover, this method as stated by Hume illicitly presumes that the testimonies to be balanced are independent, like the probability of dice throws, which is implausible given the

In effect, Hume's argument against miracles amounts to what Peirce typically calls a pooh-pooh argument. A pooh-pooh argument is a limited form of induction that consists in denying improbabilities. This may seem hardly like an argument or reasoning at all, but Peirce includes it as a crude or rudimentary form of induction because it possesses the self-corrective tendency characteristic of induction.[518] As Peirce articulates it in 1903, "The first order of induction, which I will call *Rudimentary Induction*, or the Pooh-pooh argument, proceeds from the premiss that the reasoner has no evidence of the existence of any fact of a given description and concludes that there never was, is not, and never will be any such thing."[519] This form of argument is self-corrective because the shock of experience may provide evidence for a fact previously dismissed. In fact, Peirce admits that pooh-pooh induction is indispensable for two related reasons. The first, somewhat broader, reason is that a pooh-pooh argument rests upon ignorance, which is our relationship to most possible objects of knowledge: "It goes upon the roughest kind of information, upon merely negative information; but that is the only information we can have concerning the great majority of subjects."[520] A bit more narrowly, this crudely inductive argument also serves to prevent occurrences

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transmission of testimony. For a fuller account of Peirce's critique of Hume specifically in terms of a questionable conception of probability, see Cathy Legg's "Naturalism and Wonder: Peirce on the Logic of Hume's Argument Against Miracles" [2001]

[518] Peirce's latter articulations of "pooh-pooh" induction most closely match the second genus of induction described in the 1901 monograph; see below.

[519] *CP* 7.111 [1903]; see also *CP* 2.269 [1910]: "A Pooh-pooh Argument is a method which consists in denying that a general kind of event ever will occur on the ground that it never has occurred. Its justification is that if it be persistently applied on every occasion, it must ultimately be corrected in case it should be wrong, and thus will ultimately reach the true conclusion."

[520] *CP* 7.111 [1903]

of doubt by dismissing possible, though unlikely, events, such as being robbed at gunpoint: "For here the unexpected, when it comes, comes with a bang. But then, on the other hand, until the fatal day arrives, this argument causes us to anticipate just what does happen and prevents us from anticipating a thousand things that do not happen."[521] In other words, a person with a diminished "pooh-pooh sense" would suffer from paranoia, in a broad sense.

For all its indispensability for finite beings such as us, this finitude fundamentally compromises pooh-pooh arguments. That is, an individual's assessment of what is likely rests largely upon the idiosyncrasies of their experience. This supports taking the "method of balancing likelihoods" of Hume and German higher criticism as a form of pooh-pooh argument, because Peirce's main criticism of this method is that it rests too greatly upon *subjective* likelihoods; that is, Hume and Zeller pooh-pooh that which seems unlikely to a European gentleman of the eighteenth or nineteenth century. Quoting Peirce:

> To such a pitch is this [higher criticism] carried that, although we can have no knowledge of ancient history independent of Greek (and Latin) authors, yet the critics do not hesitate utterly to reject narratives attested sometimes by as many as a dozen ancient authorities -- all the testimony there is, at any rate -- because the events narrated do not seem to persons living in modern Germany to be likely.[522]

Thus, the methodology adopted by Hume and the higher critics is actually a defective form of a rudimentary inductive argument. That is, rather than inferring the unlikelihood or impossibility of an event or class of events from an absence of evidence,

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[521] *CP* 2.757 fn1 [c. 1902]
[522] *CP* 6.536 "Hume on Miracles" [1901]

they first dismiss any evidence contrary to their preconceived sense of probability.[523] Thus, Peirce's critique can be seen as a particular approach to the problems with Hume's account of testimony articulated by Coady: "Essentially, [Hume's] theory constitutes a reduction of testimony as a form of evidence or support to the status of a species (one might almost say, a mutation) of inductive inference."[524] Of course, Hume's conception of induction is a complicated matter, involving the limitations on our knowledge of causes and the 'irrational' assumption of future regularity.[525] Coady puts to a specific problem in Hume's account of testimony, however:

> We are told by Hume that we only trust in testimony because experience has shown it to be reliable, yet where experience means individual observation and the expectations it gives rise to, this seems plainly false and, on the other hand, where it means common experience (i.e. the reliance upon the observation of others) it is surely question-begging.[526]

That is, either Hume relies upon the experience of others, thereby reinvoking testimony, or his individualism commits him to assessments based upon only personal experience. Peirce focuses on the latter horn of this dilemma in his critique of the subjectivism of Humean historiography. If likelihood conditions are limited to personal experience,

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[523] In marvelous but not miraculous cases, Hume is much more accepting of testimony: "Now moral evidence is nothing but a conclusion concerning the actions of men, derived from the consideration of their motives, temper, and situation. Thus when we see certain characters or figures described upon paper, we infer that the person, who produced them, would affirm such facts, the death of *Caesar,* the success of *Augustus*, the cruelty of *Nero*; and remembering many other concurrent testimonies we conclude, that those facts were once really existent, and that so many men, without any interest, would never conspire to deceive us; especially since they must, in the attempt, expose themselves to the derision of their contemporaries, when these facts were asserted to be recent and universally known" (*Treatise* 2.3.1.15 [1739-1740]).

[524] Coady p. 79 [1992]

[525] Recall that Hume limits 'reason' to deductive reasoning concerning relations of ideas, while reasoning about matters of fact involves at best custom and habit – "All inferences from experience, therefore, are the effects of custom, not of reasoning" (*Enquiry* §5 [1748]).

[526] Coady p. 80 [1992]

than all history and most of science is suspect, as I have never been to 5th century Athens or operated the Large Hadron Collider. Now Hume's account is more nuanced than I have been able to present here, but the fundamental point remains that the method of balancing likelihoods too readily lends itself to the rejection of evidence an individual considers implausible.

As we will see in more detail, Peirce's finds his methodology of evaluating testimony superior because it demands accounting for all of the evidence, even evidence for events that are highly improbable. As Peirce's critique of Humean historiography relies upon his own theory of inferences, let us review this briefly to present the complexity of Peirce's conception of deduction and induction, and especially to introduce the maxims for evaluating abductions.

IV.A.2: Abduction, Deduction, Induction

We will work in the order of scientific, in this case meaning self-controlled, reasoning. First comes the moment of abduction, or the establishment of a hypothesis.[527] The purpose of abduction is to render a surprising fact unsurprising, and rests upon the fundamental hypothesis, the hope that "…the facts in hand admit of rationalization, and of rationalization by us."[528] Abduction has no degenerate forms, but the selection of a hypothesis entails several considerations: it must be subject to experimental testing, it must be explanatory, and it must be economic. That is, "…in

[527] An hypothesis is iconic, which is a Qualitatively Degenerate representamen, a Firstness of Thirdness, further asserting the relationship between abduction and Firstness. See *EP* 2: 96 (1901) and *PMM* 170 (1903).
[528] *EP* 2: 107 "Logic of Drawing History from Ancient Documents" (1901)

view of the fact that the true hypothesis is only one out of innumerable possible false ones, in view, too, of the enormous expensiveness of experimentation in money, time, energy, and thought, is the consideration of economy."[529] Economy includes three further considerations: cost, the value of the project in itself, and its effect on other projects, with the final consideration having particular importance, adding additional considerations of caution, breadth, and incomplexity.

Have more or less consciously weighed the value of a hypothesis, the next mode of inference is to deduce necessary or probable experiential consequences.[530] Concerning deduction, Peirce distinguishes two kinds: corollarial and theorematic, named so in reference to Euclid's *Elements*.[531] Corollarial deductions are those that are properly analytic, straightforwardly deduced from previous propositions. Regarding theorematic deductions, Peirce says

> But when it comes to proving a major theorem, you will very often find you have need of a *lemma*, which is a demonstrable proposition about something outside the object of inquiry; and even if a lemma does not have to be demonstrated, it is necessary to introduce the definition of something which the *thesis* of the theorem does not contemplate.[532]

Here we may say that the most significant deductions also need an abductive moment.

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[529] *EP* 2: 107 "Logic of Drawing History from Ancient Documents" (1901)

[530] Here we find also a restatement of the pragmatic maxim, since "[t]he entire meaning of hypothesis lies in its conditional experiential predictions; if all of its predictions are true, the hypothesis is wholly true." *EP* 2: 96 "Logic of Drawing History from Ancient Documents" [1901].

[531] Peirce claimed that this was his "…first real discovery about mathematical procedure…" (*NEM* 4.46) Cf. Jaakko Hintikka's article "C.S. Peirce's 'First Real Discovery' and Its Contemporary Significance" in *The Relevance of Charles Peirce,* edited by Freeman, pp. 107-118 [1983].

[532] *EP* 2: 96 "Logic of Drawing History from Ancient Documents" [1901]

The final moment of the process of inquiry is induction, wherein "…we proceed to test the hypothesis by making the experiments and comparing those predictions with the actual results of experiment."[533] Peirce somewhat cautiously recognizes three distinct genera of induction, each with several species. Here it will be convenient to present the distinctions schematically:

- Proportion of predesignated sample
  - (a) drawn randomly
  - (b) drawn under a precept
  - (c) law of occurrence of a member
- Self-corrective but non-quantitative
  - (a) assumes uniformity of future samples
- Sampling of possible predictions

Unfortunately, a full investigation into Peirce's conception of induction, and the development of its distinction from abduction, goes too afar for our purposes. Let me say here, however, that Peirce eventually identified the use of a pre-determined sample as the key to sound inductions. That is, rather than taking induction as a process of generating principles from a set of particulars, Peirce took it as a process of testing principles generated from abductions, or deductions from abductions.[534] Again, the Humean account of 'balancing likelihoods' falls under the (ultimately) self-correcting but non-quantitative form of induction. These inductive arguments are self-correcting because plausibility conditions are more or less adjustable through experience. Moreover, while 'balancing likelihoods' may appear quantitative when dressed in the notation of probability, for Peirce it is fundamentally flawed because it does not

[533] *EP* 2: 97 "Logic of Drawing History from Ancient Documents" [1901]
[534] For example, see *CP* 1.93-97 [c. 1896]

predesignate its sample set. Finally, and with some contrariety, Hume's method does presume the uniformity of future samples, in that it presumes that we will not find evidence to support testimony concerning 'miracles.' Nonetheless, "…scientific archaeology has, in our day, subjected those hypotheses to objective tests; and the uniform result has been to show that what seemed likelihoods to German professors were all but quite uniformly wrong and the ancient testimonies right."[535]

Peirce then ends the methodological portion of this monograph with six rules for the evaluation of hypotheses, especially in ancient history. Good hypotheses should

1) explain of all related facts
2) assume that principal testimonies are true
3) accept only strictly objective and great probabilities
4) divide hypothesis into testable parts
5) enlarge the field of facts to judge between two hypotheses
6) prefer hypotheses substantially tested in the testing of another hypothesis[536]

Furthermore, the testing of a hypothesis concerns not only, perhaps even not primarily, current facts, but rather the search for confirmation of its probable consequences. This is, of course, a paraphrase of the pragmatic maxim. In Peirce's extended example, he tests a hypothesis concerning the transmission of the texts of Aristotle, especially the claim that the heirs of Neleus hid them in a damp basement for 125 years. Dismissing various objections to this account as not sufficiently weighty after analysis, Peirce then focuses on a probable consequence of this hypothesis. That is, on certain suppositions about the nature and arrangement of the papyrus manuscripts, and an estimation of the average number of lines per page, we should expect editorial corruptions and insertions

[535] *CP* 6.536 [c. 1900]
[536] *CP* 7.224-7.230, *EP* 2: 113-114 [1901]

at intervals consonant with the likely degradation of the manuscripts. Let me note only that Peirce focuses on book II of *Prior Analytics* wherein he finds, after what he considers a reasonable correction, Aristotle's account of abduction (*apagögê*).

We will return to these maxims of economy in the final section of this chapter, after the example of the life of Pythagoras. For now, let us explore the nature of assertions and explanations to develop a richer sense of hypotheses are for Peirce.

IV.B: Explaining Assertions

IV.B.1: The Logic of Assertion

As noted in the previous chapter, Peirce argues that the conflation of propositions and judgments bedeviled German psychology, and has negatively influenced philosophical psychology in general. In short, propositions are *assertible*, while judgments are *asserted*, if only to oneself.[537] Therefore, judgment "…is not a purely representitious event, but involves an act, an exertion of energy, and is liable to real consequences, or effects."[538] As stated, this is perhaps uncontroversial, but it forms an integral part of Peirce's argument for pragmaticism, wherein the meaning of a concept is its bearing upon conduct. For example, this account of assertion is so central

[537] "The difficulty of the, at best, difficult problem of the essential nature of a Proposition has been increased, for the Germans, by their *Urtheil,* confounding, under one designation, the mental *assertion* with the *assertible*" (*CP* 5.424 fn 1 [1905]).
[538] *CP* 5.547 [1905]

to Peirce's philosophy that he describes his Speculative Grammar as the analysis of the nature of assertion.[539]

Recall that for Peirce propositions conceived semeiotically are *dicents* (or *phemes*), which combine reference and sense through the unification of an icon and an index. This is in part a consequence of the reconception of the traditional 'S is P' form of a proposition into the 'object-predicate' form of the logic of relatives. However, Peirce is careful to distinguish the logical structure of propositions from their paradigmatic association with the grammatical form of declarative sentences. For example, saying the single word 'black' and pointing to an object can function as a dicent as well as the full declarative sentence "This hat is black." Similarly, imperatives and interrogatives also possess a propositional structure, differing from assertions more as a matter of tone rather than in lacking truth-functionality. Quoting Peirce:

> If in wandering about the country, I wish to inquire the way to town, I can perfectly do so by assertion, without drawing upon the interrogative form of syntax. Thus I may say, "This road leads, perhaps, to the city. I wish to know what you think about it." The most suitable way of expressing a question would, from a logical point of view, seem to be by an interjection: "This road leads, perhaps, to the city, eh?"[540]

So what does distinguish assertions from other expressions of propositions? "For clearly, every assertion involves an effort to make the intended interpreter believe what is asserted, to which end a reason for believing it must be furnished."[541] In other words,

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[539] See *CP* 3.430 and 3.432 [1896]. Recall that Speculative Grammar is "Originalian Logic…the doctrine of the general conditions of symbols and other signs having the significant character" (*CP* 2.93 [1902]).
[540] *CP* 4.57 [1893]
[541] *CP* 5.546 [1905]

assertion fundamentally involves a claim that the proposition expressed is true, rather than *may* possess a truth-value.[542] More strongly, for Peirce this means that to assert a proposition is to take *responsibility* for its truth – "It is an exhibition of the fact that one subjects oneself to the penalties visited on a liar if the proposition asserted is not true."[543] Let us look at Peirce's argument for this position in some more detail.

In an analysis of the nature of assertion from c. 1895, Peirce posits two methods of reasoning on the topic. The first is a phenomenological approach through our everyday experience of asserting, to which Peirce approvingly adopts the designation of Professor Schröder as *rhetorical evidence*.[544] The other method consists of deducing the necessary constituents of an assertion from the theory that "…truth consists in the definitive compulsion of the investigating intelligence."[545] Combining these two approaches provides an inductive proof of the theoretical deduction, and thereby supports the probable truth of the theory *about* truth. The result of the analysis is that every assertion requires a distinguishable speaker and listener – more typically, Peirce refers to an utterer and an interpreter – where the listener may have only a problematical existence. Peirce's example here is of putting a message in a bottle after a

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[542] Compare Michael Dummett's general definition of assertion: "The utterance of a sentence serves not only to express a thought, and to refer to a truth-value, but also to assert something, namely that the thought expressed is true, or that the truth-value referred to is truth" (*Frege: The Philosophy of Language* 298 [1981]).

[543] *CP* 8.337 [1902]; here Peirce is supported by common sense and etymology, as 'assertion' derives from *asserere*, meaning to 'set free; protect; lay claim to.'

[544] "Professor Schröder calls this *rhetorical* evidence; and the designation is felicitous, because the reasoning in question has the characteristics of the inferences termed *rhetorical* by the old logicians. The term also harmonizes with my name of *speculative rhetoric* for the highest and most living branch of logic" (*CP* 2.333 [c. 1895]). The professor in question is the mathematical logician Ernst Schröder (1841-1902).

[545] *CP* 2.333 [c. 1895]

shipwreck.[546] In addition, the listener may be the 'same' person as the speaker, as Peirce's commits to a dialogic view of thought, wherein a judgment is an assertion by my present self to my future self about my past self. Note that this obviously entails that assertions are only contingently oral, as is obvious from a written argument, but as I have suggested above an assertion may not be even narrowly linguistic. For example, the ☹ face of an infant is an assertion of distaste, while the reflexive jump or anxiety of an ophidiophobe when presented with a snake is an assertion of fear. Peirce himself emphasizes the indexical nature of tones and gesture, such as in distinguishing claims about fictitious worlds from those of real worlds.[547] In general,

> The assertion consists in the furnishing of evidence by the speaker to the listener that the speaker believes something, that is, finds a certain idea to be definitively compulsory on a certain occasion. There ought, therefore, to be three parts in every assertion, a sign of the occasion of the compulsion, a sign of the enforced idea, and a sign evidential of the compulsion affecting the speaker in so far as he identifies himself with the scientific intelligence.[548]

Here a 'scientific intelligence' is broadly defines as one capable of learning from experience.[549] In semeiotic terms, an assertion consists of an indexical sign (occasion of the compulsion), an iconic sign (enforced idea) and a symbolic sign, which evinces that there is a regularity between the first two signs.[550] In other words, the third element of

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[546] Compare *CP* 3.433 [1896]: "When an assertion is made, there really is some speaker, writer, or other signmaker who delivers it; and he supposes there is, or will be, some hearer, reader, or other interpreter who will receive it. It may be a stranger upon a different planet, an æon later; or it may be that very same man as he will be a second after. In any case, the deliverer makes signals to the receiver."
[547] For example, *CP* 2.337 [c. 1895]
[548] *CP* 2.335 [c. 1895]
[549] *CP* 2.227 [c. 1897]
[550] See *CP* 3.433-3.435 [1896]

an assertion concerns the speaker presenting to a listener that the speaker has learned something. As Peirce argues, an assertion is a rudimentary argument or inference that the proposition asserted is true, or at least that the speaker believes it to be true in some measure.[551] Thus, the fundamental nature of an assertion is at the heart of Peirce's account of testimony. For example, the fact that someone is willing to take the risk of making an assertion, to transmit a compulsion of their experience, puts the balance on the side of trust, as suggested by the Common Sense of Reid.[552]

Of course, error and prevarication complicate these matters, but from Peirce's stance Humean historiography goes too far into distrust. In many ways, Peirce's critique of Hume on testimony parallels that of Cartesian skepticism. Only the surprise of genuine doubt legitimately upsets our default state of belief; the skepticism of 'paper

[551] "My statement was that an inference, in the broadest sense, is a deliberate adoption, *in any measure,* of an assertion as true. The phrase 'in any measure' is not as clear as might be wished. 'Measure,' here translates *modus*. The modes of acceptance of an assertion that are traditionally recognized are the necessary, the possible, and the contingent" (*CP* 7.187 [1901]).

[552] David Owens distinguishes between two forms of non-evidentialism regarding testimony in his "Testimony and Assertion" – the Assurance model and the Belief Expression model. The Assurance model brings the ethical norms of promising into the epistemic norms of testimony, which is quite Peircean. However, Owens rejects this models basis in promising in favor of the Belief Expression model, proposing "…that the act of assertion expresses belief and thereby enables its audience to acquire not knowledge of the speaker's belief but a belief with the same content and epistemic credentials and thus knowledge of the fact testified to" ("Testimony and Assertion" p. 126 [2006]). This is also Peircean, as an assertion is a sign expressed by an utterer that in some manner brings the interpreter into the same relationship with the object that the utterer has. The difference between Peirce and Owens is that the latter rejects any conception of promising that includes involuntary, unintentional, or problematical promises. For example, he argues that a secret diary may be full of assertions, but because there is not actual intended audience they fall outside the analogy with promises. Peirce's acceptance of problematical interpreters would thus undercut Owens' distinction.

doubt' leads only to the uncritical reinstatement of prejudices.[553] Likewise, regarding testimony our default state is trust, and distrust without definite reason borders on pathology, not sound procedure. The specific error of Hume, Laplace and Zeller regarding testimony implausible by their lights involves not only distrusting what a speaker says, but more so distrusting that they are saying anything.[554] In other words, the approach Peirce rejects dismisses the testimony as such, whereas Peirce maintains that even erroneous testimony serves as evidence to be explained. Thus, the nature of explanation is our next topic in developing Peirce's theory of testimony. However, before moving on let me offer some brief remarks about the continuity of Peirce's views on assertion with a major trend in twentieth century philosophy of language – the speech act theory of J.L. Austin. This will serve to clarify Peirce's approach by bringing it into some contemporary terminology.

Speech act theory, named as such, begins in 1955 with J.L. Austin's William James Lectures, published in 1962 as *How to Do Things with Words*, and its development largely follows the work of John Searle. While most of the details and distinctions of this attempt at a theory escape our needs, the overall trajectory will be informative. Austin begins by distinguishing between constatives and performatives. Constatives are the traditional conception of propositions involving truth and falsity, while Austin

[553] "Many and many a philosopher seems to think that taking a piece of paper and writing down 'I doubt that' is doubting it, or that it is a thing he can do in a minute as soon as he decides what he wants to doubt" (*CP* 6.489 [c. 1910]).
[554] More generally, they lack the Will to Learn, at least in certain domains – see *CP* 5.583 [1898].

argues that performative statements are instead felicitous or infelicitous.[555] However, over the course of these lectures Austin comes to reject this dichotomy in favor of a trichotomoy of locutionary, illocutionary, and perlocutionary acts:

> We first distinguished a group of things we do in saying something, which together we summed up by saying we perform a *locutionary act*, which is roughly equivalent to uttering a certain sentence with a certain sense and reference, which again is roughly equivalent to 'meaning' in the traditional sense. Second, we said that we also perform *illocutionary acts* such as informing, ordering warning, undertaking, &c., i.e. utterances which have a certain (conventional force). Thirdly, we may also perform *perlocutionary acts*: what we bring about or achieve *by* saying something, such as convinving, persuading, deterring, and even, say, surprising or misleading.[556]

This somewhat parallels Peirce's late claim that "As to the nature of the Immediate (or Felt?) Interpretant, a sign may be: Ejaculative, or merely giving utterance to feeling; Imperative, including, of course, Interrogatives; Significative."[557] Austin's effort to distinguish between these kinds of speech acts leads him to reject the distinction between constatives and performatives. Instead, he concludes that all of the hundreds of utterances he has considered possess dimensions characteristic of both:

> (1) Happiness/unhappiness dimension
> (1a) Illocutionary force
> (2) Truth/falsehood dimension
> (2a) Locutionary meaning (sense and reference)[558]

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[555] Austin 14 [1962]

[556] Austin 109 [1962]. All these acts are built upon another trichotomy of *phonetic*, *phatic*, and *rhetic* acts: "The phonetic act is merely the act of uttering certain noises. The phatic act is the uttering of certain vocables or words, i.e. noises of certain types, belonging to and as belonging to, a certain vocabulary, conforming to and as conforming to a certain grammar. The rhetic act is the performance of an act using those vocables with a certain more-or-less definite sense and reference" (Austin 95 [1962]).

[557] *CP* 8.369 [1908]

[558] Austin 148 [1962]

In addition, many utterances have a perlocutionary effect. As John Searle argues, the distinction between locutions and illocutions is difficult, if not impossible to maintain.[559] For example, Searle argues that limiting meaning to the locutionary act reveals the arbitrariness of Austin's Fregean commitment to meaning as sense and reference:

> If one thinks of sentential meaning as a matter of sense and reference, and tacitly takes sense and reference as properties of words and phrases, then one is likely to neglect those elements of meaning which are not matters of words and phrases, and it is precisely those elements which in virtue of their meaning are such crucial determinants of illocutionary force.[560]

In light of this, locutions are at best abstractions from illocutions. As we have seen, Peirce anticipated this view in his emphasis on the compulsive force of a proposition asserted.[561] However, what about perlocutions? For Austin, illocutions do have effects; specifically, they secure uptake, take effect, and invite a response.[562] Nonetheless, these effects of illocutionary force are supposedly distinct from perlocutionary effects, but as with the difference between locutions and illocutions, the strength of this difference is unclear.[563] However, a Peircean perspective expects this, because pragmaticism ties meaning to conduct, and therefore the meaning of an 'illocutionary' act such as an

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[559] For example, beginning in "Austin on Locutionary and Illocutionary Acts" [1968] and *Speech Acts: an essay in the philosophy of language* [1969]
[560] Searle "Austin on Locutionary and Illocutionary Acts" 419 [1968]
[561] Peirce also anticipated the distinction between a speech act and its propositional content, as noted by Jarrett Brock in "An Introduction to Peirce's Theory of Speech Acts" [1981]; but this distinction is far from uncommon.
[562] Austin 116-118 [1962]
[563] For example, Steven Davis argues that the three effects of illocutionary acts are insufficient to distinguish them from perlocutionary acts – see his "Perlocutions" [1979]

assertion is the sum of conceivable 'perlocutionary' effects.[564] Moreover, we have seen Peirce tie the compulsion (illocutionary force) of an assertion back to the very nature of a proposition. This is not to say that the distinctions of speech act theory are without heuristic value, but Peirce's anticipation of these complications clearly suggests that he saw deeply into these matters.

In offering his own distinctions between the modes of expressing proposition, Peirce often made recourse to differing responsibilities. Recall that for Peirce a proposition may be equally well expressed in an indicative, imperative or interrogative mood, and that an assumption of responsibility is essential to any genuine assertion. However, given that assertions may be expressed in different moods, Peirce claims that the responsibility for the proposition may be distributed differently: "…[the same proposition may be] asserted (by somebody's making himself responsible for it), commanded (by somebody's expressing that he holds another responsible for it) or put as a question (when somebody expresses an attempt to induce another to make himself responsible for it)."[565] As suggested above, a proposition may be Ejaculative (locutionary?), Imperative (perlocutionary?), or Significative (illocutionary?), with the latter two distinguished by whether the utterer assumes responsibility or proffers responsibility on the interpreter. By implication, an Ejaculative does not involve responsibility, and Peirce does say that a proposition may be merely expressed.

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[564] "[Peirce] emphasized, however, the intrinsic connection between illocution, or at least assertions, and their perlocutionary effects. In Austin and Searle's terminology, we may assume that for Peirce each illocutionary act is also a perlocutionary one" (Brock, "Peirce and Searle on Assertion" 289 [1981]).

[565] *MS* L 75 p. 396 []

However, I think that the 'mere' expression of a proposition still maintains some notion of force and responsibility, if only as a limit case of genuine assertion. This is evidenced by the use of qualifying phrases such as "I'm just saying" which are intended precisely to show that the utterer declines responsibility for what is said. This is similar to Searle's point that one cannot distinguish locutions from illocutions by a supposed absence of force.

Utterers and interpreters also have different rights, dependent upon the degree to which an assertion is general and vague. For Peirce, generality and vagueness are complementary yet distinct qualities: "Perhaps a more scientific pair of definitions would be that anything is *general* in so far as the principle of excluded middle does not apply to it and is *vague* in so far as the principle of contradiction does not apply to it."[566] For Peirce, any assertion consists of a mixture of determinacy, generality, and vagueness, with the latter two distinguished by the right for further determination. For example, insofar as an assertion is general, such as "All humans are mortal," the interpreter gains the right to determine further the assertion by selecting any human they please. Conversely, an assertion is vague insofar as the right of specification remains to the utterer, as in the claim that "Some cats are black."[567] That is, when the

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[566] *CP* 5.448 "Issues of Pragmaticism" [1905]; see also *CP* 5.505 "Consequences of Critical Common Sensism" [c. 1905]: "The *general* might be defined as that to which the principle of excluded middle does not apply. A triangle in general is not isosceles nor equilateral; nor is a triangle in general scalene. The *vague* might be defined as that to which the principle of contradiction does not apply. For it is false neither that an animal (in a vague sense) is male, nor that an animal is female."

[567] Peirce is explicit in tying generality and vagueness to quantifiers: "Without stopping to discuss this, it may be pointed out that the 'quantity'" of propositions in logic, that is, the distribution of the *first* subject, is either *singular* (that is, determinate, which renders it

interpreter points to a white cat it is not a refutation of the assertion, as the utterer retains the right to respond, "I did not mean *that* cat."[568] In light of our concerns, this account appears to falter on the presumption that utterers and interpreters are in an active dialogue. As we will see in the final section of this chapter, the absence of the utterer will heighten the responsibility of the interpreter in seeking to understand why the utterer would make the assertion in question. Again, instead of dismissing subjectively implausible assertions, a responsible interpreter must explain the given assertion; thus, let us see what Peirce says about the nature of an explanation.

IV.B.2: Evidence and Explanation

For Peirce, an explanation is an abduction, which resolves an unexpected event into the consequence of a general principle. That is, the event in question would be expected, or at very least predicable, if the hypothesis had been known before hand. In Peirce's words, "Accepting the conclusion that an explanation is needed when facts contrary to what we should expect emerge, it follows that the explanation must be such a proposition as would lead to the prediction of the observed facts, either as necessary consequences or at least as very probable under the circumstances."[569] In order to understand Peirce's maxims for assessing testimony, we need to explore his account of

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substantially negligible in formal logic), or *universal* (that is, general), or *particular* (as the mediaeval logicians say, that is, vague or *indefinite*)" (*CP* 5.450 "Issues of Pragmaticism" [1905]).

[568] For a detailed exposition of this topic, see David Agler's "Vagueness and Its Boundaries: A Peircean Theory of Vagueness" [2010].

[569] *CP* 7.202 [1901]

explanation. To do so, I will address the interrelated concepts of explanation, prediction, and virtuality in turn.

As we have seen, by Peirce's definition the need for an explanation begins with a surprising event. In fact, all knowledge begins with a surprising event, which reveals to us that we had an expectation that in this case was not met.[570] Of course, this claim is consistent with Peirce's arguments in "Some Consequences of Four Incapacities" and elsewhere that an ego develops through an awareness of ignorance and error, as well as the doubt-belief model of inquiry from "The Fixation of Belief." Peirce now answers the questions "*How* surprising?" and "*What* is surprising?" The answer to the first question is, perhaps surprisingly, "Not particularly surprising at all." The irritation of doubt, the shock of surprise, does not have to be strong to call forth an explanation. As Peirce asserts, "Let me not, however, be understood to make the strength of an emotion of surprise the measure of a logical need for explanation. The emotion is merely the instinctive indication of the logical situation. It is evolution (φυσις) that has provided us with the emotion. The situation is what we have to study."[571] This qualification relates to the notion of "feigned hesitancy" in the later Peirce, which occupies a middle ground between the "noble metal" of genuine doubt

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[570] See *CP* 7.188 [1901]: "No man can recall the time when he had not yet begun a theory of the universe, when any particular course of things was so little expected that nothing could surprise him, even though it startled him. The first surprise would naturally be the first thing that would offer sufficient handle for memory to draw it forth from the general background…The first new feature of this first surprise is, for example, that it is a surprise; and the only way of accounting for that is that there had been before an expectation. Thus it is that all knowledge begins by the discovery that there has been an erroneous expectation of which we had before hardly been conscious."

[571] *CP* 7.190 [1901]

and the paper doubt of Descartes that Peirce savages in 1868. More colloquially, puzzlement, even if self-generated, may inspire inquiry as much as an acute shock. For example, Peirce consistently claims that the tri-dimensionality of space requires an explanation, although it is a commonly experienced fact – no one wakes up and boggles at the fact that space is three-dimensional yet again today. Instead, this particular regularity is unexpected only for those well versed in geometry (topology) and physics.

For Peirce, the experientially (emotionally) unsurprising fact of space requires explanation precisely because it is a regularity. Peirce regularly denies Paul Carus' position that irregularity is that which demands explanation. The point here is that Carus, and those who agree with him, confuse a violation of regularity – an unmet expectation – with an irregularity. Let me clarify. Take a set of die throws, each with a different outcome. Here there is no call for an explanation beyond an appeal to chance; one could say that the outcome of a die toss is regularly irregular. Conversely, if a set of tosses has the same outcome, an explanation is needed proportional to the size of the set. For example, three sixes in a row need no explanation, nor perhaps 10 – but if someone rolls 50 sixes in a row, an immediate explanation is that the die is rigged. That is, this regularity contradicts the expected regularity of random outcomes. Of course, 50 sixes in a row could be the product of chance, but this is prohibitively unlikely. In general, Peirce is very sensitive to the limitations of regularity in our experience:

> I am, for reasons similar to this, as well as for others, confident that mere irregularity, where no definite regularity is expected, creates no surprise nor excites any curiosity. Why should it, when irregularity is the overwhelmingly preponderant rule of experience, and regularity only the strange exception? In what a state of amazement should I pass my life, if I

> were to wonder why there was no regularity connecting days upon which I receive an even number of letters by mail and nights on which I notice an even number of shooting stars! But who would seek explanations for irregularities like that?[572]

Returning to Peirce's example of the dimensionality of space, most writers on the nature of space never explain why three dimensions rather than some other number, because they do not expect any dimensionality besides three. On the other hand, Peirce's investigations into geometry and physics led him to expect another dimensionality, and thus he desires an explanation for why a regularity of three dimensions rather than a regularity of, say, four.[573] As we will see, this ground for explanation is crucial to Peirce's method of assessing testimonies. For example, even if it is false that Pythagoras had a golden thigh, a historian should explain why this tradition rather than another.

To clarify further his theory of explanation, Peirce compares it to that of John Venn's *Principles of Empirical Logic*, which largely follows the account of John Stuart Mill. The first point is Peirce's broad agreement with Venn that isolated facts demand explanation. However, every fact is more or less isolated from other facts, and hence

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[572] *CP* 7.189 [1901]. Furthermore, the difficult problem of distinguishing between regularities and laws is the beginning of Nelson Goodman's Grue Paradox: "We must somehow find a way of distinguishing lawlike hypotheses, to which our definition of confirmation applies, from accidental hypotheses, to which it does not" (Goodman *Fact, Fiction, Forecast* 83 [1983]). Following Goodman's suggestion that his initial efforts fails to solve this riddle in syntactic or semantic terms, Jerold Abrams appeals to Peircean pragmatics to show that Goodman is caught in a performative contradiction – see "Solution to the Problem of Induction: Peirce, Apel, and Goodman on the Grue Paradox" [1992]. More generally, authors such as Cheryl Misak argue that this riddle arises from confusing abduction and induction; in other words, confusing *how* we would test the grue hypothesis with *why* we would select it. See Misak's *Truth and the End of Inquiry* 96-97 [1991].

[573] See *CP* 7.197 [1901]

the demand for explanation is more or less.[574] Nonetheless, Peirce considers the call for explanation to be more specific than Venn's characterization. That is, it is not a fact's isolation, but rather its connection to other facts that render it unlikely, which needs explanation.

> But I [Peirce] suspect that when Mr. Venn speaks of *isolation,* he is thinking of there being other facts from which the given fact is separated; and that it is not *isolation* that he means, but *separation.* Now separation is itself a kind of connection; so that if that be his meaning, the state of things which calls for explanation is a connection which is not satisfactory to the mind…If he [Venn] were to say, "unsatisfactory in being contrary to what ought to be expected," he would come to my [Peirce's] position, precisely.[575]

Beyond this general call for explanation, Venn follows Mill in asserting that there are two, or perhaps three, kinds of explanations. Peirce agrees that there are in fact two kinds, with the third being a minor modification of the second. More properly for Peirce, there are two kinds of *rationalization*, one being *regularization* and the other being explanation proper.[576] Regularization is a meager form of explanation that postulates that an event is in fact something that happens. Peirce uses Venn's example of an

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[574] See *CP* 7.198 [1901]

[575] *CP* 7.198 [1901]. Peirce notes that the discrepancy between his position and that of Venn's may arise from the differences of their respective empiricisms. Venn seems to follow the British empiricist school, in which logical thought begins with percepts, or even with impressions of sense. In contrast, for Peirce logical thought begins with perceptual facts, which are judgments regarding percepts, and thus already in a relation with other facts. "But I [Peirce] maintain that logical criticism cannot go behind *perceptual facts,* which are the first judgments which we make concerning percepts. A perceptual fact is therefore an abstract affair. Each such fact covers only certain features of the percept. I look at an object and think that it seems white. That is my judgment of the object perceived, or my judgment concerning the percept, but not the percept itself; and it is idle to attempt to criticize by any logic that part of the performance of the intellect which draws that judgment from the percept, for the excellent reason that it is involuntary and cannot be prevented or corrected" (*CP* 7.198 [1901]; original emphasis).

[576] *CP* 7.199 [1901]

"explanation" as to why a wilting flower is robust in the morning – "Because it/they always do." More formally, regularization is a syllogism following the general pattern of an abduction:

[Rule]	Plants of a certain class usually revive in the morning;
[Result]	This plant belongs to that class;
[Case]	This plant might be expected to revive in the morning.[577]

This also parallels Peirce's typically example of *hypostatic abstraction*, the much-maligned explanation of opium putting someone to sleep because it possesses a 'dormitive virtue.'[578] Peirce asserts that these regularizations are minimally explanatory because at least they postulate that an effect associated with one object will likely be seen the in presence of similar objects. Moreover, "[n]ow it is true that the effect of the regularization is that the fact observed is less isolated than before; but the purpose of the regularization is, I think, much more accurately said to be to show that it might have been expected, had the facts been fully known."[579]

On Peirce's terms, then, regularization differs from explanation proper primarily in degree. That is, we desire an explanation for a fact brought into relation with a number of other facts, the combination of which renders the first fact unlikely. Using Venn's example, why is it difficult to walk on ice? For Peirce, considering this fact in isolation calls for no explanation – it is difficult to walk on ice because my experience is

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[577] *CP* 7.199 [1901]; compare *CP* 2.623 [1878]
[578] For example: "Even in this burlesque instance [Moliere's *Le Malade Imaginaire* of 1673], this operation of hypostatic abstraction is not quite utterly futile. For it does say that there is *some* peculiarity in the opium to which the sleep must be due; and this is not suggested in merely saying that opium puts people to sleep" (*CP* 5.534 [c. 1905]).
[579] *CP* 7.199 [1901]

as such. In the case of indirect experience, "[t]ell a man who never saw ice that frozen water is very hard to walk on, and he may ask whether the feet stick to it, or put other questions in order to figure to himself what you mean; but as long as the fact is apprehended by him as a simple one, he will no more ask why it should be so than a common man asks why lead should be heavy."[580] Instead, taking the fact that it is difficult to walk on ice in conjunction with the set of facts that motion is easy on ice – ice skating, sledding, etc. – is the basis for asking for an explanation. Once more, "[a]n isolated fact is precisely what a demand for an explanation proper never refers to; it always applies to some fact connected with other facts which seem to render it improbable."[581] Regarding the above example of regularization, being told effectively that a certain (kind of) plant is robust in the morning and wilts over the course of the day because that is what is does is sufficient for certain purposes. On the other hand, asking why this plant has a certain behavior, in contrast to other kinds, requires a deeper sort of explanation.

Obviously, Peirce's emphasis on expectation intimately ties explanation to prediction. In particular, let us focus on explaining Peirce's claim that some hypotheses are "virtual" predictions. For example, "[b]ut evidently, science has, not so much to describe experience, as to generalize it. To generalize it is to comprehend it. Moreover, generalization refuses to limit itself to the past, but involves *virtual prediction*."[582] To begin, here is Peirce's definition of *virtual* as published in Baldwin's *Dictionary of*

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[580] *CP* 7.200 [1901]; this suggests the role of collateral experience in interpretation.
[581] *CP* 7.200 [1901]
[582] *CP* 8.155 "Review of Pearson's *Grammar of Science*" [1901]; emphasis added

Philosophy and Psychology: "A virtual *X* (where *X* is a common noun) is something, not an *X*, which has the efficiency (*virtus*) of an *X*." Thus, a virtual prediction is not actually a prediction, but still has the (dis)confirmatory effect of a prediction. More specifically, Peirce defines a virtual prediction as follows:

> By the term "virtual prediction," I mean an experiential consequence deduced from the hypothesis, and selected from among possible consequences independently of whether it is known, or believed, to be true, or not; so that at the time it is selected as a test of the hypothesis, we are either ignorant of whether it will support or refute the hypothesis, or, at least, do not select a test which we should not have selected if we had been so ignorant.[583]

Peirce's use of deduction here may seem questionable, but recall that for Peirce even pure mathematics is an experimental observational science.[584] Even corollarial (purely analytic) deductions qualify as virtual predictions because the while the proposition deduced is already contained within given proposition, it is not immediately apparent. Here is a sort of limit case, wherein the test of the prediction is the proof itself, but even still, there is a level of inductive testing involved in the repeatability of a proof.[585] Regarding less abstract matters, Peirce's definition of virtual prediction allows for hypotheses that merely establish the coherence of a known set of evidence. For

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[583] *CP* 2.96 [c. 1902]; compare this definition of explanation: "Or, second, he may proceed still further to study the phenomenon in order to find other features that the hypothesis will *explain* (i.e. in the English sense of explain, to deduce the facts from the hypothesis as its necessary or *probable* consequences). That will be to continue reasoning retroductively, i.e., by hypothesis" (*CP* 8.231 "To Paul Carus on 'Illustrations of the Logic of Science'" [c. 1910]).

[584] *CP* 3.560 [1898]: "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."

[585] Peirce at times suggests that even a simple operation such as $2 \times 2 = 4$ does not possess absolute certainty, but is practically indubitable because of the near perfection of our inductive testing of the principle – see *CP* 7.108-109 [c.1910].

example, the simple hypothesis "Napoleon existed" serves as a virtual prediction explaining all the evidence with which we are already familiar.[586] Again, the key is not that an explanation predicts currently unknown phenomena, although fecundity is an important property of good hypotheses, but rather than we select a neutral test – one that we would use even if we were ignorant of current evidence. This helps to mitigate the unavoidable bias of any inquirer – "Let us not pretend to doubt in philosophy what we do not doubt in our hearts."[587] However, a sincere love of truth is a bias that ought to be cultivated, and predisposes one to grapple with distasteful evidence rather than dismissing it. I use 'distasteful' for a specific reason, as the association between disgust and implausibility is not only metaphorical.[588] Since much of our critique of Humean historiography concerns their basis for rejecting implausible testimony, let us conclude this section with brief assessment of Peirce's three kinds of acceptability regarding propositions: plausibility, verisimilitude, probability.

Here is Peirce's first definition: "By plausibility, I mean the degree to which a theory ought to recommend itself to our belief independently of any kind of evidence

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[586] "For instance, any historical fact, as that Napoleon Bonaparte once lived, is a hypothesis; we believe the fact, because its effects—I mean current tradition, the histories, the monuments, etc.—are observed" (*CP* 2.714 "A Theory of Probable Inference [1883]).

[587] *CP* 5.265 "Some Consequences of Four Incapacities" [1868]; this youthful riposte to Cartesian skepticism becomes mitigated as early as "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" (*CP* 5.394 [1878]). For a critique of Peirce's notion of feigned hesitancy over the course of his career, see Arnold Johanson's "Paper Doubt, Feigned Hesitancy, and Inquiry" [1972].

[588] For a recent experiment supportive of this view, see Harris, Sheth, and Cohen's "Functional Neuroimaging of Belief, Disbelief, and Uncertainty" [2008]. The authors conclude, nontechnically, that "The acceptance and rejection of propositional truth-claims appear to be governed, in part, by the same regions that judge the pleasantness of tastes and odors" (146).

other than our instinct urging us to regard it favorably."[589] As we saw in Chapter III.D, Peirce clearly foresaw the Darwinian implication that basic survivals needs most strongly hone our instincts, and so the criterion of plausibility becomes increasingly unreliable the farther removed from everyday experience. In addition, our sense of plausibility is itself an instinct shaped by cultural and personal factors that further affect its reliability. Thus, plausibility is only the first grade of reliability when our interest is in truth rather than mere satisfaction.[590] Logically, plausibility works primarily at the transition into abduction, wherein we pre-select hypotheses for consideration, typically unconsciously. After selecting among plausible hypotheses, evaluating the evidence for a hypothesis through even crude induction generates the *verisimilitude*:

> that kind of recommendation of a proposition which consists in evidence which is insufficient because there is not enough of it, but which will amount to proof if that evidence which is not yet examined continues to be of the same virtue as that already examined, or if the evidence not at hand and that never will be complete, should be like that which is at hand.[591]

This is the level where 'balancing likelihoods' should be, with the clear stricture of testing the appeals of plausible through an effort in accounting for all known facts. The third degree is *probability*, which rests upon verisimilitudes. However, the nature of probability is a difficult question, so let us stop here with confirmation of my prior

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[589] *CP* 8.223 "To Paul Carus, on 'Illustrations of the Logic of Science'" [c. 1910]; alternatively, "By Plausible, I mean that a theory that has not yet been subjected to any test, although more or less surprising phenomena have occurred which it would explain if it were true, is in itself of such a character as to recommend it for further examination or, if it be *highly* plausible, justify us in seriously inclining toward belief in it, as long as the phenomena be inexplicable otherwise" (*CP* 2.662 "Notes on the Doctrine of Chances" [1910]).

[590] Peirce's insights into the practice of science also presage the work consequent upon Thomas Kuhn in the history and sociology of science.

[591] *CP* 8.224 [c. 1910]

points provided by the difference between plausibility and verisimilitude.[592] Now we turn to Peirce's efforts to develop a hypothesis about the mysteries of Pythagoras.

IV.C: An Example of Abduction under Difficulties

Peirce concludes his 1901 monograph with his preferred example of abduction done 'under difficulties' – the life of Pythagoras.[593] In fact, Peirce inquired into the life of Pythagoras, with some variations, at least four times in the last two decades of his life.[594] We will focus on the account given in 1901, supplemented with the variations as appropriate.

The life of Pythagoras is a perfect limit case for making an abduction because the amount of evidence is small, largely limited to unreliable sources, and the possibility of testing any hypothesis on the issue is low. Quoting Peirce, "What, then, are we to do? We are to embody or rather, to ensoul, all the pertinent facts, that is to say, the facts *that those writers make those statements*, in such a hypothesis as best unifies them, and will serve as a source of experiential predictions, whenever, in the future, it may be in our power to verify or refute any predictions on the subject."[595] As we have seen, a distinctive feature of Peirce's methodology is the requirement to account for all the evidence, perhaps especially that which we know to be false. In other words, if we

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[592] In brief, when it comes to probability Peirce appears to advocate a covering law model involving statistical syllogisms. In other words, after establishing a verisimilitude we turn around and deduce probabilities from it as a law.
[593] *MS* 476 [1903]
[594] That is, in his 1982 Lowell Lectures on the History of Science (see *VUC* 239-246), his 1901 "The Logic of Drawing Ancient History from Documents, Especially Testimonies" (*MS* 690 & 691), his 1903 Lowell Lectures (*MS* 476) and 1913s "The Art of Reasoning" (*MS* 685).
[595] *MS* 690.150 [1901]

know some testimony is mistaken, through either external or internal evidence (e.g. internal contradiction), we should not simply dismiss that testimony, let alone all the testimony of that author. Rather, Peirce insists that we must account for the particularity of the error – why this one rather than another. It is this methodological point that will provide the key for Peirce's novel, and self-admittedly highly tenuous, hypothesis regarding Pythagoras and his teaching. In addition, the inherent uncertainty of the answers to some questions is no cause for pessimism: "But where a high degree of exactitude and probability is unattainable, that is no reason for refusing to accept such knowledge as we can attain. Because we cannot reach great certainty about the life and teachings of Pythagoras is no reason for sulkily dismissing the subject as one we know nothing about, as Dr. [Eduard] Zeller would have us do."[596]

Peirce begins with Pythagoras' immigration to Italy in 532 BCE as various testimonies support it directly and indirectly.[597] Taking this claim as true, however, immediately demands accounting for the contrary testimony of Livy, a well-respected authority. Livy implies that Pythagoras went to Italy during the reign of Servius Tullius, who died in 534 BCE, placing the date of Pythagoras' move at least two years earlier. Peirce accounts for this discrepancy by claiming that Livy's purpose in this passage is noting evidence that Pythagoras could not have advised Numa in his religious reforms.

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[596] *CP* 1.86 [c. 1896]; again, Dr. Zeller is the author of *Der Philosophie der Griechen* [1844-1852; last edition 1902], one of the most significant accounts of the history of Greek philosophy in its day.
[597] Current sources claim that Pythagoras went to Italy in 530 BCE, due to corrections in chronology in the past 100 years.

> …and consequently Livy does not *assert*, but *admits*, that Pythagoras came under Servius Tullis. Thus, that testimony is easily explicable. Since it was the history of Rome alone that Livy was writing, as long as he proved that Pythagoras could have had not the smallest connection with Rome, it would be aside from his purpose to go further into the facts of his life.[598]

Continuing with the basic hypothesis that Pythagoras moved to Italy in 532 BCE and stayed there for the rest of his life, we come to a peculiar assertion by Iamblichus that Cambyses captured Pythagoras in Egypt and then kept him prisoner in Babylon for 12 years. However, "Cambyses was only in Egypt 527 BCE, -- five years after Pythagoras had settled in Crotona. Plainly the assertion of Iamblichus cannot be accepted; and the method of the critics is, having proved the testimony false, to consider themselves absolved from explaining it. But my method is to explain it."[599] Peirce's explanation is that Iamblichus, known as a sloppy chronicler on other grounds, confused the traditions of Pythagoras' time in Egypt and his capture by the Persians with Cambyses' famous invasion of Egypt. Accepting these traditions as true, would it have been possible for the Persians to capture Pythagoras prior to his settling in Italy? Peirce claims that the only plausible way this could have happened is if Pythagoras was in Lydia, near his homeland of Samos, when Cyrus invaded in 546 BCE

Peirce proceeds to test the hypothesis that Cyrus captured Pythagoras in 546 BCE by checking the consistency of predictions based upon this hypothesis with other known facts. The first prediction is that after escaping Pythagoras would return home

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[598] *MS* 690.151-152 [1901]. That is, Livy accepts this date, but does not assume responsibility for its truth.
[599] *MS* 690.152 [1901]

to Samos, which agrees with the common the claim that he did return, but then decided to move to Italy because of the tyranny of Polycrates.

> Supposing that to be true, how long would he have been away? Answer: from 546 the date of his capture to 532, the date of his arrival in Italy, was 14 years. But, then, we must allow him time to become discontented at home, and to make up his mind to emigrate, and to make the voyage. Two years seems a middling estimate for all this business. He would therefore been away from home 12 years. Now this is just the length of time that Iamblichus says he was away. So there is one virtual prediction verified.[600]

Again, this is admittedly speculative, but becomes more plausible in light of the other predictions that Peirce makes. For example, as Cyrus had not yet captured Babylon in 546 BCE, Pythagoras' most likely destination would have been Ecbatana instead. Furthermore, from Ecbatana the most feasible route of escape would be to the east, likely through Aria and perhaps India, with a return to the Mediterranean by sea and the Suez. From this postulated journey, Peirce makes 4 predictions, the last being the most speculative:

1) Pythagoras likely came under Brahminical influences
2) Pythagoras likely came under Persian influences via the magi accompanying Cyrus
3) Having not actually gone to Babylon, there likely be no real Babylonian influence on Pythagoras' philosophy
4) The region of Aria Pythagoras likely traveled through later became the source of our modern "Arabic" numerals, and so Pythagoras likely learned an early form of our contemporary notation[601]

Peirce notes that the first three predictions are verified through known accounts of Pythagoras' philosophy; for example, his doctrine of metempsychosis – the

[600] *MS* 690.153-154 [1901]
[601] *MS* 690.154-156 [1901]

reincarnation/transmigration of souls – indicates Brahminical influence, his dualism indicates Persian (Zoroastrian) influence, and the lack of astrology indicates the absence of Babylonian influences. "On the contrary, we find a system of astronomy very much opposed to the Babylonian… So there is another prediction verified, illustrating how much information an erroneous statement may convey."[602] We will return to Peirce's fourth prediction shortly.

Peirce now turns to some other testimony regarding Pythagoras. First, Porphyry claims that Pythagoras went to Italy at the age of 39, making his birthdate 571 BCE Furthermore, Iamblichus claims that Pythagoras went to Egypt at age 18, which would have been in 553 BCE Peirce considers this *a priori* plausible since Pythagoras was a wealthy Ionian youth. However, Iamblichus claims that Pythagoras stayed in Egypt for 22 years, which is impossible unless Pythagoras went to Egypt as an infant. Instead, Peirce agues that Iamblichus had been informed that Pythagoras traveled for 22 years.

> Very well, this then is a prediction; and a correct one, since from 553 BCE, when he first left Samos to 531 BCE, when he landed in Italy, is just 22 years. Thus, everything fits together like a dissected map. It is difficult to believe that these facts would so fit together if the hypothesis were not true. It almost amounts to an inductive proof.[603]

Peirce continues by expanding his hypothesis to explain the supposed fact of Pythagoras' mysticism. However, Peirce asserts that Pythagoras' long and successful rule of Crotona contradicts the truth of this account. In other words, Peirce takes it as a

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[602] *MS* 690.155 [1901]

[603] *MS* 690.157 [1901] – note, however, that Peirce seems to fudge the dates here, as he previously accepted that Pythagoras went to Italy in 532 B.C. Nonetheless, the fit is close or even completely consistent when recalling that some classical Greek calendars began their year in the summer.

given that truly mystical people make poor administrators based upon collateral experience with mystics. Accordingly, "[t]he problem is, how are we to explain the belief that Pythagoras was a mystic? I suppose it is due to three facts; first, that his theory of numbers seems to be excessively mystical; secondly, that his doctrine was mostly secret; and thirdly, that he seems to have sought to cover himself with a veil of mystery."[604] Peirce explains the last, including such generally accepted facts as Pythagoras possessing a "golden thigh" and lecturing behind a curtain, by asserting that Pythagoras was practical enough to cultivate the *appearance* of a supernatural status. To Pythagoras, the citizens of Crotona were "…creatures whom it would have been absurd not to govern, and absurd to have scruples about deceiving in order to govern them…[Pythagoras] was doing what all the priests of every country to which his travels had extended thought eminently proper to have done."[605] On Peirce's terms, Pythagoras was a charlatan, although perhaps one of noble purpose.[606]

Earlier, in c. 1896, Peirce uses the example of Pythagoras' supposedly golden thigh as an illustration of a retroductive inference. "It is asserted by Aristotle, of all possible authorities the highest, by both Porphyry and Jamblichus [sic] after Nicomachus, by Herodotus, by Plutarch, Diogenes Laertius, Aelian, Apollonius, etc.[607] This is far stronger testimony than we have for the resurrection of Jesus. Are we then to

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[604] *MS* 690.158 [1901]
[605] *MS* 690.160 [1901]
[606] Peirce supplements this claim with an anecdote regarding the orientalist Edward Henry Palmer (1840-1882), who used a toy to impress Beduins – *MS* 690.158-159 [1901]. The use of 'charlatan' is perhaps intentional, as it typically denotes quackery ('snake oil peddler') over other types of cons.
[607] The editors note that Peirce apparently derived this list of testimony from Dr. Zeller – *CP* 1.88 fn 2

admit as a part of the science of history that Pythagoras had a golden thigh?"[608] Such a retroductive inference is justified only in explaining an observed fact. Again, as Peirce considers an explanation as a syllogism of a particular kind, he offers the following explanation of the observed fact that many authorities testify that Pythagoras has a golden thigh:

> Every fact about Pythagoras (unless kept secret or insignificant)
> would be reported by his ancient biographers.
> That Pythagoras had a golden thigh was a fact about Pythagoras
> neither secret nor insignificant.
> [Therefore,] That Pythagoras had a golden thigh would be reported
> by all his ancient biographers.[609]

The major premise of this syllogism is a general truth, the minor premise is the conclusion of a retroductive inference (i.e., an hypothesis), and the conclusion is the observed fact.[610] Peirce notes the implicit anachronistic fallacy of those who would deny this claim; specifically, "[n]obody can think that the golden thigh was treated as a modern assayer would treat a gold brick. It was probably flexible and therefore its golden appearance was superficial."[611]

Peirce makes several intriguing suggestions regarding the mysticism of the Pythagorean doctrine of numbers. First, Peirce notes that Pythagoras lived during the putative transition from a mythological to a metaphysical stage of thought, in the sense

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[608] *CP* 1.88 [c. 1896]
[609] *CP* 1.89 [c. 1896]
[610] Note again that this explanatory syllogism also has the general form of retroduction [abduction] – the inference of a case from a rule and a result. See *CP* 2.623 [1878]
[611] *CP* 1.90 [c. 1896]

articulated by Auguste Comte.[612] Grammatical differences between languages further complicate this conceptual transition; specifically, Peirce believes that Aryan and Semitic languages are largely unique in possessing abstract nouns. For example, "[w]hen a man who speaks an Aryan language first begins to think, and asks himself what it is that makes flowers beautiful, he finds after much cogitation that it is their *beauty*. That is a grand discovery, the first triumph of philosophy, to which his mother tongue helps him."[613] In contrast, Peirce claims that the most abstract features of non-Aryan/non-Semitic languages are numbers. Accordingly, thinkers in those languages would explain what makes a flower beautiful with some sort of *number* rather than the abstract noun *beauty*. Thus, "[i]t was not mysticism, then, not devotion to chimeras, but an attempt to interpret an infantile philosophy of some non-Aryan, non-Shemitic [sic] thinker" that produced the Pythagorean doctrine of numbers.[614] This argument may be prima facie shaky. Nonetheless, comparative linguistics is one of the many fields that Peirce explored in his general study of logic.[615] In particular, he often claims that Indo-European languages are unusual in establishing a definite case for a subject noun.[616] Indeed, modern Hindustani has only three cases for nouns – a direct, oblique, and

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[612] See *Course in Positive Philosophy* [1830]
[613] *MS* 690.160 [1901]
[614] *MS* 690.161 [1901]
[615] In his 1903 classification of the sciences, Peirce notes that linguistics is the only subfield of classificatory psychics that is not in its infancy. See *CP* 1.189 [1903]
[616] See *CP* 7.385 fn 22 [1902]: "The Indo-European languages are singular in having the common noun distinctly and fully developed as a separate part of speech, and by more or less development even of abstract nouns. I do not mean to say that the common noun is not fully developed in any other language; but only that such a phenomenon is exceptional in every other great family of speech." In addition, Peirce often notes that Old Irish and Gaelic are European languages that lack a distinct nominative – see *CP* 2.68 [c. 1902]. For example, even in modern Irish the common case includes both nominative and accusative functions.

vocative – with the significance of the noun in the sentence indicated by postpositions. As Peirce notes, "Moreover, it must not be forgotten that it is the usual practice of these Europeans who write grammars of non-Aryan languages, violently to adapt them to the Procrustean bed of Latin grammar."[617]

Peirce concludes with another novel hypothesis regarding the mysticism of Pythagoreans. First, he claims that there are two classes of reasons as to why some group would make knowledge a mystery. "The one is where there is an object to be subserved by working people up into unnatural psychological states in which doctrines will appear very grand to them which by ordinary daylight would not seem to [be] much."[618] Such is nature of the Eleusinian Mysteries, or those of the Freemasons. However, this sort of mystery accepts initiates quite freely, and is not particularly rigorous in maintaining the secrecy of its doctrines. In contrast, Pythagoreanism was highly restrictive in its membership, so Peirce suggests that it belongs to the second class of mysteries instead. That is, Pythagoreanism concerned a trade secret. This hypothesis offers three predictions: 1) Pythagoreans would be proficient in a remunerative art, 2) Pythagoras would have learned this art in his travels – that is, it would be uncommon in the Greek world, and 3) that despite their secrecy a hint of the nature of this art would eventually arise.[619] Concerning the first prediction, the Greeks universally regarded Pythagoreans as expert mathematicians, and as such, they could have earned their living as accountants. The second point accords with the fourth

[617] *CP* 2.69 [c. 1902]
[618] *MS* 690.161-162 [1901]
[619] See *MS* 690.163 [1901]

prediction resulting from the hypothesis of Pythagoras escaping the Persians through the east. That is, having traveled near Chorasmia Pythagoras learned a proto-algebra. Indeed, Peirce asserts "The table of Pythagoras is celebrated; and it is now generally agreed that this was not the multiplication table, but the table rule for computations in columns. With this, the Pythagoreans were as good as provided with our ['Arabic'] notation. No wonder they went into raptures over the *tetractys*, meaning, not the number four, but the number *ten*."[620] Finally, regarding the third predication, Peirce believes that the *Geometry* of 500 A.D., attributed to Boethius, did reveal this secret computational method.[621] "Of course, he says, not the ancient Pythagoreans. But, on the contrary, the evidence that it was, not only the ancient Pythagoreans, but Pythagoras himself, is supported by as much evidence, and much more than we ought to require for acceptance in a branch of history in which no close approach to certitude can in our days be reasonably expected."[622] I have found no advance in history in the past century that particularly supports or undermines Peirce's hypothesis. However, as always there is a reasonable hope that archaeology will continue to unleash the power of dynamical objects tied to Pythagoras.[623] Now let us conclude with some general lessons illustrated by this speculative example.

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[620] *MS* 690.163 [1901]; emphasis in original. The simple point that 1 + 2 + 3 + 4 = 10 aids Peirce's supposition here.

[621] Peirce dismisses the claims that Boethius did not author this text, in agreement with the German historian of mathematics Moritz Cantor (1829-1920), probably from reading volume 1 of his *Vorlesungen über Geschichte der Mathematik* [1880]. See *MS* 690.164 [1901].

[622] *MS* 690.164 [1901]

[623] In Peirce's time the most dramatic example of this is the discovery of Troy by Heinrich Schliemann. A contemporary example is the use of multi-spectral imaging techniques to make the charred papyri of Pompeii legible.

Conclusion

Of course, the biography of Pythagoras and the other two examples in Peirce's monograph are tailored to illustrate his maxims for evaluating hypotheses. A key one is Peirce's insistence on incorporating all of the evidence available into the explanatory hypotheses (rule 1). This helps serve the demand to rely upon objective and large probabilities (rule 3) to preclude the appeal to plausibility alone characteristic of the traditional method of balancing likelihoods. More intriguing, however, is the Reidian maxim "Assume that the principal testimonies are true" (rule 2), as it highlights the central novelty of Peirce's biography of Pythagoras. That is, by assuming that Iamblichus' clearly confused account is true, at least in the main, the contradictory dates become a puzzle to be solved, rather than an error to be dismissed. As we have seen, wrestling with this contradiction opens up the speculative portion of the biography. But why assume that the principal testimonies are true? In addition to broad appeals to the common sense principles of credulity and veracity, our investigation into the nature of assertion provides another ground for doing so. Specifically, making an assertion is an action taken on behalf of another – either another person in the transmission of testimony, or simply the proposition itself. As interpreters, it is our duty to take an utterer seriously when they take responsibility for the truth of a proposition. On one level, Peirce advocates the Principle of Charity, but seen through the logic of assertion it becomes more profound. Indeed, it may even approach the conception of *testimonial justice* articulate by Miranda Fricker, wherein "…the virtuous hearer *neutralizes the*

impact of prejudice in her credibility judgments."[624] Although Fricker focuses on the role of identity prejudices – specifically, gender and race – in establishing credibility deficits, Peirce's criticism of Humean historiography points to a prejudice against the past. This prejudice is characteristic of modernity, as we saw in Chapter II, and so Peirce's effort to balance historically grounded inquiry with the hope for future progress embodies the heart of his attack on Cartesianism. I use the word 'heart' deliberately, as for Peirce logic is subsequent upon ethics. This should be clear from his characterization of epistemological problems in ethical terms. This chapter has given us a vague idea of what it means to consider history as a fundamentally ethical enterprise. Thus, to begin developing more clarity on this point let us turn to Peirce's conception of history within the broader context of the nature of science.

[624] Fricker 92 [2007]. Fricker's virtue epistemology approach to testimony, like virtue epistemology more generally, resonates strongly with pragmatism.

In some departments of science, where experimentation is easy, the testing of hypotheses may be performed with some promptitude. In other departments, especially in ancient history, it will extend beyond a human life, so that for the individual the result of the abduction is all that he can hope to live to see.

-C.S. Peirce, *CP* 6.535 ("Hume on Miracles"), c. 1901

What song the Sirens sang, or what name Achilles assumed when he hid himself among women, though puzzling questions, are not beyond all conjecture.

-Thomas Browne, Sr.

Chapter V: Historical Practices

Introduction

Charles Peirce spent most of his philosophical career investigating the methods of science through historical and contemporary practices. Naturally, this suggests the question of what is 'science' – that is, what forms of human activity did Peirce investigate? Overall, Peirce asserts the following: "If we are to define science, not in the sense of stuffing it into an artificial pigeon-hole where it may be found again by some insignificant mark, but in the sense of characterizing it as a living historic entity, we must conceive it as that about which such men as I have described busy themselves."[625] And what is the nature of the men that Peirce describes? Simply, they are those who pursue truth for its own sake. This broad criterion allows Peirce to include mathematics and philosophy within his classification of sciences. And yet, many philosophers do not qualify as scientists. In addition, we have seen in the previous chapter that Peirce criticizes an entire school of historians for being unscientific, despite the solid position of history as a science within his mature

[625] *CP* 1.44 [c. 1896]

classification. In this light, it is apparent that Peirce would not accept that 'science' is simply whatever self-identified 'scientists' do, despite his characterization of science as a fundamentally communal activity.[626] Conversely, how should we understand the absence of literature and poetry within Peirce's classification, as it seems unduly pejorative to assert that poets cannot pursue truth for its own sake, even if the presentation of their discoveries differ greatly from scientific" memoir?[627] History again occupies an odd position because while it seeks to discover how things actually were, outside of chronologies its presentation is typically narrative in form.

To begin elucidating these matters, we need to inquire further into Peirce's conception of science. Doing so will involve a richer presentation of Peirce's moral criterion for being a scientist, in conjunction with exploring the nature of those attitudes that Peirce's opposes to science, such as 'a literary spirit.' Next, I will present the development of Peirce's classification of the sciences. Understanding what constitutes a science and why Peirce arranges them in a particular way will enable us to appreciate history as a specific kind of science amongst others. Finally, we can turn to dissolving the supposition that pragmatism and history are necessarily at odds.

[626] For example, from one perspective it is unremarkable that Peirce includes history as a science simply because many historians called themselves scientists at the end of the 19th century, especially after the adoption of Leopold van Ranke's primary-source methodology.
[627] However, literary criticism does have a place within history in Peirce's classification.

V.A: Scientific Natures

Peirce consistently denied the association of "science" with the *output* of inquiry rather than the *process*. For example, "If we resort to a dictionary, we shall be told that it is systematized knowledge. Most of the classifications of the sciences have been classifications of systematized and established knowledge -- which is nothing but the exudation of living science; -- as if plants were to be classified according to the characters of their gums."[628] Indeed, at times Peirce disassociates science from knowledge as strongly as he does from belief.[629] Again, rather than *knowing*, science is defined by the *desire to know*. Moreover, this desire is to know the truth for its own sake, "…with neither any sort of axe to grind, nor for the sake of the delight of contemplating it, but from an impulse to penetrate into the reason of things."[630] Those who desire to know for the sake of practical advancements and applications are not full scientists, if they are scientists in a Peircean sense at all.[631] This sort of distinction is alive in the commonly accepted, if often only vaguely articulated, differences between science and technology, or scientists and engineers. Therefore, scientists pursue theoretical knowledge for its own sake, regardless of how much or how organized their

[628] *CP* 1.232 [1902]. See also *CP* 1.44 [c. 1896].
[629] For example, *CP* 1.44 [c.1896]: "For it is not knowing, but the love of learning, that characterizes the scientific man; while the "philosopher" is a man with a system which he thinks embodies all that is best worth knowing" and *CP* 7.185 [1901]: "Really the word belief is out of place in the vocabulary of science. If an engineer or other practical man takes a scientific result, and makes it the basis for action, it is he who converts it into a belief."
[630] *CP* 1.44 [c. 1896]
[631] I only note the ambiguous status of "practical scientists" – whether bookbinders, cooks, or industrial chemists.

current knowledge is.[632] For Peirce, this desire will eventually generate the properly scientific method, and as such is more fundamental; Peirce forcibly states this point in 1893:

> That which constitutes science, then, is not so much correct conclusions, as it is a correct method. But the method of science is itself a scientific result. It did not spring out of the brain of a beginner: it was a historic attainment and a scientific achievement. So that not even this method ought to be regarded as essential to the beginnings of science. That which is essential, however, is the scientific spirit, which is determined not to rest satisfied with existing opinions, but to press on to the real truth of nature.[633]

We have already discussed briefly Peirce's conception of the scientific method – that is, self-controlled reasoning in its various modes of abduction, deduction, and induction in the previous chapter. Thus, let us continue further with the moral factors that define the scientific spirit. In 1902, Peirce identifies the three most vital moral factors as follows: a genuine love of truth, sociality, and a sense of confidence that truth will be discovered.[634] These parallel the three sentiments that Peirce considered essential to logic in 1878's "The Doctrine of Chances"; "…namely, interest in an indefinite community, recognition of the possibility of this interest being made supreme, and hope in the unlimited continuance of intellectual activity…" or, Faith, Hope, and Charity.[635] Let us know address these in turn.

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[632] See *CP* 1.235 [c. 1896]: "The man who is working in the right way to learn something not already known is recognized by all men of science as one of themselves, *no matter how little he is informed*" (italics added).

[633] *CP* 6.428 "The Marriage of Religion and Science" [1893]. See also *CP* 5.582 [1898]: "No matter how erroneous your ideas of the method may be at first, you will be forced at length to correct them so long as your activity is moved by that sincere desire."

[634] *CP* 7.87 [1902]

[635] *CP* 2.655 "The Doctrine of Chances" [1878]

Regarding the first, Peirce implies that a *genuine* love of truth requires "…the conviction that nothing else can long endure" – one may love truth, but not when holding something else higher.[636] This makes sense in light of Peirce's following claim that the main difference between the medieval and modern scientists is that the former were primarily teachers; moreover, this pedagogical mindset has hindered modern scientists as well. That is, "… [Peirce] sees the pedagogue, whether teacher or preacher, as one whose dominant interest is in organizing and communicating what he already knows," rather than in discovering what they do not know.[637] This also parallels Peirce's consistent disdain for 'seminary-philosophers' in favor of 'laboratory-philosophers.' For example, "But men of laboratories consider those truths as small that only an inward necessity compels…On the other hand, the men of seminaries sneer at nature; the great truths for them are the inward ones…"[638] Again, pedagogues or seminarians love what they think they already know. However, in addition to the social impulse that eventually undermines the applications of the methods of tenacity, authority, and a priori – as Peirce outlines in "The Fixation of Belief" – seminary-philosophy falls under the tide of fact.

This social impulse becomes a strength of science, which is inherently social, in two ways. The first is in its commitment to intersubjective verification: "As long as only one man has been able to see a marking upon the planet Venus, it is not an

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[636] *CP* 7.87 [c. 1902] – that is, it seems that the conjunction "…genuine love of truth *and* conviction…" is co-implicative, rather than simply additive; emphasis added.
[637] Delaney [1993]
[638] *CP* 4.69 [1893]. See also *CP* 1.129 [c. 1905]

established fact."[639] On the other hand, the inherent sociality of science manifests in collective and distributive effort towards solving problems. That is, groups of people commit themselves to researching small parts of a broader question – "The scientific world is like a colony of insects, in that the individual strives to produce that which he himself cannot hope to enjoy. One generation collects premises in order that a distant generation may discover what they mean."[640] This charity requires self-sacrifice for the greater good, greater in part because it likely that it will never be your *personal* good.

Finally, science rests upon a conviction that proper inquiry will ultimately lead to truth, that one's faith will be justified and one's sacrifices not in vain. "This is the veritable essence of science. It is in the memory of these concrete living gests [sic] that we gain the speaking portraiture of true science in all her life and beauty."[641] In the terms of the previous chapter, prejudicial dismissals of testimony deny other inquirers their hope for contributing to the storehouse of truth, and so is an affront to the very essence of scientific inquiry. That truly scientific inquiry primarily requires the cultivation of moral sensibility paralleling the theological virtues offers an intriguing path for future inquiry.

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[639] *CP* 7.87 [c. 1902]
[640] *CP* 7.87 [c. 1902]
[641] CP 7.51 [undated] – From the Oxford English Dictionary: gest, n. *pl.* Notable deeds or actions, exploits (later also *sing.*, a deed, exploit); esp. the deeds *of* a person or people as narrated or recorded, history. *Obs.* exc. *arch.*

V.B: Scientific History

V.B.1: Classifying Sciences

Before exploring Peirce's various attempts to classify the sciences of his day, we should ask what the purpose of such a classification is. For Peirce, the import of a classification of the sciences rests in part upon an architectonic approach to philosophy inherited from Kant. Specifically, philosophy should be "cosmological or secular," unprejudiced by the "arbitrary and individualistic character of thought."[642] Furthermore, Kent notes "[Peirce] believed that a clear understanding of logic required an examination of its relations to other sciences. A classification scheme would function as a *diagram* to exhibit those relations most perspicuously."[643] Thus, Peirce intended his classificatory efforts to weed out the unjustifiably idiosyncratic elements of his own thought, with perhaps special reference to his work in logic. This purpose of engagement with active communities of inquiry explains Peirce's explicit self-limitation to said communities. Quoting Peirce, "This classification, which aims to base itself on the principal affinities of the objects classified, is concerned not with all possible sciences, nor with so many branches of knowledge, but with sciences in their present condition, as so many businesses of groups of living men." [644] In other words, a classification that presumed the importance of inactive or postulated fields of inquiry, such as alchemy and xenopsychiatry, would tend more to exhibit the idiosyncrasies of

[642] *CP* 1.176 [c. 1896]
[643] Kent 17 [1987], emphasis added.
[644] *CP* 1.189 [1903]

its author. However, a classification is not limited thereby to only a summary of current activity – its diagrammatic nature expresses significant relationships and enables the *discovery* of new ones, more akin to Mendeleev's periodic table of elements. Accordingly, I will use the classification of the sciences to explore hypotheses generated by the explicit and implicit relationships shown.

Accepting that Peirce classified the sciences as a means of testing ('probating') his own views, we can also ask the questions "What" and "How" he is classifying. As for the "what," Peirce continually denied the conception of science as a unified body of knowledge, or really as a form of knowledge at all. Rather, Peirce considers a *scientist* to be a lover of truth, an inquirer into truth for truth's sake.[645] "Science and philosophy seem to have been changed in their cradles. For it is not knowing, but the love of learning, that characterizes the scientific man; while the "philosopher" is a man with a system which he thinks embodies all that is best worth knowing. Obviously, defining a scientific person by a moral stance towards truth changes the territory of science; for example, Peirce excludes what we would call industrial chemists from the class of genuine scientific men, and his classification of sciences includes art and literary criticism.[646] A pertinent question for this topic is the status of history of a science; that

[645] Compare to Skagestad's formulation: "Science is the fruit of instinct tempered by virtue" (p. 188). In another place, Peirce calls a "scientific" intelligence simply "…an intelligence capable of learning by experience" (*CP* 2.227). Overall, Peirce prefers formulations such as "scientific man" or "man of science" to "scientist."

[646] *CP* 1.45 [c. 1896]: "For example, there are numbers of chemists who occupy themselves exclusively with the study of dyestuffs. They discover facts that are useful to scientific chemistry; but they do not rank as genuine scientific men. The genuine scientific chemist cares just as much to learn about erbium -- the extreme rarity of which renders it commercially unimportant -- as he does about iron."

is, how is history an inquiry into truth? Furthermore, Peirce distinguishes different sciences by the clustering of scientists, not putative bodies of knowledge: "They love the same sort of things. They consort together and consider one another as brethren. They are said to pursue the same *branch* of science."[647] This parallels Peirce's claim that his is a natural classification, and that natural classifications should rest upon the general unity of a final cause; e.g., the common object of love of a group of scientists.

> All natural classification is then essentially, we may almost say, an attempt to find out the true genesis of the objects classified. But by genesis must be understood, not the efficient action which produces the whole by producing the parts, but the final action which produces the parts because they are needed to make the whole. Genesis is production from ideas…A science is defined by its problem; and its problem is clearly formulated on the basis of abstracter science.[648]

In addition, Peirce claims, "[t]he natural classification of science must be based upon the study of the history of science…The natural classification of science is to be a classification of the men of science."[649]

Setting aside, for the moment, the deep question of Peirce's understanding of final causation, we do find a clear suggestion as to the "How" of Peirce's classification in the above quote. That is, while during the *activity* of science "[n]o rule can be laid down as to where a science shall seek help; far less as to where it shall not," a

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[647] *NEM* 4.188

[648] *CP* 1.227 [1902]. In these passages Peirce's continual reminder to consider science as a living thing seems relevant to his adherence to the classificatory concepts of the biologist Louis Agassiz. It is also of interest for the suggestion that generals or ideas, such as 'biology' are living things.

[649] *CP* 1.268 [1902]. It may be of interest that in his third 1903 lecture Peirce claims that "[t]he three categories furnish an *artificial* classification of all *possible* systems of metaphysics which is certainly not without its utility" (*PPM* 171 [1903]); emphases added.

classification of the sciences may rest upon the Comtean rule of principle-dependence.[650] As stated by Peirce, "[t]he general rule is that the broader science furnishes the narrower science with principles by which to interpret its observations while the narrower science furnishes the broader science with instances and suggestions."[651] As we shall see, in Peirce's scheme psychology will provide principles for ethnology, with ethnology providing material for psychology. I like to emphasize that the activities of scientists differ from the dependencies of the classification and that principle-dependence of narrower sciences is reciprocated by a material-suggestiveness to avoid unnecessary connotations with the "superiority" of one science over another. However, there is still a question as to the relationship between the sciences across the major divisions of mathematics, philosophy, and idioscopy. The clearest statement I have found from Peirce is as follows: "In arguing it I avoided all resort to anything like special phenomena, upon which I do not think that philosophy ought to rest, at all. Still, there is no harm in using special observations merely in an abductive way to throw light upon doctrines otherwise established, and to aid the mind in grasping them…"[652] The view that special observations can serve as an illustrative or pedagogical aid to philosophy may or may not justify Peirce's strong devotion to the *history* of logic, mathematics, philosophy, and science, as demonstrated by his twenty-nine lectures on "Lessons from the History of Science" from 1892-1893.

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[650] *NEM* 4.227. Cf. *CP* 2.119 [c.1902], 3.427 [1896], etc.
[651] *NEM* 4.227
[652] *PPM* 242; *CP* 5.182 [1903]

A final note is appropriate before turning to Peirce's classifications. One could object that a properly Peircean inquiry should engage with contemporary active communities, not those one hundred years out of date. I agree with the importance of a new classification, especially for testing the Peirce's general schema and its implications for other areas of his philosophy. Nonetheless, for the purposes of this project I side with Kent: "If [Peirce's] views on classification are found wanting by contemporary standards, the study of them is nonetheless a gateway to the understanding of his philosophy, which does remain of contemporary importance."[653]

For purposes of brevity, we will focus on Peirce's mature classification, consistent after 1903 – what Kent refers to as the "perennial version."[654] The first major division is between the Science of Discovery, Science of Review, and Practical Science, with the first being most concerned with truth for its own sake. Within the Science of Discovery, the three major divisions are between Mathematics, Philosophy (or *cenoscopy*), and the special sciences (or *idioscopy*). These three kinds differ as to their relationship with experience:

> I. *Mathematics*, which frames and studies the consequences of hypotheses without concerning itself about whether there is anything in nature analogous to its hypothesis or not.
> II. *Philosophy*, which seeks such universal truth as can be discovered from everyman's hourly experience.
> III. *Idioscopy*, or special science, which seeks such truth as can only be discovered from peculiar experiences sought out for the purpose.[655]

[653] Kent 17 [1987]
[654] Kent 121-191 [1987] passim.
[655] *NEM* 4.228 [1903]

Philosophy is further divided into phenomenology (or *phaneroscopy*), the normative sciences of esthetics, ethics, and logic, and metaphysics. Idioscopy consists of two major branches, Physics (or *physiognosy*) and Psychics (or *psychognosy*), each of which are subdivided further into Nomological, Classificatory, and Descriptive branches.[656] For our purposes, I want to specify that history falls under the branch descriptive psychics, along with biography and criticism, fields that endeavor "…to describe individual manifestations of mind, whether they be permanent works or actions; and to that task it joins that of endeavoring to explain them on the principles of psychology [nomological psychics] and ethnology [descriptive psychics]."[657]

In light of Peirce's categories, we should expect the nested trichotomies exhibited in the classification of the sciences.[658] Thus, it is especially pertinent to understand the nature and origin of the *dichotomy* that marks the special sciences. Metaphysics, a cenoscopic science dependent largely upon the normative sciences (especially logic) and phenomenology, is the home for thought on the dualisms that underlie the division between physics and psychics: matter and mind, space and time, efficient and final causation.[659] As our inquiry concerns the logic of time and history, a fuller investigation

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[656] *NEM* 4.189-4.191, *CP* 1.180-1.201 [1903]

[657] *CP* 1.188 [1903]

[658] Although this is a fairly late development in Peirce's work on a classification scheme; see Atkins, "Restructuring the Sciences: Peirce's Categories and His Classification of the Sciences" [2006]

[659] As a side note, in several places Peirce claims that our historic success in the physical and psychical science rests upon instincts generated by natural selection. Specifically, physics is associated with our need for food (and presumably our need to avoid becoming food), while psychics is associated with our need for sociality (at least minimally for sexual procreation). "Metaphysics, however, cannot adapt the human race to maintaining itself, and therefore the

of the relationships between the sciences is now in order. The classification sketched above is the perennial version, which differs from previous versions by a relevant feature: the slight priority of physics over psychics, a reversal from earlier classifications. In Kent's words, "Peirce seems to have concluded that the psychical sciences do depend upon the physical sciences but that this dependence does not involve an appeal for principles."[660] Peirce offers at least two reasons for this shift, the first concerning the nature of perception, the second the nature of evidence. Regarding the first:

> The direct percept, as it first appears, appears as forced upon us brutally. It has no generality; and without generality there can be no psychicality. Physicality consists in being under the governance of physicial, i.e., efficient, causes, psychicality in being under the governance of psychical, i.e., of final causes. The percept brutally forces itself upon us; thus it appears under a physical guise.[661]

As for the second reason for dependence, "At any rate, whether the psychical can be directly observed or not, no linguist, ethnologist, nor historian – no psychologist, even, in an unguarded moment – but will agree that his science rests very largely, if not quite entirely, upon physical facts."[662] However, the physical facts available to historians are

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presumption [is] that man has no such genius for discoveries about God, Freedom, and Immortality, as he has for physical and psychical science" (*CP* 6.491 [c. 1910]).

[660] Kent 134 [1987]. However, Peirce does explicitly claim principle-dependence between psychics and physics at one point: "Psychical science borrows principles continually from the physical sciences; the latter very little from the former" (*CP* 1.187 [1903]).

[661] *CP* 1.253 [1902]

[662] *CP* 1.254 [1902]

more tenuous than those that are available to, say, chemists, and accordingly history rests more upon inference.[663]

Finally, Peirce suggests another asymmetry between physics and psychics that is of interest – their relationship to cenoscopy: "It is true that the psychical sciences are not quite so dependent upon metaphysics as are the physical sciences; but, by way of compensation, they learn more upon logic. The mind works by final causation, and final causation is logical causation."[664]

V.B.II: History as Descriptive Psychics

Having outlined Peirce's mature classification of the sciences, I would like to turn the history of the role of history as a science within the development of this classification. Then we will explore the meaning of 'descriptive psychics' in more detail.

At the beginning of the modern era, Francis Bacon offered a classification of the sciences based upon his understanding of human psychology.[665] Specifically, in Book II of 1605's *The Advancement of Learning*, Bacon divided human knowledge according to his account of the faculties of the soul associated with understanding – memory, imagination, and reason – which respectively gave rise to the three broad sciences of

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[663] "Now ancient history occupies a place among the psychical sciences somewhat analogous to that of astronomy among the physical sciences. The one is a description of what is distant in the world of mind, as the other is a description of what is distant in the world of matter; and curiously enough, or significantly enough, an ancient alliance exists between the two sciences through chronology" (*EP* 2.83 [1901]).

[664] *CP* 1.251 [c. 1902]

[665] Peirce would likely object to this form of psychologism, while perhaps appreciating its abductive suggestivenenss.

history, poetry, and philosophy. Philosophy is taken, in a way, to be primary because all knowledge is based upon the principles of reasoning. Focusing on history, it is convenient to provide Bacon's various subdivision in a chart:

History

Natural	Civil	Ecclesiastical	Literary[666]
Creatures	Memorials	Church	
	Commentaries / Registrars		
Marvels	Perfect Histories	Prophecy	
	Chronicles / Lives / Narrations		
Arts	Antiquities	Providence	

Although there are many other classifications of the sciences prior to Peirce – including Hobbes, Diderot (largely based upon Bacon's), Comte, Hamilton, Whewell, etc. – I want to note Bacon's classification for two reasons. The first is a way that it differs from most classifications of the modern era, for it establishes history as a distinct branch of human knowledge, rather than covering it under natural or social philosophy. In fact, Bacon's classification shares a peculiarity with Peirce's in that it includes history as kind of knowledge/science at all. In addition, Bacon's classification seems to deny the common modern division of natural and human sciences, although the bulk of history in this scheme obviously favors the latter. This may only amount to an idiosyncrasy of Bacon's, or, more generously, a shift in terminology. However, Peirce's claims about the (semi-)independent status of the sciences of review implie the importance of history as something distinct. On the other hand, taking Bacon's mixing of natural and human history as the second point of interest, we see that Peirce accepts in some way the

[666] Bacon considers literary history to be deficient in his time.

modern division between matter and mind in his mature division of the special sciences into physics and psychics. Nonetheless, the parallel between a science within descriptive physics, such as geology, and history as descriptive psychics implies that even knowledge of the natural world derives from an historical understanding. Accordingly, we will need to maintain a functional distinction between the historicity of the subject-matter of a science and the history of that science.[667]

Returning to the history of Peirce's own classification, in 1866 he offered a tri-fold division of deductive, inductive or classificatory, and hypothetical or causal sciences, explicitly based upon the three kinds of inference.[668] History, even at this early date, is placed under Order 2 of the hypothetical/causal sciences, those whose unity derives from the unity of their object, along with the eventually descriptive physic science of geology. Twelve years later, in 1878, Peirce sketches a classification based upon similar principles, failing to mention history while still including geology as a science of hypothesis.[669] By 1889 Peirce had reached the broad outline of a classification distinguishing philosophy and two orders special sciences, psychics and physics, further subdivided into nomological, classificatory, and descriptive kinds.[670] Although over the next 14 years Peirce experimented with various other classifications, he typically maintained the duo-fold division of the special sciences, subordinate to

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[667] I should note that for now that I am using the term historicity only in the general sense of being historical in nature, without intending to establish a particular sense of history.
[668] *MS* 357.26-28 [1866]
[669] *CP* 2.664 [1878]
[670] See *CP* 3.427 [1896]. Kent argues that this 1896 scheme is effectively the same as that of 1889. For a more detailed account of the dozen or so classifications that Peirce attempted before reaching its mature form, see Kent, 90-121 passim [1987].

philosophy, along with the tri-fold subdivision within each branch. Nonetheless, for our purposes there is one major issue of importance in Peirce's struggle to work out these classifications, the dichotomy between physics and psychics.

Regarding the latter, in several classifications Peirce suggests that physics concerns space, while psychics concern time. For example, in the 1889/1896 classification places Geometry priors to physics and Science of Time prior to psychics.[671] This basis for division appears as late as 1902, when Peirce divides philosophy into *epistêmy* and *theôrics*, the former containing phenomenology, normative science, and metaphysics, with the latter divided into *chronotheory and topotheôry*:

> The sciences which we are now considering, on the contrary, are based upon the same sort of general experience upon which philosophy builds; and they only resort to special observation to settle some minute details, concerning which the testimony of general experience is possibly insufficient. It is true that they are thus of a nature intermediate between coenoscopy and idioscopy; but in the main their character is philosophical.[672]

That is, accepting the broad division of the positive sciences into mathematics, philosophy, and the special sciences based upon the different kinds of observations involved in each, Peirce sees room for a kind of science which mediates between philosophy and the special sciences. While metaphysics does concern the nature of space and time in this classification, it confines "…itself to such parts of physics and of psychics as can be established without special means of observation. But these are very

[671] *CP* 3.427 [1896]
[672] *CP* 1.278 "A Detailed Classification of the Sciences" [1902]

peculiar parts, extremely unlike the rest."[673] However, within a year Peirce dropped this subclass of philosophy, and merged the question of the natures of space and time under the third subdivision of metaphysics, Physical metaphysics, which follows Ontology (general metaphysics,) and Psychical, or Religious, metaphysics.[674] One reason for this shift may be the tension between the two principles grounding Peirce's classification:

> This classification, which aims to base itself on the principal affinities of the objects classified, is concerned not with all possible sciences, nor with so many branches of knowledge, but with sciences in their present condition, as so many businesses of groups of living men. It borrows its idea from Comte's classification; namely, the idea that one science depends upon another for fundamental principles, but does not furnish such principles to that other.[675]

Although this applies most explicitly to the 1903 classification, Peirce's commitment to a Comtean-style classification begins as early as 1889, and he expresses severe reservations as to classifying possible sciences in 1902: "Many of these schemes [previous classifications] introduce sciences which nobody ever heard of; so that they seem to aim at classifying, not actually existent sciences, but possible sciences. A somewhat presumptuous undertaking is that of classifying the science of the remote future."[676] Accordingly, the logical ground for separating theôrics because of its

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[673] *CP* 1.282 "A Detailed Classification of the Sciences" [1902]

[674] *CP* 1.192 "An Outline Classification of the Sciences" [1903]: "Metaphysics may be divided into, i, General Metaphysics, or Ontology; ii, Psychical, or Religious, Metaphysics, concerned chiefly with the questions of 1, God, 2, Freedom, 3, Immortality; and iii, Physical Metaphysics, which discusses the real nature of time, space, laws of nature, matter, etc. The second and third branches appear at present to look upon one another with supreme contempt."

[675] *CP* 1.180 "An Outline Classification of the Sciences"[1903]

[676] *CP* 1.203 "A Detailed Classification of the Sciences" [1902]. It should be noted that following this Peirce draws a moral concerning the historicity of classifications: "On the other hand, if

middling status between cenoscopy and idioscopy fell before the consideration that nobody called themselves a chronotheoretician.[677]

The other distinct, though related, basis for dividing physics and psychics is that each concerns different kinds of causation; physics addresses that which happens by efficient causation, and psychics by final causation. Efficient causation is material causation, while final causation is mental causation; furthermore, "[t]he mind works by final causation, and final causation is logical causation."[678] Although this is not the place to explore the details of Peirce's concept of causation, a few remarks are in order. First, when criticizing a classification made by D.G. Brinton, Peirce is explicit that confounding efficient and final causation is 'fatal.' More specifically, "[i]t is most narrow not to consider final causes in the study of nature; but it is nonsense and utter confusion to treat them as forces in the material sense…To ask whether a given fact is due to psychical or physical causes is absurd. Every fact has a physical side; perhaps every fact has a psychical side."[679] Accordingly, efficient and final causation are irreducible to one another, and they always occur together. However, in the passage just quoted Peirce suggests that efficient causation is somehow primary, at least insofar as there is the possibility of facts that do not have a psychical side. On the other hand,

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classifications are to be restricted to sciences actually existing at the time the classifications are made, the classifications certainly ought to differ from age to age. If Plato's classification was satisfactory in his day, it cannot be good today; and if it be good now, the inference will be that it was bad when he proposed it."

[677] Kent notes that Peirce attributes to Comte the notion of classifying sciences by the nature of the observations involved, in addition to principle-dependence, in 1895. See Kent 97 [1987], *MS* 15 [c. 1895], and *CP* 3.427 "The Regenerated Logic" [1896]

[678] *CP* 1.250 "A Detailed Classification of the Sciences" [1902]

[679] *CP* 1.265 "A Detailed Classification of the Sciences" [1902]

earlier when discussing the basis of his natural classification upon final causes, Peirce suggests the opposite:

> Efficient causation is that kind of causation whereby the parts compose the whole; final causation is that kind of causation whereby the whole calls out its parts. Final causation without efficient causation is helpless; mere calling for parts is what a Hotspur, or any man, may do; but they will not come without efficient causation. Efficient causation without final causation, however, is worse than helpless, by far; it is mere chaos; and chaos is not even so much as chaos, without final causation; it is blank nothing.[680]

That is, Peirce here suggests that final causes may call for parts without efficiency, but efficient causes cannot compose a whole without finality.

There is yet a third distinct basis, noted previously, for the division between physics and psychics. In several places, under the rubric of how humans are quite good at generating viable hypotheses despite the infinitude of possible explanations, Peirce notes the fundamental instincts of breeding and feeding. As evolutionarily adapted animals, humans have instincts that aid in acquiring biological necessities. Accordingly, there are features of the world, especially pertinent for an animal that needs to live long enough to pass on its genes, that the history of our species has been geared towards figuring out. "In short, the instincts conducive to assimilation of food, and the instincts conducive to reproduction, must have involved from the beginning

[680] *CP* 1.220 [1902]. As an aside, "Hotspur" could refer either directly to Henry "Hotspur" Percy, who started a rebellion against Henry IV in 1403 but died before joining with his allies, or generally to an impetuous and rash person.

certain tendencies to think truly about physics, on the one hand, and about psychics, on the other."[681]

Thus, while history deals primarily with physical artifacts, it belongs to psychics because these artifacts are products of human intention. However, it is only a descriptive science, and thus its task is to provide a set of particulars to inform the classificatory and nomological psychical sciences. This precludes the sort of historicism that Karl Popper lambasted in his *The Poverty of Historicism*. However, pragmatism's commitment to future consequences does leave an opening for a parallel critique, which will be addressed in the following section. For now, let us look at the division within history conceived as descriptive psychics:

History Proper
    Monumental History
    Ancient History
    Modern History
Biography
Criticism[682]

While Peirce articulates further subdivisions, and cross-divisions, within the kinds of descriptive psychics, for our purposes the key division is within History proper: "History proper, itself divided according to the nature of its data into, 1, Monumental History [Archaeology]; 2, Ancient History with all other history that is drawn from few and general testimonies; 3, History drawn from a wealth of documents, as Modern

[681] *CP* 5.591 "Methods for Attaining Truth" [1903]. Of course, Aristotle recognized reproduction – of the self, via nutrition, and of another like one's self – as the fundamental faculty of the soul. See *De Anima* Book II Chapter 4
[682] *CP* 1.201 [1903]

History, generally."[683] First, dividing history by the nature of its data rather than by dates may trouble those who fear presentism, as it places a poorly documented event of 1870 BCE along with a poorly documented event of 1870 CE. Nonetheless, it is consistent with Peirce's interest in explaining available evidence, and by itself makes no ontological claim. On a more positive side, the identification of ancient history with limited testimonial evidence provides a connection between our investigation into memory and into testimony. For example, my episodic memory of falling out of a tree in my youth has less supporting documentation than the life of Pythagoras. Thus, Peirce's maxims for evaluating hypotheses, conjoined with his common sense commitment to reasonable credulity, apply to personal memory as well as communal. This reinforces the interplay of responsibilities and rights at the heart of assertion and calls for further investigation into a pragmatist epistemology of trust. However, like anything with a history, this inquiry must leave something for the future. On the other hand, the preceeding effort to excavate Peirce's conception of the past does offer support against a common criticism of pragmatism in general, and so in the next section I would like to offer some comments on the problem of the futurity of meaning.

[683] *CP* 1.201 [1093]

V.C: The Alleged Futurity of Yesterday?

V.C.1: Lovejoy's Criticism

The above phrase from A.O. Lovejoy encapsulates a common criticism of pragmatism throughout its history, although the problem it expresses originates with the critics of James' pragmatic theory of truth.[684] The difficulty arises from the pragmatic claim that the meaning of an historical proposition, such as "Julius Caesar crossed the Rubicon in 49 BCE," is a set of practical experiential results. In other words, the meaning of what happened yesterday is only what we expect to happen tomorrow. For pragmatism's critics, this does violence to our common sense belief in the reality of the past, for conceivably the factuality of Caesar's crossing has nothing to do with the future experiential results of believing in it. Lovejoy notices this thread of pragmatism in his criticism that Dewey, on his own terms, must deny that we can know the past at all. Quoting Lovejoy:

> Though not without some ambiguity of language, [Dewey] had seemed to maintain that the object meant or known in valid judgments must always be "directly experienced" – an assertion which, if taken literally, would imply the impossibility of intertemporal cognition, of the knowing of one moment's experience at another moment.[685]

These debates resurged again in the 1960's with Richard Gale, and a 2002 paper by David Hildebrand defends Dewey from this criticism once again. Obviously, my interests lie with Peirce rather than James or Dewey, but I have found this line of

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[684] For example, the imaginary yet typical "anti-pragmatist" of chapter XV of James' *The Meaning of Truth*, claims that pragmatism flounders on the question of whether a set of facts concerning the prehistorical world is, or is not, true, if these facts never come to be known. See James, *The Meaning of Truth* 154/320 [1909].

[685] Lovejoy, A.O. "Time, Meaning, Transcendence – I. The Alleged Futurity of Yesterday." *The Journal of Philosophy*, Vol. 19, No. 19 (Sep. 14, 1922), p. 506

criticism intriguing, as Peirce has similar views about our references to the past. For example, from his 1905 "Issues of Pragmaticism":

> As for that part of the Past that lies beyond memory, the Pragmaticist doctrine is that the meaning of its being believed to be in connection with the Past consists in the acceptance as truth of the conception that we ought to conduct ourselves according to it (like the meaning of any other belief). Thus, a belief that Christopher Columbus discovered America really refers to the Future.[686]

Thus on this point Peirce's pragmatism seems to agree with that of James and Dewey; thus, it is subject to the same criticisms. In fact, Joseph Esposito does criticize Peirce on something like this point in his 1983 essay "Peirce and the Philosophy of History." Therein, Esposito suggests that the past is objectively less intelligible on the terms of Peirce's evolutionary metaphysics. That is, if the universe's evolution involves an increase of Thirdness, or reasonableness, retrospectively there must be increasingly less Thirdness.[687] Certainly, this fits with Peirce's many statements associating the past with Secondness. For example, "[m]emory supplies us a knowledge of the past by a sort of brute force, a quite binary action, without any reasoning," Secondness being the category of binary action.[688] Thus, on an epistemological level, Esposito claims that "[b]y the principle of pragmatism we may *refer* to the past but cannot, strictly speaking, *reason* about it."[689] Or, even more strongly, "[a]t once both the scientific nature of history and pragmaticism are called into question – all by starting with the view of the

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[686] *EP* 2: 359 (1905). The conclusion of this passage is intriguing: "It is more difficult, it must be confessed, to account for beliefs that rest upon the double evidence of feeble but direct memory and upon rational inference. The difficulty does not seem insuperable; but it must be passed by."
[687] Esposito p. 159 [1983]
[688] *CP* 2.86 [c. 1902]
[689] Esposito p. 157 [1983]; emphases in original

Past as an objective actuality that is, according to synechism and the law of mind, objectively less general [intelligible] than the future."[690]

Sandra Rosenthal, in *Time, Continuity, and Indeterminacy*, characterizes this vein of critique as a problem with the "overfuturism" of pragmatism. Similarly, Robert Neville criticizes the "overpresentism" of pragmatism. Quoting Rosenthal:

> Moreover, the most unfortunate situation for pragmatism, for Neville as for Weiss, is its inability to give an account of past things, for while the future collapses into a mere conditional projection of the present, the past has its reality only as a possible object of interpretation and is, like the future, reduced to its role in possible interpretation, which is an activity in the present.[691]

Rosenthal continues to defend pragmatism from such criticisms via its reconception of temporality, especially through Peirce's understanding of continuity. I have done much to outline Peirce's deep commitment to the past as an object of inquiry, not merely a means for a present purpose. However, there is a less ontological response to Lovejoy's criticism, to which we now turn.

V.C.2: Pragmatism and History

In 1978 Willard Miller sought to defend Peirce's pragmaticism from criticisms concerning its purported inability to handle historical propositions. Miller's defense of these various related criticisms largely rests upon a distinction between the *meaning* of a proposition and its *reference*, and as such is an important position to explore.

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[690] Esposito p. 160 [1983]
[691] Rosenthal, *Time, Continuity, and Indeterminacy*, p. 120 [2000]

Let us start with Peirce's 1905 definition of the pragmatic maxim, considered equivalent to its original enunciation: "The entire intellectual purport of any symbol consists in the total of all general modes of rational conduct which, conditionally upon all the possible different circumstances and desires, would ensue upon the acceptance of the symbol."[692] Evidently, the "intellectual purport" of a symbol ("conception" in the original) is its meaning, although perhaps in a specific sense. For example, in a letter to Calderoni from around this period, Peirce offers the following clarification: "I deny that pragmaticism as originally defined by me made the intellectual purport of symbols to consist in our conduct. On the contrary, I was most careful to say that it consists in our *concept* of what our conduct *would* be upon *conceivable* occasions."[693] Accordingly, for Peirce the meaning of a conception is irreducible to conduct, let alone actual conduct. But even if Peirce escapes the difficulties involved in defining meaning by actual conduct, the pragmatic maxim often is criticized for neglecting propositions about the past by making the meaning of such propositions future experiences. As Miller notes, Peirce opens himself to this charge by making claims such as "…a belief that Christopher Columbus discovered America really refers to the future."[694] Conversely, Peirce claims a year previously that "[t]he intellectual meaning of a statement is precisely the same whether it refers to past or future time."[695] It is possible that one of

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[692] *CP* 5.438 "Issues of Pragmaticism" [1905]
[693] *CP* 8.208 "To Signor Calderoni, on Pragmatism" [c. 1905]. This is another place where Peirce asserts that his initial examples of pragmatic clarification in 1878, particularly of 'hardness,' strayed too far towards nominalism.
[694] *CP* 5.461 "Issues of Pragmaticism" [1905]
[695] *CP* 8.195 "On Pragmatism, from a Review of a Book on Cosmology" [c. 1904]

these statements resulted from a *lapsus calami*, or that Peirce's view changed in the interim. Nevertheless, these passages suggest two needed disambiguations; one, between meaning and reference, and two, between *intellectual* meaning and other possible kinds of meaning.

Miller argues that Peirce does distinguish between the meaning of a proposition and its reference, despite occasional lack of clarity. This position rests on the combination of a claim that all propositions refer to actual objects, and that the past is the mode of actuality.[696] The latter is explicitly stated by Peirce, but the former is controversial. First, it eliminates propositions that refer to fictive or ideal objects; at best, it becomes a sort of nominalism wherein a proposition referring to Hamlet 'really' only refers to the various instantiations of Hamlet in text, etc. This cannot be Peirce's position. Looking to the passages that Miller cites for support, as well as related texts, we see that Peirce is defining a *dicent sign*, or *dicisign*, which is an indexical-like sign. Specifically, in the trichotomy of signs based upon the relation of sign to its interpretant, "…we may say that a Rheme is a sign which is understood to represent its object in its characters merely; that a Dicisign is a sign which is understood to represent its object in respect to actual existence; and that an Argument is a Sign which is understood to represent its Object in its character as Sign."[697] However, this does parallel another division offered by Peirce, in which he links 'Argument' with 'Proposition' and

[696] Miller, "Peirce on Pragmaticism and History"pp. 43-44 [1978]
[697] *CP* 2.252 "Division of Signs" [c. 1903]

'Term'[698] Furthermore, Peirce does claim "It has thus been sufficiently shown that all propositions conform to the definition of the Dicisign and to the corollaries drawn from that definition. A proposition is, in short, a Dicisign that is a Symbol."[699] Fortunately, we may avoid some of the complexities of Peirce's later formal semiotics by noting the following qualification: "The proposition professes to be really affected by the actual existent or real law to which it refers."[700] Rather than saying that propositions 'refer' to actual objects, it is more accurate to say that propositions profess to be, and are interpreted as being, in a dynamical relation with something real, whether an actual existent or a real law. For example, ""I define a dicent as a sign represented in its signified interpretant *as if it were* in a Real Relation to its Object. (Or as being so, if it is asserted.)"[701] This nuance saves Peirce from the possible nominalism of Miller's formulation.

However, does it preserve a distinction between meaning and reference? The suggestion is that meaning is future-oriented, while reference is past-oriented. Again, the former is certainly true for Peirce; here is another example:

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[698] See *CP* 1.354 "A Guess at the Riddle" [1887-1888]. This parallel is explicit in CP 8.337 "To Lady Welby" [1904]: "In regard to its relation to its signified interpretant, a sign is either a Rheme, a Dicent, or an Argument. This corresponds to the old division, Term, Proposition, and Argument, modified so as to be applicable to signs generally."
[699] *CP* 2.320 "Propositions" [c. 1902]
[700] *CP* 2.252 "Division of Signs" [c. 1903]
[701] *CP* 8.337 "To Lady Welby" [1904]. See also *CP* 2.310 "Propositions" [c. 1902]: "The readiest characteristic test showing whether a sign is a Dicisign or not is that a Dicisign is either true or false, but does not directly furnish reasons for its being so. This shows that a Dicisign must profess to refer or relate to something as having a real being independently of the representation of it as such, and further that this reference or relation must not be shown as rational, but must appear as a blind Secondness."

> But I may remark that the word meaning has not hitherto been recognized as a technical term of logic, and in proposing it as such (which I have a right to do since I have a new conception to express, that of the conclusion of an argument as its intended interpretant) I should have a recognized right slightly to warp the acceptation of the word "meaning" so as to fit it for the expression of a scientific conception. It seems natural to use the word *meaning* to denote the intended interpretant of a symbol.[702]

Nonetheless, this definition of "meaning" is a *technical* term, and as such should not be expected to maintain the more colloquial understandings of the term. This point underscores Peirce's insistence on the "intellectual" or "rational" purport of a conception, especially after 1900, which leaves open the possibility that conceptions have *unintellectual* purports. In other words, 'meaning' beyond the technical sense Peirce employs. Finally, the emphasis on the intellectual character of meaning links it once more to the future, because for Peirce rational conduct is self-controlled, and "…future conduct is the only conduct that is subject to self-control."[703]

However, just as propositions are components of arguments, reference must be a component of meaning, even if excluded when discussing meaning in a technical sense ("P-meaning?").[704] This works with the commonsense notion, also well-supported by Peirce, that the past is a component of the future.[705] Nonetheless, another ambiguity remains with Peirce's claim that a proposition concerning the past "really refers" to the

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[702] *CP* 5.175 "The Meaning of an Argument" [1903]
[703] *CP* 5.247 "What Pragmatism Is" [1905]
[704] See *CP* 8.195 "On Pragmatism, from a Review of a Book on Cosmology" [c. 1904]: "The pragmaticist need not deny that such ideas as those of action, of actual happening, of individuality, of existence, etc., involve something like a reminiscence of an exertion of brute force which is decidedly anti-intellectual, which is an all-important ingredient of the practical, although the pragmat[ic]istic interpretation leaves it out of account."
[705] See, for example, *CP* 7.667 [1903]: "The past also is real, -- *something* in it, at least. The future weeds it out; but the positive element is peculiar. Memory would be nothing but a dream if it were not that predictions are based on it that get verified."

future. Does the "really" suggest that the "refers" means "meaning"? Earlier in the same passage Peirce asserts the following: "It cannot be denied that acritical inferences may refer to the Past in its capacity as past; but according to Pragmaticism, the conclusion of a Reasoning power must refer to the Future. For its meaning refers to conduct, and since it is a reasoned conclusion must refer to deliberate conduct, which is controllable conduct."[706] Acritical inferences are those that are indubitable, instinctive, unconscious; in other words, not subject to self-control.[707] This resonates with a claim that Peirce makes about memory in several places; for example, "[m]emory supplies us a knowledge of the past by a sort of brute force, a quite binary action, without any reasoning."[708] However, the catch here may be that it is the *meaning* of a proposition that refers to future conduct; the proposition *itself* may refer to the past. More importantly, Peirce is discussing the reference of a *belief* about Christopher Columbus, which is not a simple proposition but rather a basis for action, a habit of conduct. For example, "An act of judgment is the self-recognition of a belief; and a belief consists in the deliberate acceptance of a proposition as a basis of conduct."[709] Accordingly, a belief about Columbus "really refers" to the future because as a belief it concerns possible experiential consequences of accepting the proposition "Christopher Columbus discovered America" as true.

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[706] *CP* 5.461 "Issues of Pragmaticism" [1905]
[707] See "Issues of Pragmaticism" [1905] *passim*
[708] *CP* 2.86 "Partial Synopsis of a Proposed Work in Logic" [c. 1902]
[709] *CP* 8.337 "To Lady Welby" [1904]

Nonetheless, does this mean that a proposition cannot refer, strictly speaking, to the future? Perhaps they cannot, for at least one reason. The first is that propositions about the future must be indeterminate as to their truth, which violates the definition as statements that are either true or false. However, to state that a proposition about the future is *now* either true or false is to presume a metaphysics that Peirce denies. For example, "…I [Peirce] think that great errors of metaphysics are due to looking at the future as something that will have been past."[710] This links with the second point, for from a pragmatist perspective the statements about the future are confused hypothetical conditions of the form "If [set of conditions], then there would be [set of experiences]." However, there are at least two senses of truth in play here. The first is whether the event described by the proposition actually occurred, and this truth is determined by the indexical chain from the original event to the present assertion. This kind of truth may be determinate now, although we may be ignorant of its truth status. The second sense is what is the true meaning of the proposition, and here the meaning of a proposition is in a process of *determination*, and is so currently, and perhaps forever, indeterminate. The future is not an undiscovered country, already present beyond the horizon. Instead, it grows in meaning without losing its dynamic links to the past.

[710] *CP* 8.330 "To Lady Welby" [1904]

Conclusion

And so we have two avenues out of Lovejoy's objection. The first is a fuller account of the semeiotic nature of a proposition and its associated sense and reference. The second is the more ontological point that what is true about the past will persevere into the future, but that does not mean that it is already there. Furthermore, the detail and richness of Peirce's accounting for the past diminish the likelihood that he would make such a fundamental error. If my initial hypotheses regarding Peirce's infelicitous claim about a belief in Columbus prove unsatisfactory, there is still the lesson of Iamblichus. That is, when an honest inquirer makes a mistake, giving a thorough consideration of what made this specific error likely will be instructive. This interplay between critical development and respectful incorporation is how we make our own histories.

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