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Peirce on the passions: The role of instinct, emotion, and sentiment in inquiry and action

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Peirce on the Passions:

The Role of Instinct, Emotion, and Sentiment in Inquiry and Action

by

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Dedication

In Memory of Willis H. Truitt

Acknowledgments

I wish to recognize several people, without whose contributions this dissertation would not have been completed.

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ABSTRACT

One of the least explored areas of C.S. Peirce's wide range of work is his

contributions to psychology and the philosophy of mind. This dissertation examines the

corpus of this work, especially as it relates to the subjects of mind, habit, instinct,

sentiment, emotion, perception, consciousness, cognition, and community. The argument

is that Peirce's contributions to these areas of investigations were both highly original

and heavily influenced by the main intellectual currents of his time.

An effort has been made to present Peirce's philosophy without apology, within

the conceptual framework and idiom of its time, and without appeal to a comprehensive

view that Peirce, whose notorious lack of perseverance resulted in many unfinished

projects, never articulated. Nevertheless, as several noted interpreters have argued, much

of this work can be viewed through the lens of Peirce's innovative theory of signs and the

notion of the semiotic triad as its central unifying feature, despite the fact that the general

theory was itself under continuous refinement and remained incomplete at the time of his

death. Another hermeneutical device employed is William James' better known and more

accessible work which, when juxtaposed with Peirce's ideas, serves to bring them into

sharper relief.

While general and historical in the presentation of material, this study seeks, at the same time, to engage the criticism of contemporary Peirce scholars in an attempt to account for several of the conundrums inherent in Peirce's work. Among the problems with implications for his philosophy of mind and theory of inquiry are the limitations of his theory of continuity, his negative view of the self, his somewhat ambiguous position on the relation of psychology to logic, and the metaethical puzzle arising from application of his theory of probable inference to truly fateful decisions. These problems provide an interesting perspective and lend balance to the truly insightful contributions Peirce made to the discovery of the mind.

Abbreviations

CN   Charles Sanders Peirce: Contributions to *The Nation*, 3 vols., eds. Kenneth Laine Ketner and James Edward Cook (Lubbock: Texas Tech University Press, 1975-1979).

CP   *Collected Papers of Charles Sanders Peirce*, 8 volumes; vols.1-6 eds. Charles Hartshorne and Paul Weiss (Cambridge, MA: Harvard University Press, 1931-1935); vols. 7-8 ed. Arthur Burks (Cambridge, MA: Harvard University Press, 1958). All references to writing in *Collected Papers of Charles Sanders Peirce* will appear in the standard form: the volume in Arabic numerals, a period, and the paragraph in the volume cited, using the form *CP*.

EP   *The Essential Peirce: Selected Philosophical Writings*, 2 vols., eds. Nathan Houser, Christian Kloesel, and the Peirce Edition Project (Bloomington: Indiana University Press, 1992-99).

HP   *Historical Perspectives on Peirce's Logic of Science*, 2 vols., ed. Carolyn Eisele (Berlin: Mouton Publishers, 1985).

MS   *The Charles S. Peirce Papers*, housed at Harvard University. Reference numbers are those developed by Richard Robin, *Annotated Catalogue of the Papers of Charles S. Peirce* (Amherst: University of Massachusetts Press, 1967).

NEM   *The New Elements of Mathematics by Charles S. Peirce*, 4 vols. in 5, ed. by Carolyn Eisele (The Hague: Mouton Publishers, 1976).

RLT   Charles Sanders Peirce, *Reasoning and the Logic of Things: The Cambridge Conferences Lectures of 1898,* ed. Kenneth Laine Ketner (Cambridge; Harvard University Press, 1992).

SS   *Semiotic and Significs: The Correspondence Between Charles S. Peirce and Lady Victoria Welby*, ed. Charles S. Hardwick with the assistance of James Cook (Bloomington and London: Indiana University Press, 1977).

W   *Writings of Charles S. Peirce: A Chronological Edition*, 6 vols. (of projected 30), Peirce Edition Project (Bloomington: Indiana Unviersity Press, 1982-).

Chapter One

The Scope of the Project and an Introduction to Peirce's Work

"He finished almost nothing, but he began almost everything."
--Hacking, *Representing and Intervening*

A. <u>The Scope and Structure of the Project</u>

One of the many disciplines to which Charles Sanders Peirce lent insight and

originality was psychology. "His interest in human nature was wide and varied, and, in

his fragmentary way, he contributed notably to the study of various psychological

problems – in particular, to problems relating to the threshold of sensation, and to various

other problems of the psychology of perception."[1] Yet this is perhaps the least explored

area of Peirce's contributions. There has not been to my knowledge any book-length

treatment of Peirce's psychology despite his having written extensively on the philosophy

of mind. It is the purpose of this dissertation to explore this largely neglected body of

work especially as it relates to his theory of signs, his views on habit and instinct, his

theory of abduction and his understanding of sensation, emotion, sentiment, self, and

community.

A context for this dissertation will be Peirce's doctrine of signs as an essential

hermeneutical tool for understanding Peirce's views of emotion and sentiment,

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Epigraph. Ian Hacking, *Representing and Intervening* (Cambridge: Cambridge University Press, 1983).

1. Josiah Royce and Fergus Kernan, "Peirce as a Philosopher," *Journal of Philosophy, Psychology, and Scientific Methods* 13 (1916): 702.

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notwithstanding the incompleteness of his general theory of signs. The reason for using this theory as a backdrop for discussion of these matters is my agreement with David Savan that "the concept of the semiotic triad[2] is the central unity in Peirce's philosophy, from beginning to end," and the closest thing we have to a constant in Peirce's own methodology despite his constant refinement of the details.[3] This is not to argue that there is an essential Peircean viewpoint. On the contrary, I tend to side with those interpreters of Peirce who for many of the reasons cited below, fail to find in his writings an indication of single-mindedness and instead see a great deal of disparity and occasional contradiction. This feature of Peirce's work is, however, less marked in the semiotic which, while it evolved over the span of his career, remained the unifying feature of his work. "Peirce's basic philosophical hypothesis is that everything is an actual sign."[4] Moreover:

> Peirce uniformly holds (1) that there is no such thing as a sign in isolation, every sign being a constituent of a sequential set of signs, so that apart from membership in this set, a thing has no meaning; and (2) that in the sequential movement of signs thus ordered, the meaning of the earlier ones in the series is provided by or constituted by the later ones as their interpretants, until a conclusion (*logical* as a matter of course) is reached. Indeed, Peirce adheres so consistently to this view that he says, more than once, that signs, *as such*, form an infinite series, so that no conclusion of reasoning is forever final, being inherently open to having its meaning modified by further signs.[5]

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2. Following from Peirce's assertion that all thinking is in signs and that everything is a sign, the triad is the structure and action of semiosis that is established from the relations that stand among the representamen (the sign), its object (the thing represented by the representamen), and an interpretant (the meaning of the sign).

3. David Savan, "The Unity of Peirce's Thought," in L.W. Sumner, John G. Slater, and Fred Wilson, eds., *Pragmatism and Purpose* (Toronto: University of Toronto Press, 1981), 10.

4. Ibid., 11.

5. John Dewey, "Peirce's Theory of Signs, Thought, and Meaning," *The Journal of Philosophy* 43 (1946), 88.

I will endeavor to treat the subject matter in a critical manner, without attempting to provide a comprehensive position that Peirce himself never fully articulated. Instead, my intention will be to show how Peirce's work addressed problems within the philosophy of mind of his own time and provided penetrating insight into some of these issues. I will thus seek to avoid what Thomas Dixon terms "presentism" or the imposing of "the assumptions, theories and terminologies of contemporary academic psychology" upon theories of emotion of the eighteenth and nineteenth centuries.[6] This becomes extremely important in the matter of psychological language and categories where the equivocation of terms such as 'sentiments,' 'feeling,' 'passions,' 'sensation,' 'sentiments,' and 'emotion' is unwarranted. The philosophical method herein employed will, therefore, be in part historical in nature and will begin in chapter two with a brief overview of the development of nineteenth century psychology.

Notwithstanding Peirce's well documented debt to Kant and his comprehensive knowledge of the laboratory researches of Wilhelm Wundt, Hermann von Helmholtz, and Gustav Fechner (Wundt granted Peirce the translation rights to *Vorlesungen über die Menschen- und Thierseele* in 1869, Peirce translated a portion of Helmholtz's *Handbuch der physiologischen Optik* in 1871, and made a study of Fechner's *Elemente der Psychophysik* in 1869),[7] I will argue that his views owe more to and are for the most part better understood in the context of nineteenth century British and American psychology.

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6. Thomas Dixon, *From Passions to Emotion* (Cambridge: Cambridge University Press, 2003), 13. See also his rationale for using the term 'psychology' to refer to pre-scientific uses of the term.
7. Max Fisch, "A Chronicle of Pragmaticism," in Kenneth Laine Ketner and Christian J. W. Kloesel, eds. *Peirce, Semiotic and Pragmatism*: *Essays by Max H. Fisch* (Bloomington: Indiana University Press, 1986), 119-120.

His writings on the topics covered in this dissertation were often in response to the claims of James and John Stuart Mill, Alexander Bain, Herbert Spencer, William Hamilton and, of course, Charles Darwin. Chapter two will be a brief study of this history.

The case of Bain is of special interest in that his theory of belief was a cornerstone in the development of pragmatism by the Metaphysical Club of Cambridge in the early 1870s. This Club, which counted among its members not only Peirce but Oliver Wendell Holmes, Jr., William James, Chauncey Wright, and attorney Nicholas Green, was well read in the writings of Bain.[8] "[Green] eloquently urged the importance of Bain's definition of belief as that upon which a man is prepared to act, from which pragmatism is scarce more than a corollary."[9] On the other hand, as we shall see, Peirce's cognitivist psychology was strongly opposed to Bain's physicalist associationism and when in critical retrospect, Peirce detected traces of psychologism in his early and best known papers on pragmatism he may have been thinking of Bain's influence.

The brief history of psychology in the nineteenth century English speaking world presented in chapter two will be an attempt to trace its evolution from the moral sentimentalists of the late eighteenth century, through the 1820 *Lectures on the Philosophy of the Human Mind* by the physician Thomas Brown[10] to its apex in the 1890

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8. Fisch, "Alexander Bain and the Genealogy of Pragmatism" in *Peirce, Semeiotic, and Pragmatism: Essays by Max H. Fisch,* 93.

9. Ibid., 81, and is drawn from *CP* 2.267, 4.233, 4.613.

10. Thomas Brown, *Lectures on the Philosophy of the Human Mind*, 4 vols. (Edinburgh: W. and C. Tait, 1820).

publication of William James' *Principles of Psychology*.[11] Here, I will rely heavily on

two recent works: Thomas Dixon's *From Passions to Emotions*[12] and Rick Rylance's

Victorian Psychology and British Culture. Dixon's chief argument is that of a growing

secularization within psychology that culminated in the creation of the category of the

'emotions.' Rylance's contention is that there were only two schools of psychology in

Victorian England: the A priori School and Associationism.[13] In this context, the drama

of nineteenth century psychology is played out on both sides of the Atlantic.

The focus of this history will be on the development of the category of 'emotion'

which appeared for the first time in the English language in Hume's *Treatise on Human

Nature* but was only refined in Brown's *Lectures* "in which 'emotions' was the term

adopted for all those feelings that were neither sensations nor intellectual states."[14] This

development was important for a variety of reasons that will be explored in some depth.

Essentially, experimental psychology was in its infancy and beginning to assert itself as a

science and as such, developing a terminology apart from that of both philosophy and

theology. The language of 'passions,' 'affections,' and 'sentiments' was giving way to a

non-theistic, non-moral and non-cognitive understanding of 'emotion,' reflecting a

growing secularism and the influence of Darwinism in intellectual circles.

Chapter three will examine Peirce's general theory of signs, in particular his

semiotic theory of emotion. This will entail an overview of Peirce's three categories as

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11. William James, *The Principles of Psychology*, 2 vols. (New York: Henry Holt & Company, 1890). All references will be to Dover Publications edition (New York: Dover Publications, 1950).
12. Thomas Dixon, *From Passions to Emotions* (Cambridge: Cambridge University Press, 2003).
13. Rick Rylance, *Victorian Psychology and British Culture* (Oxford: Oxford University Press, 2000), 41-43.
14. Dixon, *From Passions to Emotions,* 23.

essential to understanding the semiotic –Quality or Firstness, Relation or Secondness, and Representation or Thirdness. Within the context of Representation are two of Peirce's axioms asserted continually throughout his career. First, "all thought is in signs. We have no power of thinking without signs."[15] Peirce defined a sign in a number of ways.[16]   At one time he wrote, "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.[17] But perhaps the most oft-quoted definition is that "[a] sign, or *representamen*, is something which stands to somebody for something in some respect or capacity."[18]

Secondly, so pervasive is thought, so general is the theory of signs "… that, whatever else anything may be, it is also a sign."[19] Or as he put it on another occasion, "…this universe is perfused with signs, if it is not composed exclusively of signs."[20] So broad is Peirce's understanding of sign as "to encompass the notion of self as a sign,"[21] an idea that will be explored in some detail in chapter four. From there it can be expanded further to embrace the concept of community as a social principle of logic and as product

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15. *CP* 5.253, 2.265. Note that "It was at the age of twenty-eight, in 1868, in the second number of the second volume of the first philosophical journal in the English language, that Peirce committed himself to this … doctrine that all thought is in signs; and in the remaining forty-six years of his life he found no reason to abandon it." Max H. Fisch, "Just How General Is Peirce's General Theory of Signs?" in Ketner and Kloesel, eds., *Peirce, Semeiotic, and Pragmatism: Essays by Max H. Fisch*, 358.

16. "76 Definitions of The Sign by C. S. Peirce," collected and analyzed by Robert Marty; see Arisbe website, http://www.cspeirce.com/menu/library/resources/76defs/76defs/htm (accessed August 2008).

17. *CP* 2.274.

18. *CP* 2.228.

19. Fisch, "Just How General Is Peirce's General Theory of Signs?" in *Peirce, Semeiotic, and Pragmatism,* 357.

20. *CP* 5.448, endnote.

21. *CP* 5.313.

of the social instinct,[22] and as the final arbiter of truth, a topic we will take up chapter

seven. It can also be narrowed to incorporate pets, plants, pronouns and possibilities:

> All thinking is by signs; and the brutes use signs. But they perhaps rarely think of them as signs.[23]
>
> Even plants make their living … by uttering signs …[24]
>
> Pronouns are words whose whole object is to indicate what kind of collateral observation must be made in order to determine the significance of some other part of sentence. Which directs us to seek the quaesitum in the previous context; the personal pronouns to observe who is the speaker, who is the hearer, etc.[25]
>
> But other signs, such as the word "the," in the sense in which "the" is a single word, consist, each of them, in something being possible. I call such things … "May-be's," perhaps better "Can-be's"[26]

As Peirce summarized so effectively:

> I will say that a sign is anything, of whatsoever mode of being, which mediates between an object and an interpretant *in reference to the object*, in such wise as to cause the interpretant to be determined by the object through the mediation of this "sign." The object and the interpretant are thus merely the two correlates of the sign; the one being antecedent, the other consequent of the sign.[27]

It is clear from these quotations that for Peirce, semiosis is dual faceted. "Peirce was

prepared to understand semeiosis in either of two ways: (1) from the side of the sign, as

sign-action, the functioning of a sign, or (2) from the side of the interpretant, as *sign-*

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22. *CP* 5.311, 5.534; see Brent, *Peirce: A Life,* 73.
23. *CP* 5.534.
24. *MS*, 318, 205; quoted in Brent, *Peirce: A Life*, 311.
25. *MS*, 318; quoted in *EP* 2:406.
26. Letter to William James, 25 December 1909, quoted in *EP* 2:500.
27. *MS*, 318, quoted in *EP* 2:410.

interpreting or inferring from signs."[28]   As Vincent Colapietro stated it: "Any interpretant can itself function as a sign; that is, represent an object and generate an interpretant."[29]

It is the role of the interpretant that is the key to unlocking Peirce's understanding of emotion as a sign of feelings rather than immediately intuited feelings, a view that Peirce firmly denied. As some critics have noted, Peirce suffered from triadomania, a fact that will become abundantly clear as we progress in our study. He saw three irreducible phenomenological categories where Aristotle had seen ten and Kant twelve. He saw three kinds of representations: icons, indices, and symbols or interpretants, and, predictably, he saw trichotomies of interpretants. One such trichotomy was (1) emotional interpretants, (2) energetic interpretants, and (3) logical interpretants. The emotional interpretant is a feeling or a quality, the energetic is an effort or activity, and the logical is a deliberately formed habit, a general. All three are closely connected to Peirce's view of the emotions as signs.

Our examination of the interpretant will lead us into the study of Peirce's classification of the sciences as another necessary component for understanding his psychology and his view of emotions as signs. This will be the subject of chapter five. Semiotic, which Peirce came to see as subsuming logic, is one of three normative sciences. The others are aesthetics and ethics. As we will see, Peirce viewed logic, which is concerned with truth and whose good end is to represent something, as relying upon ethics for principles of self-control in performing correct reasoning. Ethics, which is

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28. Fisch, "Peirce's General Theory of Signs," in *Peirce, Semeiotic and Pragmatism,* 329 (italics mine).
29. Vincent Colapeitro, *Peirce's Approach to the Self: A Semiotic Perspective on Human Subjectivity* (Albany: State University of New York Press, 1989), 57

concerned with the right and whose good end is self-regulated action, in turn relies upon aesthetics for the notion of the *summum bonum.* It is aesthetics, which is concerned with the beautiful and whose good end is feelings. The relation between logic and ethics is of particular interest as it provides a backdrop for the study of the essential role of sentiment and emotion in rational inquiry.

Collectively, the normative sciences are grounded in phenomenology and "its ubiquitous elements of Firstness, Secondness, and Thirdness."[30] Metaphysics, as that which attempts to discern the reality of phenomena, represents the third grand division of philosophy, follows from the normative sciences. Psychology, upon which Peirce voiced disparate views, was usually placed with the special or observational sciences and seen as descriptive in nature. "Certainly it was no disparagement of psychology to place it lower than semeiotic in the classification of the sciences…."[31] It was only being viewed as less general than semiotic. In its later development, Peirce's interpretant was not necessarily an individual mind, an interpreter. To view it as such would be a violation of Peirce's consistent opposition to psychologism, the view, so prevalent in his time, that logic is based on psychology. Yet Peirce's supposed unequivocal opposition to psychologism is not above question. The doubt/belief dichotomy – the irritation of doubt that we seek to escape for the satisfaction of belief – which formed the basis of his 1878 iteration of pragmatism, and which was subject to his own later critical analysis, is just one example of how Peirce's work was left open to lingering charges of psychologism, charges that

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30. *CP* 5.121.
31. Fisch, "Peirce's General Theory of Signs," in *Peirce, Semeiotic, and Pragmatism*, 343.

became more widespread as the more subjective forms of pragmatism gained in popularity. "The consistency and force of Peirce's critique of psychologism, hence, depends in the last analysis on the cogency and legitimacy of his understanding of logic."[32] Pragmatism was, after all, developed by Peirce as merely a maxim of logic.

> … I make pragmatism to be a mere maxim of logic instead of a sublime principle of speculative philosophy. In order to be admitted to better philosophical standing I have endeavored to put pragmatism as I understand it into the same form of a philosophical theorem.[33]

> 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.[34]

The question of Peirce's psychologism will be raised in a variety of contexts throughout this work.

Our study of Peirce's understanding of the interpretant will be expanded into the discussion of the place of sentiment and emotion in Peirce's philosophy as indispensable to reason and, moreover, to basic decision making and action. This will be the subject of chapter six. This discussion will be set in a more general treatment of Peirce's understanding of sensation which, in turn, will entail a study of Peirce's belief that a capacity for feeling and a propensity for habit-taking are common to all protoplasm within the context of instinct, which Peirce sometimes referred to as "half-conscious

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32. Vincent Colapietro, "C.S. Peirce's Critique of Psychologism," in Dale Jacquette, ed., *Philosophy, Psychology, and Psychologism* (Dordrecht: Kluwer Academic Publishers, 2003), 173.
33. *CP* 5.18.
34. *CP* 5.196.

inference."[35] The respective roles of instinct and habit and the theory of abduction as

instinct will also be examined as will two notions Peirce borrowed from medieval

philosophy and made extensive use of: *logica utens* and *logica docens*. As we will see,

logica utens is closely tied to the notions of instinct and *il lume naturale* as the instinct

for correctly guessing the laws of nature.

This will lead naturally into Peirce's notion of the social instinct for community

and his view of the scientific community of inquirers engaged in investigation and pursuit

of the ideal of truth, the subject of chapter seven. Peirce was in this sense a

communitarian. As early as 1868, he had galvanized this ideal community in his mind so

that he proclaimed "[t]he individual man, since his separate existence is manifested only

by ignorance and error … is only a negation."[36] The individual in isolation could not

fruitfully or genuinely undertake the pursuit of knowledge, which was obtainable only as

the individual identified his or her interests with those of the community of inquirers

working through the ages:

> This community, again, must not be limited, but must extend to all races
> of beings with whom we can come into immediate or mediate
> intellectual relation. It must reach, however vaguely, beyond this
> geological epoch, beyond all bounds. He who would not sacrifice his
> own soul to save the whole world, is, as it seems to me, illogical in all
> his inferences, collectively. Logic is rooted in the social principle.[37]

Conversely, nine years earlier, Peirce had written, "He who would not sacrifice

his own soul to save the whole world, is illogical in all his inferences, collectively. So the

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35. *CP* 6.238-271, 6.570.
36. *CP* 5.317
37. *CP* 2.654.

social principle is rooted intrinsically in logic."[38] In regard to the social principle, Peirce

spoke of three logical sentiments presupposed in reasoning "namely (1) interest in an

indefinite community (2) recognition of the possibility of this interest being made

supreme, and (3) hope of the unlimited continuance of intellectual activity as

indispensable requirements of logic."[39] He explained elsewhere that the notion of an

indefinite community is the source of his understanding of reality and idealized truth.

> The real, then, is that which, sooner or later, information and reasoning
> would finally result in, and which is therefore independent of the
> vagaries of me and you. Thus, the very origin of the conception of
> reality shows that this conception essentially involves the notion of a
> COMMUNITY, without definite limits, and capable of a definite
> increase of knowledge.[40]

As he was quick to acknowledge, it may seem strange that a man of science would put

forward three sentiments as requirements of logic. But, "when we consider that logic

depends on a mere struggle to escape doubt, which, as it terminates in action, must begin

in emotion, and that, furthermore, the only cause of our planting ourselves on reason is

that other methods of escaping doubt fail on account of the social impulse, why should

we wonder to find social sentiment presupposed in reasoning?"[41]   Chapter seven will

further explore the foundational connection between emotion and correct reasoning,

begun in chapter five, in the context of the indefinite community.

Far from presenting a unified, systematic theory of emotion, sentiment, passions,

feelings, and instincts and their relation to reason, Peirce's writings on these subjects are

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38. *CP* 5.354.
39. *CP* 2.655.
40. *CP* 5.311.
41. *CP* 2.655.

fragmentary and merely suggestive. Indeed, we may occasionally find ourselves

resonating with William James' words to Henry Bowditch, the grandson of the famous

mathematician and astronomer, Nathaniel Bowditch:

> I have just been quit by Charles S. Peirce, with whom I have been
> talking about a couple of articles in the St. Louis *Journal of Speculative
> Philosophy* by him which I have just read. They are exceedingly bold,
> subtle and incomprehensible and I can't say that his vocal elucidations
> help me a great deal to their understanding, but they nevertheless interest
> me strangely.[42]

These same essays, which contain much of Peirce's most important thinking on these

matters, and which will be examined in some detail are, to some degree, as James

describes them. Yet, I will argue, they are insightful, like so much of Peirce's work

anticipatory of twentieth century themes, and thus important. For examples, we need only

point to his cognitive view of emotion, the evidence of what some have taken as an early

articulation of behaviorism, and his views on community that foresaw some of the basic

tenets of sociobiology. We should bear in mind that "[s]ince Peirce was himself an

experimental psychologist, perhaps the first on the American continent, and once thought

of giving up logic for psychology," his views on these matters, while never central to his

philosophical pursuits, are nevertheless noteworthy.[43]

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42. Henry James, ed., *The Letters of William James*, 2 vols. (Boston: The Atlantic Monthly Press, 1920), 1:149 (letter dated 1/24/1869).

43. Fisch, "Peirce's General Theory of Signs," in *Peirce, Semeiotic and Pragmatism,* 343.

B. Flashes against a Cimmerian Darkness:
   Coming to Terms with Peirce

The philosophy of Charles Sanders Peirce is, at turns, one of the most enigmatic
and fecund bodies of work produced in the Anglophone world during the past two
centuries. Peirce was an eccentric, "a strange and unruly being,"[44] who, working almost
continuously from early adulthood, produced over 80,000 pages of manuscript and
12,000 pages of published papers on a wide range of subjects but managed to bring only
one book into print, an 1878 collection of astronomical calculations and suggestions
entitled *Photometric Researches*.[45] Morris R. Cohen assayed the value of his labor and
his place in American thought when he wrote, "If philosophic eminence were measured
not by the number of finished treatises of dignified length but by the extent to which a
man brought forth new and fruitful ideas of radical importance, then Peirce would easily
be the greatest figure in American Philosophy."[46] His work, largely carried out in a
penurious and eremitic existence as a result of his ostracism by the academy, is mostly in
the form of essays and reviews. Josiah Royce, perhaps the only contemporary to possess
a comprehensive grasp of Peirce's thought,[47] stated the obvious when he wrote:

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44. William James quoted by Joseph Brent, in Joseph Brent, *Charles Sanders Peirce* (Bloomington: Indiana University Press, 1993), 16.

45. Nathan Houser estimates that Peirce's extant writings would fill a hundred octavo volumes. Charles Sanders Peirce, *The Essential Peirce*, ed. Peirce Edition Project (1998), 2:xii.

46. William P. Trent, John Erksine, Stuart P. Sherman, and Carl Van Doren, eds., *Cambridge History of English and American Literature: An Encyclopedia in 18 volumes* (Cambridge: Cambridge University Press and New York: Putnam's Sons, 1907-21), vol. 17, "Later National Literature," Part II, "Later Philosophy," §18, "Charles S. Peirce." 26; see Bartleby.com, http://www.bartleby.com/227/ 1018.html (accessed August 2008). The citation: Ward & Trent et al. *The Cambridge History of English and American Literature* (New York: G.P. Putnam's Sons, 1907-21), New York: Bartleby.com, 2000, http//www.bartleby.com/cambridge (accessed July 2008).

47. In the first of his 1914 Berkeley Conferences, Royce made the following reference to a missive from Peirce after sending him his recently published *The Problem of Christianity*: "Peirce received the volumes in May, 1913. He was then slowly dying of an incurable malady. He wrote me a very kind letter of acknowledgment which I deeply prize, and which showed that my so belated effort to understand and to

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It is not always easy to understand Peirce … Upon occasion he could be brilliantly clear in his expressions of highly complex and recondite problems, although this clearness was a capricious fact in his life and writings. One finds this tendency toward what might be called "impenetrability" especially evident in his manuscripts. Too often the reader meets with a thought of surpassing brilliancy and follows it eagerly, only to have it disappear like the cuttlefish in an inky blackness of its own secretion.[48]

The problem stemmed from several factors. For one thing, Peirce seemed to delight in opacity. "He deliberately chose that most of his researches should be concerned with highly technical topics and should be secure from the intrusion of the uncalled."[49] Peirce's most original work was in logic, and it was as a logician that he wished always to be identified. Given the place of logic in nineteenth century American philosophy, this was enough to keep his readership small. After a lecture series on Pragmatism, which had been arranged for Peirce by Royce and William James at Harvard University so that he might advance himself professionally and procure some badly needed funds, James discouraged Peirce's suggestion that the seven poorly attended lectures be published. Counting himself among those in the audience who had found the lectures abstruse, James wrote to Peirce "As things stand it is only highly skilled technicians and professionals who will sniff the rare perfume of your thought and, after you are dead,

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expound the side of his opinions which was in question in this book, had received, despite his feebleness and his age, a reasonable and an unexpectedly careful, although necessarily a very summary attention, and that my interpretation of him gained on the whole his approval." *Josiah Royce's Late Writings: A Collection of Unpublished and Scattered Works*, ed. Frank M. Oppenheim, (Bristol, England: Thoemmes Press, 2001), 2:4.

48. Josiah Royce and Fergus Kernan, "Peirce as a Philosopher," *The Journal of Philosophy, Psychology, and Scientific Methods* 13 (1916): 707.

49. Ibid.

trace things back to your genius."[50] Peirce stubbornly resisted the repeated suggestion of

James that he seek to gain notice through the popularization of his ideas. Ironically, it

was James, from 1898 on, who was to gain notoriety from popularizing a few of Peirce's

leading ideas first presented in the lively discussions of the Metaphysical Club of the

1870s to which both had belonged. For the most part, however, Peirce's thought

remained bewildering to James, who by his own admission had no head for mathematics

and little interest in logic, and was experienced by him as "flashes of brilliant light

relieved against Cimmerian darkness"[51] Without James' gracious attribution to Peirce as

the source of Pragmatism, Peirce might well have become a footnote in the history of

American thought.[52]

Another factor was Peirce's "'incapacity for linguistic expression' and the

difficulty he had in putting his thoughts into words," reflecting what he saw in himself as

a peculiar bent of mind organically rooted in his left-handedness, a fact causing him to

think diagrammatically rather than verbally.[53] Though his prose could occasionally be

elegant, Peirce was somewhat confounded by English and found it as challenging as any

foreign language[54] again believing it to be a reflection of his disposition. Peirce, in

comparing himself to James, who was by contrast a splendid stylist, remarked, "Who

…could be of a nature so different from his as I? He is so concrete, so living; I a mere

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50. Charles Sanders Peirce, *Pragmatism as a Principle and Method of Right Thinking: The 1903 Harvard Lectures on Pragmatism*, ed., Patricia Ann Turrisi (Albany: State University of New York Press, 1997), 16.
51. William James, *Pragmatism* (New York: Longmans, Green, and Co., 1907), 5.
52. Ibid., 6.
53. Joseph Brent, *Charles Sanders Peirce* (Bloomington: Indiana University Press, 1993), 15.
54. See Beverly Kent, *Charles S. Peirce: Logic and the Classification of the Sciences,* (Kingston and Montreal: McGill-Queen's University Press, 1987), Appendix 2:207.

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table of contents, so abstract, a very snarl of twine."[55] In a constant attempt at greater

precision, Peirce was given to making up new terms to suit the purpose of the moment,

stipulating the technical sense in which each term was to be understood only to later alter

its meaning without notice, thus serving only the purpose of further obfuscation. In a

1908 letter to the British semiotician, Lady Victoria Welby, Peirce recalled a chance

encounter with the writer and critic W.D. Howells that serves to illustrate the problem.

> I remember one day, when I was in the twenties, on my way to the post-
> office, I fell in with the novelist William D. Howells, who began by
> criticizing one of my articles from the point of view of rhetorical elegance.
> I said to him, 'Mr. Howells, it is no part of the purpose of my writings to
> give readers pleasure.' Such an idea was quite out of his horizon; and I
> heard of his repeating it as very amusing. People do not consult an
> encyclopaedia to be amused, but to receive definite instruction as
> condensed as clearness permits.[56]

Maryann Ayim observed that "one of the most characteristic features of Peirce's

writing is its organic nature. His ideas are so closely interwoven with one another that

they can be fully grasped only within their total context, in their relationships with one

another.[57] Peirce was, as Richard Rorty has charged, a most traditional philosopher who

was forever seeking a "first philosophy," an epistemological ground for science in his

reduction of the Kantian categories.[58] His writings reflect a commitment to constant

rearrangement of his arguments relative to his thinking about those categories. The result

is less than a systematic presentation as Peter Skagestad summarizes very well:

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55. *CP* 6.184.
56. *CP* 8.378.
57. Maryann Ayim, "Retroduction: The Rational Instinct," *Transactions of the Charles S. Peirce Society* 10 (1974): 39.
58. Richard Rorty, *Consequences of Pragmatism* (Minneapolis: The University of Minnesota Press, 1982), 160-1.

> Peirce was, or aspired to be, a systematic thinker. Consequently, his various fragmentary writings abound with cross-references, as well as references to an overarching 'architectonic' system, which is nowhere set fully set forth … [I]n the course of his long and productive career Peirce repeatedly changed his mind; these changes are sometimes acknowledged, sometimes not. At times even the acknowledgements are retracted, so Peirce changed his mind over whether or not he had changed his mind.[59]

Hence, it is impossible to determine which of several versions Peirce consigned to paper is the one intended for interpretation. As Umberto Eco points out, "Peirce was compelled continuously to re-discuss and revise his ideas. He felt a sort of psychological pleasure in challenging and re-defining his own formulas; it is rather difficult to find two separate passages on a same topic in which he does not contradict and re-propose what he has previously said."[60] The result is, at the very least, confusing. As Rulon Wells bluntly stated, "every student of Peirce has found inconsistencies in him; respects in which he 'talks out of both sides of his mouth,' or tries 'to have it both ways,' or moves in different directions."[61] As we will see below, the hermeneutical problem is further compounded by the state of his literary remains and the fact that Peirce dated less than one fourth of his extant manuscripts.[62]

His linguistic disability which he believed stemmed from his left-handedness, is coupled with what Peirce referred to as his pedestrianism, his deliberate, tortoise-paced method of thinking which, late in life, he described in a letter to the mathematician Cassius J. Keyser:

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59. Peter Skagestad, *Road of Inquiry* (New York: Columbia University Press, 1981), 1-2.
60. Umberto Eco, "Peirce's Notion of Interpretant, *Modern Language Notes* 91 (1976): 1457.
61. Rulon Wells, "Peirce's Notion of the Symbol," *Semiotica* 19 (1977): 198.
62. Thomas L. Short, Review article in *Synthese* 3 (March 1996) 106:409.

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But I am left-handed; and I often think that means that I do not use my brain in the way that the mass of men do, and that peculiarity betrays itself also in my ways of thinking. Hence, I have always labored under the misfortune of being thought "original." Upon a set subject, I am likely to write worse than any man of equal practice …I am not naturally a writer, but as far from being so as any man. If I have ever written anything well, it was because the ideas were exerting a tremendous tension, almost to the bursting point. Moreover, I write much better when I have a definite proposition to prove. It should also not be intricate; for otherwise my mental left-handedness makes me express myself in a way that to a normal mind seems almost inconceivably awkward.[63]

In an unpublished manuscript, Peirce elaborated, revealing that he knew the brain's left hemisphere is the normal center of speech:

I will remark, by the way that I am led to surmise that this awkwardness is connected with the fact that I am left-handed. For that my left-handedness is not a mere accidental habit, but has some organic cause seems to be evidenced by the fact that when I left the last school where it had attracted attention, I wrote with facility with my right hand, but could not write legibly with my left; and yet when I ceased to make the effort to continue this habit of three years standing, I soon fell back to using my left hand, though I have always used knife, fork, and spoon, *at table*, just as others do … [(crossed out) Now supposing that my cerebral organ of speech is on the left side as in other people …] Now, since my heart is placed as usual, it would seem that the connections between different parts of my brain must be different from the usual and presumably best arrangement; and if so, it would necessarily follow that my thinking should be *gauche*.[64]

The result was his propensity to approach work in a very deliberate, methodical, and self-critical fashion that required going over and over his results and repeatedly making modifications. In a letter to the British pragmatist, F.S.C. Schiller, Peirce described his philosophical approach in the following terms:

I must tell you that my practice has always been when I had said my say on any subject, to turn round upon myself and say, "Oh, pooh! I don't

63. Brent, *Peirce: A Life,* 43.
64. Peirce, *MS*, 632, quoted in Kent (1980), Appendix 2: 208.

believe a word of it," and to devote myself seriously to trying to appreciate the other side of the question; after which I let my mind lie fallow about it for several years and then reexamine it. And this I do repeatedly.[65]

This fact of Peirce's methodology can be maddening to those attempting to weave the dangling and incongruent threads of so many drafts into a unified thesis as evidenced by the many different results. His interpreters have not agreed on the essential nature of Peirce's contributions or his identity as a systematic philosopher. Overall evaluation of Peirce's work has ranged widely. Some interpreters claim to have discovered a continuous, unified theme in his work, while others have seen only the fragmented, unfinished, ambivalent and, ultimately self-refuting elements.[66] By way of example, in *Charles Peirce's Empiricism*[67] Justus Buchler believed he had seen in Peirce an inchoate form of Logical Positivism. Conversely, Joseph Esposito in *Evolutionary Metaphysics*[68] believed that the unity was to be uncovered in his cosmology. Indeed, in the end "it is difficult to produce a unified treatment of a philosopher who seems to incorporate the anti-metaphysical prejudices of a critical philosopher of language with a predisposition to speculative metaphysics derived from Hegel and the German idealists."[69]

Others, Thomas Goudge and Murray Murphey among them have emphasized the disunity in Peirce's philosophy. Goudge saw only a tough-minded naturalism joined to a

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65. *MS*, Max H. Fisch Collection, Peirce Edition Project, quoted in Douglas R. Anderson, *Strands of System* (West Lafayette, Indiana: Purdue University Press, 1995), 28.

66. See Carl R. Hausman, *Charles S. Peirce's Evolutionary Philosophy* (Cambridge: Cambridge University Press, 1993) for an excellent assessment of the various treatments of Peirce's interpreters.

67. Justus Buchler, *Charles Peirce's Empiricism* (London: Kegan Paul, Trench, Trubner & Co., 1939).

68. Joseph Esposito, *Evolutionary Metaphysics* (Athens, Ohio: Ohio University Press, 1980).

69. Christopher Hookway, *Peirce* (London: Routledge & Kegan Paul, 1985), 2.

tender-minded and incongruent transcendentalism while Murphey chose to deal with the disparate elements by postulating four separate "systems" each in turn abandoned by Peirce and all of them remaining unfinished products.

To make matters worse, the interpreters of Peirce lack clarity in what they perceive in one another's interpretations. For instance, in the case of Peter Skagestad's *The Road of Inquiry,*[70] Carl R. Hausman believes he has a kindred spirit whose treatment comes close to his own in discerning an essential unity[71] while Christopher Hookway finds the worst kind of interpretation, one that "[recommends] that interpretation should focus on Peirce's contributions to relatively small concrete issues, with attempts to grasp the systematic importance of his thought being postponed."[72]

Then there is the example of Richard Rorty, the renowned and in some sense most derisive of Peirce's critics. Rorty saw Peirce as antithetical to the "great" (i.e. James and Dewey) pragmatists' most important and radical contribution as opposing "standard, academic, neo-Kantian, epistemologically-centered philosophy." [73]   For Rorty, Peirce embodies traditional western philosophical attempts to construct "theories of truth" or "theories of knowledge" or "theories of morality" that have, over the course of twenty-five hundred years, failed to adequately resolve even one of its own problems.[74] Peirce's program of making philosophy more naturalistic and "desire to rescue the good ship Philosophy for the service of Science from the hands of lawless rovers of the sea of

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70. Peter Skagestad, *Road of Inquiry: Charles Peirce's Pragmatic Realism* (New York: Columbia University Press, 1981).
71. Hausman, *Charles S. Peirce's Evolutionary Philosophy*, xvi.
72. Hookway, *Peirce*, 2.
73. Richard Rorty, *Consequences of Pragmatism* (Minneapolis: University of Minnesota Press, 1982), 160
74. Ibid.

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literature" was anathema to the late Rorty's views concerning the real business of

philosophy and the true contribution of pragmatism, as can be seen in the following

quotations.[75]

> As soon as a program to put philosophy on the secure path of science
> succeeds, it simply converts philosophy into a boring academic
> specialty.[76]
>
> Pragmatism has gradually broken the historical links that once connected
> it to empiricism.[77]
>
> Philosophy is best seen as a kind of writing. It is delimited, as is any
> literary genre, not by form or matter, but by tradition – a family romance
> involving, e.g. Father Parmenides, honest old Uncle Kant, and, bad
> brother Derrida.[78]

All Rorty could bring himself to say in Peirce's favor was that despite his "undeserved

apotheosis," his "contribution to pragmatism was merely to have given it a name, and to

have stimulated James."[79]

This dismissive assessment followed almost twenty years Rorty's complimentary

remarks that he wanted "to suggest that Peirce's thought envisaged and repudiated in

advance, the stages in the development of empiricism which logical empiricism

represented, and that it came to rest in a group of insights and a philosophical mood much

like those we find in the *Philosophical Investigations* and in the writings of philosophers

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75. *CP* 5.449. In *CP* 1.33 Peirce wrote: "As for that phrase 'studying in a literary spirit,' there is
nothing more nauseating to a scientific man."
76. Richard Rorty, *Philosophy and the Mirror of Nature* (Princeton: Princeton University Press,
1979), 384-5
77. Richard Rorty, introduction to John P. Murphy, *Pragmatism From Peirce to Davidson*
(Boulder, Colorado: Westview Press, 1990), 4
78. Richard Rorty, *Consequences of Pragmatism,* 92.
79. Ibid., 161.

influenced by the later Wittgenstein."[80] These remarks from an intellect no less

praiseworthy than Rorty further serve to demonstrate just how resistant to facile

classification and summarization Peirce remains. In a typical understatement, Van Quine

said, "Peirce does not lend himself to single-minded interpretation."[81]

One further factor abetting Peirce's "impenetrability" is the unfortunate fate of his

manuscripts.

> In reconstructing Peirce's position, the expositor cannot avoid
> considering texts from quite different phases in Peirce's intellectual
> career. Accordingly, apparent inconsistencies might be resolved by a
> consideration of the chronological development of Peirce's sustained
> reflections on logical topics. But this difficulty itself points to yet
> another one: the somewhat chaotic state of Peirce's manuscripts often
> makes it difficult to reconstruct with the requisite accuracy the actual
> chronology of Peirce's philosophical development.[82]

In reference to the disarray of his papers just on logic, Peirce himself remarked:

> I must tell you that all that you can find in print of my work on logic are
> simply scattered outcroppings here and there of a rich vein which
> remains unpublished. Most of it, I suppose has been written down; but
> no human being could ever put together the fragments. I could not
> myself do so.[83]

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80. Rorty goes on to say that "In particular, Peirce and Wittgenstein complement each other especially well; one presents you with a bewildering and wonderfully abstract apparatus of categories; the other shoves you into very particular puzzles. Peirce's odd numerological categories, just because they are so abstract and so far from the cliches of the history of philosophy, are perhaps the best handles for grasping what one learns from Wittgenstein. Conversely, Wittgenstein's riddles and aphorisms, just because they are so fresh and fragmentary, let one see the point of some of Peirce's darker writings." Richard Rorty, "Pragmatism, Categories, and Language," *Philosophical Review* 70, 199.
81. W.V.O. Quine, "The Pragmatist's Place in Empiricism," in Robert J. Mulvaney and Philip M. Zeltner, eds, *Pragmatism: Its Sources and Prospects* (Columbia: University of South Carolina Press, 1981), 32.
82. Colapietro, "Peirce's Critique of Psychologism," in Jacquette, ed., *Philosophy, Psychology, and Psychologism*, 165.
83. Nathan Houser, "The Fortunes and Misfortunes of the Peirce Papers," published in *Signs of Humanity,* vol. 3, Michel Balat and Janice Delledalle–Rhodes, eds, (Berlin: Mouton de Gruyter, 1992), 1259-1268; see http://www.cspeirce.com/menu/library/aboutcsp/houser/fortunes.htm (accessed July 2008).

When Peirce died in 1914, Royce arranged with his widow for the sale of his library and

literary remains to Harvard University. Royce, who in 1912 had had a "Peircean Insight"

after re-reading Peirce's early writings on logic,[84] was eager to pore over the papers.

Royce and his graduate assistant, W. Fergus Kernan, went to work sorting and cataloging

the pages but were soon daunted by the task of arranging the body of manuscript:

> A first lecture (of the Lowell Lectures on Pragmatism, [1903]) would be
> found … at the top of one group of manuscripts prominently located on
> the right edge of Royce's long study table. Then three piles further on
> (and two days later) one would discover Lecture No. 2 firmly wedged
> between a lengthy dissertation on "The Doctrine of Chances" [1878]
> with pages unnumbered and a small, intensely interesting, treatise "On
> the Prospect of Air-Sailing" [*MS* 1014 and part of 1013, circa 1901].[85]

Royce died suddenly in 1916 before managing to bring any semblance of order to

the papers. Kernan left Harvard for the Army and the papers lay fallow for much of the

next ten years. Morris Cohen did manage to prepare a volume of Peirce's previously

published essays under the intriguing title, *Chance, Love and Logic*[86] in 1923. It was not,

however, until the late twenties when Charles Hartshorne, a newly minted Ph.D. and a

family friend of the department chairman, James Houghton Woods, was retained by

Harvard solely for the purpose, that a full edition of the manuscripts was undertaken. It is

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84. Royce wrote, in part: "Although I long knew Peirce personally, and have been for many years interested in his theories, there were some aspects of Peirce's theory of knowledge which I never understood until, in connection with my own efforts to work out the relations of my philosophy of loyalty to other branches of philosophy, and, in particular, in connection with my review of the problem of the essence of Christianity, I was lead [*sic*] to reread some of Peirce's early logical contributions, and to reconsider the way in which these his earlier theories had worked themselves out in the form which some of his later studies indicate. Then I came to see, with increasing clearness, that Peirce's whole career as a student of logic and of scientific method was devoted to a few fairly simple and obvious ideas, which have nevertheless been very imperfectly understood, just as great and obvious ideas usually are neglected and misunderstood." Oppenheim, ed., *Josiah Royce's Late Writings*, vol. 1e:19.

85. Fergus Kernan, "The Peirce Manuscripts and Josiah Royce – A Memoir," *Transactions of the Charles Peirce Society* 1 (1965): 93.

86. Charles S. Peirce, *Chance, Love, and Logic: Philosophical Essays*, ed., Morris R. Cohen, (New York: Harcourt, Brace & Company, Inc. 1923).

clear from the evidence that the papers were in a state of neglect and disarray when C.I.

Lewis escorted Hartshorne to the workroom in or around 1925.[87] Harvard graduate Paul

Weiss soon joined himself to the project, and after three years, a six-volume edition of

the *Collected Papers of Charles Sanders Peirce* was complete though not published until

1931-35.

Despite rekindling an interest in Peirce, the *Collected Papers* were for the

purposes of critical research anything but ideal. Hartshorne and Weiss made some fateful

choices that compromised the value of their work:

> It was decided that Peirce's writings (except for his scientific and
> mathematical writings, which, though voluminous and important, were
> hardly considered at all) would be organized thematically according to
> Peirce's classification of the sciences, and to further that end
> chronological and textual considerations were given low priority.
> Lecture series were broken apart and published in separate volumes,
> single papers were cut in two, and under a single title might appear
> excerpts from writings composed more than thirty years apart.[88]

Ever since, Peircean scholarship has been hampered by the topical arrangement of the

Collected Papers and the constraints that Harvard placed upon Hartshorne and Weiss to

select only what could be fitted into a few volumes. The late Arthur W. Burks edited

material for two more volumes that appeared in 1958.[89] In the interim, the collection

suffered more neglect and abuse. There were rumors in the early 1940s of a "give-away"

of important papers, some referenced in the *Collected Papers* but no longer to be found in

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87. An interview by Irwin C. Lieb, "Charles Hartshorne's Recollections of Editing the Peirce Papers, *Transactions of the Charles S. Peirce Society* 6 (1970): 149-159.

88. Houser, "The Fortunes and Misfortunes of the Peirce Papers," 2.

89. Two additional collected editions that have since appeared are: Charles Sanders Peirce, *Contributions to The Nation*, 3 vols., eds., Kenneth Laine Ketner and James Edward Cook (Lubbock: Texas Tech University Press, 1975-1979); and *The New Elements of Mathematics by Charles S. Peirce,* 4 volumes in 5, ed., Carolyn Eisele (The Hague: Mouton Publishers, 1976).

the Harvard collection. A sizeable portion of the 1,250 volume library that was sold to Harvard with the papers, many of the tomes bearing Peirce's marginalia, was shelved in the general circulation of the Robbins and Widener Libraries. The papers, contained in some sixty-one boxes, were moved to Widener Library and subsequently transferred to Houghton Library in 1960 and underwent several more sortings by cataloguers and researchers with no heed paid to earlier classifications.

Only with commencement of work in 1976 on a definitive, critical, and chronological edition of the papers by the Peirce Edition Project, a group of Peirce scholars housed at Indiana University and working from photocopied and, later, digitalized microfilmed images of the Harvard collection, was renewed hope of a useful classification warranted. However, the effort has progressed slowly with only six volumes of a projected forty appearing so far. Working with over eighty thousand pages from the Harvard collection, only one fourth of which were dated by Peirce, and several other collections, including the nearly ten thousand pages in the National Archives,[90] the task of compiling a comprehensive chronological edition is a monumental undertaking.

Despite the obstacles to a clear understanding of Peirce – the idiosyncrasies of the man, the vagaries of his thought, and the disarrangement of his manuscripts, there was something compelling and suggestive to his contemporaries. Royce called him, "our most brilliant and original American logician."[91] As already noted, James acknowledged his debt to Peirce for the inspiration of pragmatism and dedicated his *The Will to Believe:*

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90. Houser, "The Fortunes and Misfortunes of the Peirce Papers," 7.
91. Oppenheim, *Josiah Royce's Late Writings: A Collection of Unpublished and Scattered Works* 2:3.

To My Old Friend, CHARLES SANDERS PEIRCE, to whose philosophic comradeship in old times and to whose writings in more recent years I owe more incitement and help than I can express or repay.[92]

In his second year at Hopkins, John Dewey took two courses with the part-time lecturer Peirce which Dewey confessed made little sense to him at the time. "Twenty years later Dewey began to see the value of Peirce's work, but it was only after another twenty years, when Morris Cohen republished some of Peirce's Papers, that Dewey learned what Peirce had tried to teach him."[93] Though he was less effusive in his praise of Peirce than either James or Royce, Dewey's later work in logic and his own brand of pragmatism bear the mark of Peirce's influence and are pocked with references to his teacher's work. While Dewey wrote relatively little on Peirce, one of his essays, "Peirce's Theory of Linguistic Signs, Thought and Meaning," is a succinct and powerfully written summary of the general theory of signs. Another essay, "Peirce's Theory of Quality," delivered as a corrective to Thomas Goudge's misconceptions of Peirce's category of "Firstness," is a probing examination of Peirce's phenomenology.[94]

In his groundbreaking *Survey of Symbolic Logic*, Royce's student, Clarence Irving Lewis, wrote in 1918 that "[t]he contributions of C.S. Peirce to symbolic logic are more numerous and varied than those of any other writer –at least in the nineteenth century."[95] In the twenty-eight page section on Peirce, Lewis drew attention to the 1883 collection of

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92. William James, *The Will to Believe, and Other Essays in Popular Philosophy* (New York: Longmans, Green, and Company, 1897).

93. Fisch, "Peirce's Place in American Thought," in *Peirce, Semiotic and Pragmatism*: *Essays by Max H. Fisch,* 310.

94. The former is from *The Journal of Philosophy* 43 (1946): 85-95; latter is from *The Journal of Philosophy* 32 (1935): 701-708.

95. Clarence Irving Lewis, *Survey of Symbolic Logic* (Berkeley: University of California Press, 1918), 79.

essays by some of Peirce's Johns Hopkins students, *Studies in Logic,*[96] that were inspired

and edited by Peirce, though he fittingly gave editorial credit to the authors collectively.

Lewis' "most Peircean work" and his *magnum opus*, *Mind and the World Order,*[97] "was

somewhere between Peirce's pragmatism and Royce's absolute pragmatism."[98]

Closer to our time, the list of those who have acknowledged taking inspiration

from Peirce includes Alfred North Whitehead, Frank Ramsey, Karl Popper, Noam

Chomsky, Umberto Eco, Karl-Otto Apel, Jurgen Habermas, Helmut Pape, Hilary

Putnam, Richard Bernstein, and to a lesser extent, W.V.O. Quine.[99] Ramsey was so

enamored of Peirce's correspondence with Victoria Lady Welby on semiotics that "in his

review of the *Tractatus* [he] remarked that Wittgenstein would have profited from

Peirce's type-token distinction."[100] In an intriguing essay, Charles S. Hardwick surmised

that the origin of what some have interpreted as a pragmatic strain evident in

Wittgenstein's later work, speculating that inasmuch as Wittgenstein credited Ramsey

with "waking him from his dogmatic slumber," that their lengthy conversations might

have covered notions inspired in Ramsey by his reading of Peirce.[101] Hardwick

concluded that "What is needed is a careful study of themes common to Peirce and

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96. Members of the Johns Hopkins University, *Studies in Logic* (Boston: Little, Brown and Company, 1883).

97. Clarence Irving Lewis, *Mind and the World-Order* (New York: Charles Scribner's Sons, 1929).

98. Fisch, "American Pragmatism Before and After 1898," in *Peirce, Semiotic and Pragmatism*, 301.

99. Brent, *Peirce: A Life,* 6.

100. Charles S. Hardwick, "Peirce's Influence on Some British Philosophers," *Peirce Studies,* no. 1, ed., Institute for Studies in Pragmatism (Lubbock, Texas: Texas Tech University Press, 1979), 27; Peirce's correspondence with Welby can be found in Charles S. Hardwick, ed., *Semiotic and Significs: The Correspondence Between Charles S. Peirce and Victoria Lady Welby* (Bloomington and London: Indiana University Press, 1977).

101. Hardwick, *Peirce Studies*, 25.

Wittgenstein."[102] Ironically, it is Rorty who provided something of that study in observing that "When Peirce says that 'vagueness is real' and when Wittgenstein points to the difference between causal and logical determination, the only differences between what they are saying are verbal," that "[t]he similarity of their insights about language reflects that fact that the slogans 'Don't look for the meaning, look for the use' and 'The meaning of a concept is the sum of its possible effects upon conduct' reciprocally support each other."[103]

At a 1976 conference on the philosophy of language, "Chomsky was asked which philosopher he believed to be most kindred to his own ideas. He answered, 'In relation to the questions we have been discussing, the philosopher to whom I feel closest and whom I'm almost paraphrasing is Charles Sanders Peirce.'"[104] For his part, Quine believed that "Peirce scored a major point for naturalism … in envisioning a behavioristic semantics. Naturalism in psychology and semantics is behaviorism; and Peirce declared for such a semantics when he declared that beliefs consist in dispositions to action."[105]

Of the many and widely varied ideas pioneered by Peirce, we need only highlight a few to gain an appreciation of the fruitfulness of his labors. In addition to being the progenitor of pragmatism, Peirce is credited with developing the logic of relatives. At about the same time as Frege, he obtained the insight of quantification, and as Putnam put

102. Ibid., 29.
103. Richard Rorty, "Pragmatism, Categories, and Language," *The Philosophical Review* 70 (April 1961):198. See e.g. Ludwig Wittgenstein, *The Blue and Brown Books* (New York: Harper & Row, 1960), 60, and *CP* 6.481.
104. Brent, *Peirce: A Life*, 6.
105. Quine, "The Pragmatists' Place in Empiricism," in Mulvaney and Zeltner, *Pragmatism, Its Sources and Prospects*, 35-6.

it, "effectively introduced quantifiers as we know them today."[106] He worked out a single connective logic that anticipated the Sheffer stroke by some thirty years. He developed a triadic or many-valued logic well in advance of Jan Lukasiewicz and Emil Post.[107] He is responsible for the Law that bears his name: $\{[(P \supset Q) \supset P] \supset P\}$ or 'P must be true if you can show that P implying Q forces P to be true,' a tautology that Peirce employed as a substitute for the Principle of the Excluded Middle.[108] Peirce also developed a system of iconic first-order logical graphs, and was the progenitor of modern semiotics. He made a lasting mark in probability theory and developed a third order of reasoning that he alternately termed abduction, retroduction, or hypothesis.

As a true polymath, Peirce made original contributions to chemistry, geodesy, metrology (the science of measurement), literary criticism, sociology, lexicography, astronomy, and cartography in addition to philosophy, mathematics and logic. He invented the quincuncial map in 1876, an extraordinarily accurate projection that was used extensively during the Second World War. He was, Ian Hacking notes, "perhaps the only philosopher of modern times who was quite a good experimenter."[109] He spent most of his professional life as a working scientist, employed by the United States Coast and Geodetic Survey, where he pioneered new methods in pendulum-swinging and was the first to suggest the use of the light wave to more accurately measure the length of a meter.

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106. Nathan Houser, Don D. Roberts, and James Van Evra, eds., *Studies in the Logic of Charles Sanders Peirce,* "Introduction" by Houser (Bloomington and Indianapolis: Indiana University Press, 1997), 3.
107. Fisch, "Peirce's Triadic Logic," in Ketner and Kloesel, eds., *Peirce, Semeiotic, and Pragmatism: Essays by Max H. Fisch*, 171.
108. Henry Hiż, "Peirce's Influence on Logic in Poland," in Houser, Roberts, and Van Evra, eds., *Studies in the Logic of Charles Sanders Peirce*, 266-7.
109. Hacking, *Representing and Intervening*, 60.

As we will see, his laboratory work extended to the then new field of psychology and the measurement of human perceptions. Though he was responsible for ground-breaking work in many fields, his wide-ranging interests often conflicted and caused distractions that kept him from completing much of what he started and thus, he is not widely known today outside of small circles within academe. As a result, "he [has] suffered from readers of narrow vision, so he is praised for having had this precise thought in logic, or that inscrutable idea about signs."[110] However, as Hacking concludes one of the fairest, most admirable, and certainly most colorful assessments of Peirce:

> We should instead see him as a wild man, one of the handful who understood the philosophical events of his century and set out to cast his stamp upon them. He did not succeed. He finished almost nothing, but he began almost everything.[111]

This is the portrait of Peirce that I hope has been the guiding principle of this study.

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110. Ibid., 61.
111. Ibid.

Chapter Two

The Modern English History of the Emotions

The old sensationalists, Hartley, Brown, and the Mills, never wrung
many admissions from the advocates of a-priority.
--Peirce, *Writings of Charles S. Peirce*

Hamilton's own lectures were the first philosophic writings I ever forced myself to study,
and after that I was immersed in Dugald Stewart and Thomas Brown.
--James, *Varieties of Religious Experience*

A. Introduction

The development of psychology in the English-speaking world as "mental

science," apart from the concerns that it shared with philosophy and theology, began to

take shape in the late eighteenth century. It is rooted in the emergence of new

terminology, in particular, the term 'emotion' to signify that which for generations had

been referred to varyingly as passions, affections, sentiments, feelings, and sensibilities.

"By about 1850 the category of 'emotions' had subsumed 'passions,' 'affections,' and

'sentiments' in the vocabularies of the majority of the English-language psychological

theorists. It had become the most popular standard theoretical term for phenomena such

as hope, fear, love, anger, jealousy and a wide variety of others."[1] This was in large part

due to the posthumously published four volume work entitled, *Lectures on the*

Philosophy of the Human Mind, by Thomas Brown, Doctor of Medicine and Professor of

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Epigraph. Peirce Edition Project, *Writings of Charles S. Peirce: A Chronological Edition*, 6 vols. (Bloomington: Indiana University Press, 1982 -) (hereinafter cited as *W*).
Epigraph. William James, *Varieties of Religious Experience* (1902).
1. Dixon, *From Passions to Emotions,* 98.

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Moral Philosophy in the University of Edinburgh that appeared in 1820.[2] "Brown's *Lectures* was the single most important work in introducing the term 'emotions' as a major psychological category to the academic and literary worlds during the first half of the nineteenth century."[3] This work ran to twenty editions by 1860 and as we will see, exerted widespread influence on most of the better known proponents of the emerging new psychology.

A full western history of affective psychology might commence with a study of the emergence of such terms as the Greek *pathē* and the Latin *passiones, affectiones,* or *affectus*.[4] Or it might begin with a study of Plato's *Protagorus* and the discussion of the proper relation between reason and the emotions. For the purposes of this dissertation, it is sufficient to chronicle developments in Anglo-American psychology from the late eighteenth century.

B. Roots of the 'Emotions'

Thomas Dixon picks up the modern history of the emotions with what he sees as the crux of Christian affective psychology, "psychological, moral, and theological distinctions that were made neither in the classical [Greek] discourse of the passions (*pathē)* nor in the subsequent discourse of the 'emotions.'"[5] These distinctions were between appetites, lusts, desires, and passions that were insubordinate to the rational will, on the one hand, and virtuous and godly affections that issued in acts of the higher will,

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2. Thomas Brown, *Lectures on the Philosophy of the Human Mind* (Edinburgh: W. & C. Tait, 1820).
3. Dixon, *From Passions to Emotions*, 109.
4. Ibid., 19.
5. Ibid., 61.

on the other hand. "This was the result of the Christian desire to say both – against the Stoics – that some human feeling or affection is proper and necessary to this life, but also that God, the angels, and perfected humans are free from the turmoil and perturbations of sin and the passions."[6]

These distinctions, adapted from the Greeks by the Scholastics, were still very much in vogue during the Enlightenment.

> In 1755, Samuel Johnson's dictionary of the English language was first published. The entries for 'affection,' 'appetite,' 'emotion,' 'feeling,' 'passion,' 'sensibility,' and 'sentiment' provide a rough and ready guide to usage in the middle of the eighteenth century. They reveal that the predominant terms for describing states such as love, fear, joy and sorrow were still 'passions' and 'affections,' each of which was given an extensive entry … 'Passions,' as well as being a very general term, referred to the more violent commotions of the mind …'Affections' was defined (as well as also being a very general term) as encompassing, amongst other things, goodwill, love, or kindness towards other people. 'Appetite' was given the next longest entry of these affective terms, which defined it as a word for physical appetites, sensual desires, and violent longings. Next came entries for 'feeling,' 'sensibility,' and 'sentiment.' 'Feeling' when used as an adjective, meant 'expressive of great sensibility'; 'sensibility' in turn was defined as 'quickness of sensation' or 'quickness of perception.' 'Sentiment' had a very short entry – only two meanings were suggested: thought, notion, or opinion on the one hand; and sense or meaning on the other. 'Emotion' too was given only a very brief definition: 'Disturbance of mind; vehemence of passion, pleasing or painful.' The term 'emotion' and its plural 'emotions,' were not in common use at this time other than as words denoting any kind of agitation or disturbance (of the mind, of the body, of a mass of people, or even in the weather).[7]

Embedded in this long quotation is the message that 'emotion' is a relative newcomer to the lexicon of affective psychology. Gradually, but in a most interesting way, the new category of 'emotion' displaced an older terminology. This displacement reflected a

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6. Ibid., 61.
7. Ibid., 62-3.

corresponding shift in mental ontology, a shift from mental powers or faculties of the soul to mental states or feelings.

Dixon's study of the invention of the 'emotions' in the late eighteenth and early nineteenth centuries traces a movement away from reference to the categories of the 'appetites,' 'passions,' 'sensibilities,' 'affections' and 'sentiments,' all rooted in traditional Christian thought, and toward a more secular view of psychology as 'mental science' entailed in the more general category of 'emotion.' Nowhere is this development more clearly evident than in the writings of the so-called British moralists. This eclectic group of thinkers that included Joseph Butler, Francis Hutcheson, Thomas Reid, Lord Shaftesbury and Adam Smith, who were for the most part latitudinarian Anglicans, is compared with the Christian evangelicals Jonathan Edwards and Isaac Watts. "While the revivalists considered the relationship between nature and grace, the natural and the supernatural, and compared the affections and passions of the natural and the saved man, the moralists contemplated the relationship between nature and art, the natural and the social, the individual and the state."[8]

The progressive outlook of the moralists favored the view of human nature as essentially virtuous and human beings as possessing a reliable moral sense or propensity for the good. By contrast, the evangelicals and, ironically enough, Hobbesians such as Bernard Mandeville, with whom the moralists were polemically engaged, viewed human nature as self-seeking and brutish. "A critical difference was that the classical Christian view of man in a state of nature was that he was selfish and sensual because prolapsarian,

8. Ibid., 70.

while the Hobbesian view of human nature was that it was selfish and sensual because pre-social."[9] By championing an innate moral sense, the moralists are credited with causing the soteriological view of classical Christian psychology to fade into the background and with it the focus on will as the means of turning away from sin and toward God. "On the classical Christian model, passions and affections were movements of the soul –specifically passions were movements of the lower part of the will (the sense appetite) and affections were movements or acts of the higher or rational will (the intellectual appetite)."[10]

Another factor leading to the invention of the emotions was rise in popularity, particularly in France and England, of the metaphor of the machine to describe the functioning of the human animal. "The introduction in Germany in the eighteenth century of a third faculty of the soul in addition to understanding and will – the faculty of feeling – was part of a parallel trend away from classical Christian psychology towards a new psychology in which passions, affections, feelings or, ultimately, emotions were not movements of the will but constituted an independent faculty with their own causal power. Psychological thinkers such as Christian Wolff, Moses Mendelssohn, and Johann Tetens were important contributors to a new tradition of mental philosophy in which a third faculty of feeling (*Gefühl* or *Empfindung*) was joined to the traditional two faculties of Christian psychology – knowing and willing."[11] Dixon's claim is that it was endorsement by Kant in the *Critique of the Power of Judgment* of 1790 and

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9. Ibid.
10. Ibid.
11. Ibid.

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Anthropologie in pragmatischer Hinsicht in 1798 and, to a lesser extent, by

Schopenhauer in *The World as Will and Representation* in 1819 that lent authority to the

tripartite view:

> The faculty of feeling (*Gefühl*) for Kant was composed of *Affekte* and
> *Leidenschaft.* These terms did not map straightforwardly on to
> corresponding English terms such as 'passions', 'affections', or
> 'emotions.' This separation of the third faculty from the existing
> faculties of intellect (or understanding) and will was one of the crucial
> factors in laying the groundwork for various theories of passions and
> emotions that saw them as both irrational and involuntary.[12]

While English language models did not explicitly copy the Kantian model, increasingly

they adopted something similar and eventually the "feelings" entered into common

parlance as a separate faculty of the mind.

Another factor leading to the invention of the emotions was the widely adopted

metaphor of the machine to describe the human animal. In an age of growing

mechanization, the metaphor resonated with those seeking a more scientific explanation

of human nature and behavior. Hobbes made an early use of it in the first paragraph of

the *Leviathan*.

> For seeing life is but a motion of limbs, the beginning whereof is in
> principal part within; why may we not say, that all *automata* (engines
> that move themselves by springs and wheels as doth a watch) have an
> artificial life? For what is the heart, but a spring; and the nerves but so
> many strings; and the joints but so many wheels, giving motion to the
> whole body, such as was intended by the artificer?[13]

As a religious skeptic and materialist, Hobbes believed neither in the reality of sin nor the

moral agency of human beings. "Human beings, like machines, were designed, had no

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12. Ibid., 71.
13. Thomas Hobbes, *Leviathan*, ed. Richard E. Flathman and David Johnston (New York and
London: W.W. Norton, first published in 1650), quoted in Dixon, *From Passions to Emotions,* 89.

real agency and no free will."[14] Descartes also made use of the trope as did Shaftesbury,

Butler, Reid and de la Mettrie, who attempted to show that Descartes' view of animals as

mechanical automata was easily extended to the human animal without compromise:

> In the famous *L'Homme Machine* of 1747, de la Mettrie simply set aside the
> Cartesian soul to reduce man to the same status as animals. The mechanical
> physiology of the autonomous Cartesian body did not need, he claimed, to be
> supplemented with the mysterious Cartesian soul, any more than Newton's
> mechanical universe had needed to be supplemented by a mysterious and
> unpredictable God. De la Mettrie did for Cartesian anthropology what Pierre
> Laplace would later do for Newtonian cosmology – neither needed those
> theological hypotheses.[15]

So compelling was this metaphor of the human machine, driven by passion and

the appetites, that it went largely unchallenged. Even a writer as orthodox as Butler did

not take issue with the suggestion of man as machine arguing only that man was a virtue

producing machine, not a selfish machine. The end result, however, was that the

individual will came to be viewed as a slave of the passions, an unreflective conjunction

of conditioned responses to external forces. Highly reductionist versions of this analogy

would appear in the influential works of Thomas Huxley and Herbert Spencer in the

nineteenth century.

Two other analogies were influential in leading the way to the invention of the

emotions, according to Dixon. One was the analogy between inner and outer sensations.

> Passions and affections (including the moral sense and moral
> sentiments) were described as a sort of inner sensation or perception, by
> analogy with the external senses of taste, touch, sight and so on. Reid's
> opposition to the reduction of complex acts of the mind, of which
> sensation or feeling was only one element, to sensation or feeling alone,
> displayed awareness of the reductionist tendency of the analogy.
> Sensationalist and associationist thinkers such as Hartley, Condillac and

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14. Dixon, *From Passions to Emotions,* 89.
15. Ibid., 89-90.

James Mill would later replace the view that they just were modes or combinations of sensations – Spencer and Bain also tended towards this latter view in their works on emotions.[16]

As we have stated, the case of Bain is of special interest in respect to the fact that Peirce was very familiar with Bain's work and allowed that Bain's definition of belief had been foundational to the development of pragmatism.

The third analogy that was important to the evolution of the emotions as a category of affective psychology and the philosophy of mind was that which held between sciences of mind and sciences of matter:

> The 'moral arithmetic' and 'inward anatomy' of the moralists were attempts to apply Baconian inductivism to the mind by methodological analogies. It was again Reid, in his critique of Hume's attempt to construct a causal and law-like science of human nature, who showed most caution about pursuing the analogy between the necessary laws of Newtonian physics and the operations of an active human mind: 'There are many important branches of human knowledge, to which Sir Isaac Newton's rules of Philosophizing have no relation, and to which they can with no propriety be applied. Such are Morals, Jurisprudence, Natural Theology, and the abstract Sciences of Mathematics and Metaphysicks; because in none of those sciences do we investigate the physical laws of Nature.' Reid went on to say that it was normally the belief or judgment that caused the feeling rather than the other way around.[17]

Thus it is that Reid can be viewed as anticipating some of the themes of twentieth century cognitivists, "notably [Robert] Solomon, [William] Lyons, [Irving] Thalberg, [Joel] Marks and [John] Searle, all of whom ascribe a critical role to cognitive beliefs and desires in the production (or constitution) of emotions."[18] More closely tied to our

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16. Ibid., 93-4.
17. Quotation is from Thomas Reid, *Essays on the Active Powers of Man*, 3 vols. (Edinburgh: Bell & Bradfute, 1788), 1: 472; quoted by Dixon, *From Passions to Emotions,* 94.
18. Dixon, *From Passions to Emotions,* 96.

interests, distinctly Reidian threads are discernable in the fabric of Peirce's theory of emotion, which is distinctly cognitivistic. What emerged by the closing decade of the eighteenth century, however, was a view in which "the passions and affections were conceived as a faculty in their own right … (and) that they (thus) came to be seen as alien powers rather than as movements integral to the self."[19]

C. The Emergence of the Emotions

The category 'emotion' is, as we have noted, a relative latecomer to the lexicon of affective psychology. The English word apparently is apparently derived from the Latin *ēmovēre,* to move out, remove or take out (ē – *out* + *movēre* to move), or sometimes movement of the soul (*emotus animae*), indicating the radiation outward of some of its movements.[20] *Ēmovēre* was employed by both Augustine and Aquinas to indicate movement in relation to some object. "It is tempting to see in such uses by Augustine and Aquinas an etymological precursor of the term 'emotions,' which is clearly a cognate term."[21] Yet the various connotations of the English word that began to appear only in the eighteenth century seem to have far less to do with movement toward or away from a given object than an inward bodily or mental movement.

By the mid-eighteenth century, the term was well enough known for Johnson to take notice and give it a brief entry in his dictionary. Interestingly, the modern term was in large measure a Scottish product. "Some Scottish writers on aesthetics, especially Lord

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19. Ibid., 97.
20. Robert K. Barnhart, ed., *The Barnhart Concise Dictionary of Etymology* (New York: Harper Collins, Publishers, 1995), 240.
21. Ibid., 40.

Kames, in his *Elements of Criticism* (1752), and Archibald Alison, in his *Essays on the Nature and Principles of Taste* (1790), were early users of the category of 'emotions' as a general psychological term referring to vivid feelings, perceptions, and sensations."[22] It was, however, the proponents of the emerging school of associationism who were to adopt the term as a synonym for the passions, affections, and sentiments and adapt its use to the view that all mental life is the product of sensory and perceptual stimulation.

Associationism was one of two main schools of mental philosophy in the eighteenth century, the other being, A priorism, which was heir to the older faculty psychology. Associationists drew their inspiration from Locke's *Essay Concerning Human Understanding* and his belief that the contents of the mind and all of its powers are derived from individual sense experience.

> Associationism assumes that mental life is derived from sensory and perceptual stimulation. In childhood, these stimuli establish the fundamental structures of mind, which is empty without them. In later life, these structures regulate the flow of sensory data and prevent the mind from becoming an inferno of chaotic and random stimuli. For associationists, the mind is thus self-organizing around the initiatory clusters … So how do the mind's contents organize themselves in associationist theory? The simplest explanation was that the structures of the mind replicate the structures of the experienced environment …The mind's dominant ideas are therefore a self-electing reflection of the way the world is.[23]

The associationists had, in addition to pure sensation, a second source of ideas in the mind's capacity to reflect on its own activities. It was this capacity for reflection, however, that proved associationism's undoing.

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22. Ibid., 101.
23. Rick Rylance, *Victorian Psychology and British Culture* 1850-1880 (Oxford: Oxford University Press, 2000), 57

In most accounts, the links between ideas occur in one of two ways: either by contiguity (that is, by direct adjacency in time or space) or by the perception of resemblance … However, the perception of resemblance – the association of similar ideas –is a tricky issue. It is sometimes ascribed to the frequency with which ideas are associated in the environment, in which case, for strict theorists, the perception of resemblance is only a special case of heavily repeated contiguity. But if ideas are associated by means other than contiguous occurrence, then the theory is in difficulties, because this line of thought suggests that the mind might be able to recognize resemblance by a faculty that is not itself a product of association. This is a classic difficulty in Locke's development of associationist doctrine in *An Essay Concerning Human Understanding*, and it dogged the theory for nearly two hundred years thereafter. If a relatively independent faculty to adjudicate comparisons and detect similarities is conceded – Locke's general name for it is 'reflection' – the purist rigour of associationism falls, and important ground is given up to jeering faculty psychologists. If it is not conceded, however, a serious gap appears in the theory … The mind was to be understood as an entity constituted within its own history and not under any terms of reference outside this process.[24]

So wedded to the Lockean point of view was associationism that it was often referred to as the School of Locke and its adherents as Locke's descendants.[25] The earliest statement of the associationist psychology appears to have been David Hartley's 1749, *Observations on Man*.[26] Those who found a muse in Hartley included Thomas Brown, James Mill, John Stuart Mill, Alexander Bain, Herbert Spencer and George Henry Lewes. Hartley, in turn, had been stirred by Hume and the principle of the association of ideas in the *Treatise on Human Nature* (1739-40),[27] the work in which the

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24. Ibid., 58-9.
25. Ibid., 56.
26. David Hartley, *Observations on Man, his Frame, his Duty and his Expectations,* 2nd ed. (London: J. Johnson, 1791).
27. David Hume, *Treatise of Human Nature*, 2nd edition, ed. L.A. Selby-Bigge with text revised and variant readings by P. H. Nidditch (Oxford: Oxford University Press, 1978).

term 'emotions' made its first sustained appearance in a manner proximate to modern

usage.[28] Even so, Hume did not appear certain what he wanted the term to do.

> There are [in the *Treatise*] many cases of apparent equivocation …
> between 'passions and 'emotions,' although 'passions' was the central
> and most frequently used category. In most instances Hume seemed to
> intend 'emotions' to be read as a rather vague and general term to mean
> something like 'feelings' or 'movements' or 'agitations' of the mind. In
> this sense an emotion could be said to be something 'which attends a
> passion.' In other places, however, Hume seemed to use 'emotions' as a
> synonym or stylistic variant for 'passions,' as well as for 'affections'; he
> also used emotion to mean a movement of the bodily 'spirits,' as well as
> an 'immediate feeling' or sensation.[29]

A variant form of associationism was dubbed 'sensationalism', a generally

pejorative term used to describe the reductionism that held that ideas were one of two

classes of feeling, one being *ideas*, the other being *sensations* from which all

understanding of the world was directly and solely derived.[30] The former is merely a

copy of the latter in a manner similar to Hume's ideas being simply fainter copies of

sense impressions. James Mill put it this way: "We have two classes of feelings; one,

which exists when the object of sense is present; another, which exists after the object of

sense has ceased to be present. The one class of feelings I call *sensations*; the other class

of feelings I call *ideas*."[31] "The difference between 'sensationalism' and 'associationism'

– aside from the often derogatory overtones of the former – was that the former was more

crudely reductionist, and explained complex phenomena as mere aggregates of basic

bodily sensations, whereas the latter explained them as proprieties of complex learned

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28. Dixon, *From Passions to Emotions*, 104.
29. Ibid., 105.
30. Rylance, *Victorian Psychology*, 59.
31. James Mill, *Analysis of the Phenomena of the Human Mind*, 2 vols. (London: Baldwin and Cradock, 1829; repr., Bristol, England: Thoemmes Press, 2001), 1:41.

associations, and gave a greater role, as Locke had, to the mind's power of reflection."[32]

The sensationalists thus dismissed the distinction of body and mind and "this opened the way to a physiologically based study of mind by placing cognition, perception, sensation, the functioning of the organs of sense, and general physiology all in one line of development."[33]

The Associationists of the early nineteenth century were opposed by the A priorists, who adhered to principles of faculty psychology and its discourse of the soul. Residing in its core values were two major premises.

> [F]irst, that human beings occupy a special place at the pinnacle of Creation, and, secondly, that, by virtue of this, humans, for the most part, are exempt from the messy determinations of nature. Humans are not only higher in the scheme of things, they are different …[Faculty psychology] discriminated higher minds from lower (for instance, men from women and 'civilized' minds from 'primitive') and saw itself as defending the special dignity of human nature… As a result, psychologically, human beings were thought to possess relatively autonomous, distinctly human, mental *faculties.*[34]

These were arranged in a variety of taxonomies that distinguished between "higher" faculties (reason, faith, love, will) and "lower" faculties (sensation, feeling, appetite, desire).[35]

The A priorists believed that they had discovered a formidable reaffirmation of their essential convictions in an appropriation of Kant's critical philosophy. "Faculty psychologists obstructed new enquiries as often as possible (especially in psycho-physiology), and promoted the view that the development of any kind of substantive

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32. Dixon, *From Passions to Emotions*, 100.
33. Rylance, *Victorian Psychology*, 60.
34. Ibid., 26-27.
35. Ibid., 27.

psychological theory on empirical lines was misplaced effort."[36] Revolted by the

materialistic implications of the associationists' growing infatuation with physiology,

they were heartened by what they gleaned from the transcendental psychology of Kant.

"Faculty psychologists, building on the discourse of the soul, take from Kant two

supportive affirmations: first, that the mind possesses innate ideas (time, space, and so

on); and, secondly, that as an intellectual discipline the scope open to psychology is very

limited, and its methods remain restricted to the increasingly old-fashioned looking ones

of introspection."[37]

As to the second of these two affirmations, faculty psychologists were heartened

by Kant's claim that empirical psychology should be wholly banished from metaphysics

because it cannot add to *a priori* knowledge, that it is not yet refined enough to count as a

legitimate field of study and is "therefore, merely a stranger whom one puts up with for a

while and grants residence for some time, until he can move into his own lodging in a

comprehensive anthropology (the pendant to empirical natural science)."[38] Having

asserted "that in any special doctrine of nature there can be only as much *proper* science

as there is *mathematics* therein," Kant weighs empirical psychology in this balance and

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36. Ibid., 47.

37. Ibid., 48.

38. Immanuel Kant, *Critique of Pure Reason*, Unified Ed., trans. Werner S. Pluhar, intro. Patricia Kitcher (Indianapolis and Cambridge: Hackett Publishing Company, Inc., 1996), A:849 / B:877. I have adopted the common practice of reference to the A (1781) and B (1787) editions of Kant's *Critique of Pure Reason,* followed by the page number from the standard edition of Kant's works, *Kants gesammelte Schriften,* issued by the Königlich Preußische Akademie der Wissenschaften (Berlin: Walter de Gruyter & Company and Predecessors, 1902-).

finds it wanting as a science "because mathematics is not applicable to the phenomena of inner sense and their laws …"[39]

Having savaged the pretensions of psychology posing as natural science, Rylance explains that Kant set out to narrow its proper scope.

> Psychology's strength, according to Kant, is that it can dismantle 'speculative' propositions; its limitation is that it cannot provide substantive knowledge, 'neither enlightenment nor determinant judgment,' as Kant puts it. At best, Kant states, substantive or empirical psychology consists of routine introspective observation, a 'mere anthropology of the internal sense.' Its authentic task is self-reflection upon the processes of intellection themselves, in particular the fundamental category structures inherent in thought: 'the universal laws apart from which nature in general (as an object of sense) cannot be thought.' These are the '*a priori* laws' that 'understanding prescribes… for nature.' Examples would be our sense of Time, Space, and Extension, or Unity, Difference, and Limitation, a sense of which Kant believed, was innately embedded in human minds.[40]

The faculty psychologists, as we have seen, delighted in the view of Kant that underscored the operations of the mind and the limitations of psychology for getting behind the three faculties of cognition, volition, and judgment by any other means than introspection. "[Psychology] certainly cannot enquire into their origin (especially their physiological origin), nor analyze very deeply their mode of operation."[41] This portrayal of Kant as a highly sophisticated faculty psychologist was quite popular with the

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39. Immanuel Kant, *Metaphysical Foundations of Natural Science* in *The Cambridge Edition of the Works of Immanuel Kant: Theoretical Philosophy after 1781,* eds. Henry Allison and Peter Heath, trans. Gary Hatfield, Michael Friedman, Henry Allison and Peter Heath (Cambridge: Cambridge University Press, 2002), 185-6; standard German edition of Kant's works, *Kant's Gesammelte Schriften,* ed. Royal Prussian Academy of Sciences (Berlin: Georg Reimer, later Walter de Gruyter & Co., 1900-), indicated by means of marginal numbers, 4:470-471.

40. Rylance, *Victorian Psychology,* 48. Quotes of Kant are from *Critique of Judgement,* trans. James C. Meredith (Oxford: Oxford University Press, 1952), Part II: Critique of Teleological Judgement, 131-132.

41. Rylance, *Victorian Psychology*, 49.

philosophers of the Scottish common-sense school, who sought to wed Kant and Reid.

There are, as Rylance notes, contemporary proponents of similar positions such as Wayne

Waxman, Patricia Kitcher, and Karl Ameriks.[42]

There was, however, another interpretation of Kant that placed emphasis not on

faculties of the mind but instead viewed the critical philosophy as essentially skeptical.

This view was espoused in the nineteenth century by T.H. Huxley (1825-1895), who saw

Kant not so clearly akin to Reid as to Hume.

> In short, nothing can be proved or disproved, respecting either the
> distinct existence, the substance, or the durability of the soul. So far,
> Kant is at one with Hume. But Kant adds, as you cannot disprove the
> immortality of the soul, and as the belief herein is very useful for moral
> purposes, you may assume it. To which, had Hume lived half a century
> later, he would probably have replied, that, if morality has no better
> foundation than an assumption, it is not likely to bear much strain; and,
> if it have a better foundation, the assumption rather weakens than
> strengthens it.[43]

Those who followed this line of interpretation included positivists such as William

Kingdom Clifford (1845-1879) and John Tyndall (1820-1893), who found in Kant what

they reckoned as the scientific grounds for skepticism that thus issued a liberating

warrant for scientific inquiry as producing findings that were permanently open to

revision.[44] "In his own work, Kant conceals the epistemological abyss his critical

reasoning might open by insisting that innate categories of thought happily agree with the

order of nature. The normal mind does not freewheel towards mysticism or madness

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42. Ibid., note 29 on Wayne Waxman, Patricia Kitcher, and Karl Ameriks.
43. Thomas Huxley, *Hume*, 3rd ed. (London: Macmillan and Company, Ltd. 1901), 210; quoted from Huxley, *Hume*, (1879), 181, by Rylance, *Victorian Psychology*, 50.
44. Rylance, *Victorian Psychology,* 50.

because the fundamental categories are coincident with sensory intuition."[45] Among those who championed this notion was Benjamin Peirce (1809-1880), the father of Charles Sanders Peirce, and once considered this country's leading mathematician. In his final published work, *Ideality in the Physical Sciences*, Benjamin Peirce articulated the view Charles Peirce affirmed as "ideal-realism" and which he summarized as "consisting in 'the opinion that nature and the mind have such a community as to impart to our guesses a tendency toward the truth, while at the same they require the confirmation of empirical evidence.'"[46] The mind's innate affinity with the order of nature, or *il lume naturale* – a phrase borrowed from but seldom used by Galileo[47] – would later be developed, as we will see, in Charles Peirce's views on instinct and probability.

D. Thomas Brown and the Development of the Emotions

Thomas Brown (1778-1820) is credited by Dixon with playing a key role in developing the psychological category of 'emotions' to identify love, hate, anger, joy, sadness, jealousy, and so forth.[48] Within one generation this all-purpose psychological category supplanted the older language of the 'passions,' 'affections,' and 'sentiments.'

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45. Ibid.
46. Joseph Brent, *Charles Sanders Peirce: A Life* (Bloomington: Indiana University Press, 1993), 205.
47. *CP* 6.10, 6.567. See Carolyn Eisele, "The Influence of Galileo on Peirce," in *Studies in the Scientific and Mathematical Philosophy of Charles S. Peirce: Essays by Carolyn Eisele,* ed. Richard M. Martin (The Hague: Mouton Publishers, 1979), 169-176. Jaime Nubiola has critically examined Peirce's adoption of this Galilean term in his essay "*Il Lume Naturale*: Abduction and God," in *Semiotiche* I/2 (2004): 91-102; also see www.unav.es/users/LumeNaturale.html (accessed August 2008).
48. Dixon, *From Passions to Emotions,* 109.

Brown's four volume *Lectures on the Philosophy of the Human Mind* appeared in 1820.[49]

By 1850 the 'emotions' were the standard currency of affective language.

Placing Brown in the landscape of nineteenth century philosophy of mind is difficult. The psychology of Brown may be summarily described as a combination of the Scottish philosophy of Reid and Stewart, and the analyses by Condillac, Destutte de Tracy, and the higher philosophers of the sensational school of France, together with view of the association of ideas derived from a prevailing British school.[50]

Brown, however, was clearly no sensationalist. "(He) complained that materialism eliminates 'heroic virtue', leaving 'but a certain aggregation of particles, which … must rot in the grave, with the other parts of the withered and ulcerated body.'"[51] What his position seems to have combined was essential features of both Reid's common sense and Hume's skepticism. Evidence that Brown believed it quite possible to coherently combine the two is indicated in the gloss of his *Lectures.*

> The doctrine of both is composed only of two propositions; one is that,
> That no argument can be offered to shew by mere reasoning the
> existence of external causes of our feelings, --The other, that it is
> absolutely impossible for us, in the various states of mind which we term
> Perception, not to believe in external causes of our feelings. The whole
> seeming difference is merely this, -that each philosopher, though
> affirming both propositions, dwells a long time on one of them, and a
> short time on the other; and that the particular proposition on which they
> dwell the longer, is not, in both cases, the same.[52]

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49. Thomas Brown, *Lectures on the Philosophy of the Human Mind*, 4 vols. (Edinburgh: W.C. Tait; London: Longman, Hurst, Rees, Orme, and Brown, 1820); all references will be to the two volume edition of 1846 (Hallowell: Glazier, Masters & Smith).

50. James McCosh, *Scottish Philosophy from Hutcheson to Hamilton* (New York: Robert Carter and Brothers, 1875), 325.

51. Rylance, *Victorian Psychology,* 46.

52. Thomas Brown, *Sketch of a System of the Philosophy of the Human Mind*. (Edinburgh, Bell & Bradfute, 1820), in *Significant Contributions to the History of Psychology, 1750-1920*, Series A, Orientations, vol. 1: *The Logic of Condillac & Sketch of a System of the Philosophy of the Human Mind*, ed. Daniel N. Robinson (Washington DC: University Publications of America, 1977). In the Lectures he had

Brown, however, had his share of critics and the consensus among them seems to indicate that they sensed in his writings a sensationalism of the Condillacian stripe. Three contemporary historians of philosophy, Robert Blakey, James McCosh, and J.D. Morrell, each accused Brown of harboring ideas that were congruent to sensationalism.[53] Brown defended himself by rejecting Condillac's reductionism as vigorously as he did Reid's unbridled proliferation of faculties.

> The phenomena of mind are … in the general technical language of the science [of the mind], referred by us to many powers which, I cannot but think, are not so different as to furnish ground of ultimate distinction, but are truly varieties of a few more simple powers or susceptibilities. While I am far from conceiving, therefore, with Condillac and his followers that all our states of mind are mere sensations modified or transformed, since this belief appears to me to be a mere assumption without even the slightest evidence in our consciousness, I am equally unwilling to admit the variety of powers, of which Dr. Reid speaks.[54]

On one hand, Brown sided with Reid and Stewart in the belief that there are in the mind, intuitive first principles, such as the uniformity of nature, the identity of self, and the moral sense. On the other hand, he took issue with their unwarranted multiplication of faculties.[55] Analysis must precede intuition, and one may appeal to the latter only when

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compared the two positions thusly: "The sceptic, and the orthodox philosopher of Dr. Reid's school, thus come precisely to the same conclusion. The creed of each, on this point, is composed of two propositions, and the same two propositions; the first which is, that the existence of a system of things, such as we understand when we speak of an external world, cannot be proved by argument; and the second, that the belief of it is of a force, which is paramount to that of argument and absolutely irresistible. The difference, and the only difference, is that, in asserting the same two propositions, the sceptic pronounces the first in a loud tone of voice, and the second in a whisper, while his supposed antagonist passes rapidly over the first, and dwells on the second, with a tone of confidence. The negation in the one case, and the affirmation in the other case are, however, precisely the same in both." Thomas Brown, *Lectures on the Philosophy of the Human Mind*, 2 vols. (Hallowell: Glazier, Masters & Smith, 1846), Lecture 28, 1:279.

53. Dixon, *From Passions to Emotions,* 115, note 74.

54. Brown, Lecture 33, "On Dr. Reid's Classification of the Mental Phenomena," *Lectures on the Philosophy of the Human Mind* 1:336

55. See article by Robert H. Wozniak, "Thomas Brown," *Dictionary of Nineteenth Century Philosophers*, eds. W.J. Mander and Alan P.F. Sell (Bristol, England: Thoemmes Press, 2002), 154-57.

all efforts of the former have failed and analysis, first and foremost, is the business of classification. No science of the mind, no analysis, indeed, no taxonomy is possible without accounting for similitude in observed phenomena.

> But still, when we arrange these different phenomena in certain classes, it is an error in classification to give a new name to varieties that can be referred to other parts of the division already made; and it is on this account that I object to the unnecessary amplification of our intellectual systems, in arranging the phenomena of mind under so many powers as those of which we are accustomed to speak.[56]

What Brown brought to the discourse on mental science was a view that greatly reduced the number of active faculties and powers of the mind and held that there were generally only sequences of passive mental phenomena, i.e. mental states or affections.[57] These states of the mind were divided between external and internal affections. The external affections included all sensations including smell, taste, hearing, touch, vision, and muscular sense. The internal affections of the mind were, in turn, subdivided between intellectual states or thoughts, on the one hand, and emotions on the other hand.[58] "The latter of these classes comprehends all, or nearly all, the mental states, which have been classed by others, under the head of active powers."[59] Of the emotions we will say more momentarily.

Brown's portrait of the mind is heavily laced with analogies from the natural sciences, especially chemistry. In his *Lectures* he wrote of the 'Classification of the Phenomena of the Mind':

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56 Brown, *Lectures on the Philosophy of the Human Mind* (1846), Lecture 33, 1:336.
57. Dixon, *From Passions to Emotions,* 120-1.
58. Ibid., 123.
59. Brown, *Lectures on the Philosophy of the Human Mind* (1846)*,* Lecture 16, 1:164.

> The science of mind, as it is a science of analysis, I have more than once
> compared to chemistry, and pointed out to you and illustrated its various
> circumstances of resemblance. In this, too, we may hope the analogy
> will hold, that, as the innumerable aggregates, in the one science, have
> been reduced and simplified, and the innumerable complex feelings in
> the other will admit of a corresponding reduction and simplification.[60]

Directed at more than merely the end of simplification, Brown employed the analogy in the hope of developing mental science along the same lines as natural science, and with an eye to more than mere resemblance. Brown borrowed the methods and language of chemistry as a means of lending status and authority to his observations. It was a tactic effectively adopted in turn by George Payne, James and John Stuart Mill, George Ramsay, Thomas Laycock, and G.H. Lewes.[61]

At the same time, Brown's adoption of analogies from chemistry and physics was a retreat from realism. Sanctioning an analysis of cause and effect as *mere* uniformity, Brown's view appears to have been more austere than Hume's. When applied to mental phenomena, the result was the effective denial of *a priori* faculties or powers of the mind. Brown wrote:

> The view of the mental phenomena which I have taken … a view which
> it appears to me of the utmost importance for simplicity and accuracy of
> investigation to have constantly before us while we are endeavoring to
> philosophize on them, is that which considers all our feelings of
> whatever order, Sensations, Thoughts, Emotions, simply as *states of the
> mind,* that bear to each other, or to corresponding affections of our
> bodily frame, certain relations, either of *reciprocal antecedence and
> consequence,* by which we distinguish them as Causes and Effects, or of
> *virtual comprehensiveness,* by which it is impossible for us not to regard
> some of them as complex and involving, virtually at least, certain
> simpler feelings as their elements. From the beginning of life to its close
> the mind has existed, and is known to us only as thus existing, in various
> states of changeful feeling; the feeling at each moment being its state at

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60. Ibid., 1:157.
61. Dixon, *From Passions to Emotions,* 119-20.

each moment, that continued till the new state of some other feeling was more or less rapidly induced. The whole series of these feelings, therefore, has been the whole series of its states: and it is in our power to philosophize on these changes of mental state, as we philosophize on any of the changeful phenomena of the material world which they indirectly indicate to us.[62]

Having already declared "that there is nothing general but the mere names, or other symbols which we employ,"[63] and thus, that there are no real faculties or powers of the mind, only mental states, it is clear from this passage that Brown's analogy between "mental chemistry" and physical chemistry could hold just so far. Dixon explains its limitations and liabilities.

> Brown termed his mental philosophy variously 'physiology of the mind,' 'mental chemistry,' 'mental science,' intellectual physics,' and even 'the physical investigation of the mind.' However, Brown's 'mental science,' like that of moderates such as Reid and Stewart as well as that of the Associationists Hume, Hartley and James Mill, was a purely mentalistic and introspective discipline. It was a science, like chemistry or physiology, in that it analyzed the whole into parts, classified those parts and described the dynamics of their interaction. But it was not a physical science – it had nothing to say about chemistry or physiology *tout court*, it simply analysed and classified mental phenomena qua mental phenomena.[64]

So long as he clung to substance dualism and a methodology that was largely introspective in nature, Brown struggled to make "mental chemistry" do what he needed it to accomplish.

Apart from the application of a quasi-empirical methodology to the philosophy of mind, the real significance of Brown's work is that it introduced a number of new psychological categories and terms. As we have noted, Brown reduced mental

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62. Brown, *Sketch of a System of the Philosophy of the Human Mind*, x-xii.
63. Ibid., 266.
64. Dixon, *From Passions to Emotions,* 118.

phenomena to what he alternately termed mental states, feelings or affections of the mind. These mental phenomena, in turn, were classified as according to whether the immediate antecedent or cause was material or mental.[65] The causes of external affections of the mind or sensations were material objects whereas the causes of internal affections of the mind, whether intellectual states or emotions, were mental feelings.[66] As we have seen, one of Brown's innovations was the division of internal affections into intellectual states of mind and emotions. It was the first attempt in the English language to codify the term 'emotions' as a replacement for what the faculty psychologists had termed the 'active powers' of the human mind and it was the first attempt to create of the 'emotions' a psychological category that was more than a mere synonym for the feelings.

"Brown himself gave three main reasons for his change of terminology from 'active powers' to 'emotions': first, that he found the term 'active powers' awkward and ambiguous; secondly, that intellectual states were the really active states of mind; and thirdly that he wished to include in his category of emotions many states that were not active – such as grief or astonishment – and some also that had traditionally but wrongly been considered intellectual powers, such as the feelings of beauty and sublimity."[67] The result, however, was far less than the achievement of clarity. For one thing, the attempt to include many dissimilar mental states under the 'emotions' risked equivocation. This is indicated in Brown's failure to provide a clear definition for the term. He admitted, that, 'The exact meaning of the term *emotion* … is difficult to state in any form of words.'[68]

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65. Ibid., 124.
66. Brown, *Lectures on the Philosophy of the Human Mind*, Lecture 16, 1:156-165.
67. Dixon, *From Passions to Emotions,* 124.
68. Brown, *Lectures on the Philosophy of the Human Mind*, Lecture 16, 1:165.

He appealed to general understanding and enumeration. "Every person understands what is meant by an emotion, at least as well as he understands what is meant by any intellectual power; or if he does not, it can be explained to him only, by stating the number of feelings to which we give the name, or the circumstances which induce the feelings to which we give the name, or the circumstances which induce them."[69] Brown's lack of an adequate précising definition for the 'emotions' had a residual effect on the development of nineteenth century psychology.

> It was certainly true that the category of 'emotions' could be filled out ostensively by listing love, hate, joy, sorrow, fear, anger, surprise and so on (although not without controversy). The problem with such a practice was that in the absence of a definition of 'emotion' it was not at all clear what was being claimed about a certain mental state when it was included in the category of 'emotions'. The problem of the non-explanatory nature of the label 'emotions' has been a perennial problem ever since Brown … Later writers also echoed Brown's statements that 'emotions' could not be given a precise definition but were distinguished by a peculiar vividness of feeling, and that they were not to be confused with 'sensations,' which were feelings with external bodily causes rather than internal mental ones … It is no surprise that in 1884 William James was still asking the question 'What is an emotion?' (and failing to find an answer that persuaded most of his peers).[70]

As we have noted, within two decades of Brown's untimely death in 1820 the term 'emotions' replaced the language of the 'passions,' 'sentiments' and 'affections.' As Brown himself prophetically observed, this change was more than merely verbal in nature. "A difference of words is, in this case, more than a mere verbal difference. Though it be not the expression of a difference of doctrine, it very speedily becomes so."[71] Brown's bequest to the next generation of philosophers of mind was more than a

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69. Ibid.
70. Dixon, *From Passions to Emotions,* 126-7.
71. Brown, *Lectures on the Philosophy of the Human Mind*, Lecture 16, 1:162.

glossary of new terms for old categories. Though Brown contended that much of his thinking was merely the reclassification of time honored truths, he consistently disputed the division of mental phenomena into those which belonged to the *understanding* and those belonging to the *will* –"a division which is very ancient, but though sanctioned by the approbation of many ages, very illogical."[72] He held that there were many emotions that did not fit into either division. "To take, on a few instances out of many, to what class are we to reduce grief, joy, admiration, astonishment, which perhaps are not phenomena of the mere understanding, and which, though they may lead indirectly to desires or volitions, have nothing, in themselves, that is voluntary, or that can be considered as in any peculiar degree connected with the *will*?"[73]

Thus detached from the will, the emotions were rendered "'mere feelings' – passive states akin to Hume's 'secondary impressions' and Descartes' 'perceptions' – to be contrasted with active intellectual judgments."[74] The implications for morality, no less than psychology, were clear: "We do what we do because of whichever appetite, passion, or emotion prevails (which might or might not be a benevolent or moral emotion) not because we judge it to be right."[75] Brown summed up the new teaching.

> In the picture which I have now given of our emotions, however, I have
> presented them to you in their fairest aspects; there are aspects, which
> they assume, as *terrible* as these are *attractive*; but even, terrible as they
> are, they are not the less interesting objects of our contemplation. They
> are the *enemies* with which our moral combat, in the warfare of life, is to
> be carried on; and if there be enemies that are to assail us, it is good for
> us to know all the arms and all the arts with which we are to be assailed;
> as it is good for us to know all the misery which would await our defeat,

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72. Ibid., 1:158.
73. Ibid., 1:158-9
74. Dixon, *From Passions to Emotions,* 125.
75. Ibid.

as much as all the happiness which would crown our success, that our conflict may be the stronger, and our victory, therefore, the more sure.[76]

Clearly, the new teaching had a foot firmly planted in the past, owing what it did to both Hobbes and Hume. "Brown's category of 'emotions' was, by definition, a category of passive (rather than active), non-intellectual feelings or states (rather than actions of a power or faculty)."[77] The debate that had been joined by Plato with Protagorus over the relation of reason and the emotions had in Brown come full circle:

> What is your attitude toward knowledge? … Most people think, in general terms, that it is nothing strong, no leading or ruling element … They hold that it is not the knowledge that a man possesses which governs him, but something else – now passion, now pleasure, now pain, sometimes love, and frequently fear. They just think of knowledge as a slave, pushed around by all the other affections.[78]

Notwithstanding the plethora of texts one might cite to demonstrate Brown's indebtedness to Reid and Stewart, his psychology of the emotions seems, in the end, to tilt slightly more toward sensationalism, though, again, Brown's emotions were internal mental states rather than external sensations. John Stuart Mill wrote, "The doctrine and spirit of Brown's philosophy are entirely Positivist, and no better introduction to Positivism than the early parts of his *Lectures* has yet been produced."[79] As we noted at the outset, finding Brown's proper place in the landscape of nineteenth century philosophy of mind is difficult. Some of the trouble results from Brown's rhetoric and his

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76. Brown, *Lectures on the Philosophy of the Human Mind,* Lecture 52, 1:530.
77. Dixon, *From Passions to Emotions,* 124.
78. Plato, *Protagorus,* trans. W.K.G. Gutherie, in *Plato: The Collected Dialogues,* eds. Edith Hamilton and Huntington Cairns (New York: Pantheon Books, 1966), 352 A-C.
79. John Stuart Mill, "Auguste Comte and Positivism," in *Essays on Ethics, Religion and Society* (Indianapolis: Liberty Fund, Inc., 2006), vol. 10, *The Collected Works of John Stuart Mill*, 267 (repr. from the original edition, ed. J.M. Robson, Toronto: University of Toronto Press, 1969).

lack of a proficient knowledge of the history of philosophy. "[Dugald] Stewart's verdict

on his successor [at Edinburgh] is that Brown was 'remarkably deficient' in 'that capacity

of *patient thinking*, to which Newton had the modesty to ascribe all the merit of his

greatest discoveries."[80] William Hamilton's assessment was more brutal yet. The

Lectures, he said, are riddled with 'radical inconsistencies,' 'unacknowledged

appropriations,' 'endless mistakes in the history of philosophy' and 'frequent

misrepresentations of other philosophers.'"[81]

Questions of internal consistency aside, what is of far greater significance is

Brown's influence on the subsequent generation of philosophers of mind.

> "His introspective 'mental science' methodology and his new
> classification of mental states were both widely adopted. Brown had
> divided mental-scientific methodology into two tasks: first, analyzing
> mental states into their components ('mental chemistry') … and,
> secondly, discovering the laws of succession of mental states ('mental
> physics'). These were what Brown called his 'laws of succession' [or
> Association]. The division of mental phenomena into 'Sensations,'
> 'Thoughts' and 'Emotions' was another characteristic feature of
> Brown's system that was adopted by several later psychologists.[82]

Brown cast a long shadow on the work of James and John Stuart Mill, Herbert Spencer,

and, especially, Alexander Bain, each of whom adopted some or all of these features of

Brown's system. "Later writers also echoed Brown's statements that 'emotions' could not

be given a precise definition but were distinguished by a peculiar vividness of feeling,

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80. Wozniak, "Brown, Thomas," *Dictionary of Nineteenth Century Philosophers*, 2 vols,, ed. W. J. Mander and Alan P.F. Sell (Bristol, England: Thoemmes Press, 2002), 1:156; quote is from Dugald Stewart, *Elements of the Philosophy of the Human Mind*, 3 vols. (Edinburgh, 1792-1827), 3:502, note C.

81. Ibid.; quote is from William Hamilton, *Discussions on Philosophy and Literature Education and University Reform* (New York: Harper and Sons, 1856).

82. Dixon, *From Passions to Emotions,* 125; see James Mill, *Analysis of the Phenomena of the Human Mind,* 2 vols. (London: Baldwin and Cradock,1829; Bristol, England: Thoemmes Press, 2001); and John Stuart Mill, *A System of Logic: Ratiocinative and Inductive* (London: John W. Parker,1843), 2:502-5.

and that they were not to be confused with 'sensations.'[83] In addition to Mills, Spencer

and Bain, those who acknowledged a debt to Brown included his biographer, Thomas

Welsh; Thomas Chalmers, who authored of one of the Bridgewater Treatises, and wrote a

Preface to an 1846 edition of the *Lectures*; James McCosh, historian of Scottish

philosophy and later president of Princeton University; Charles Bell, George Ramsay,

William Lyall, and G.H. Lewes, all important figures in the development of nineteenth

century psychology.[84] What is of special interest here is the appropriation of Brown's

ideas by the physicalist theorists of emotion during the second half of the century.

E. Alexander Bain and the New Psychology

The lineage of thought from Brown to Bain meanders through the work of

Thomas Chalmers (1780-1847), who took a harder line than Brown in defining the

emotions as mental states that are, "passive, non-cognitive, and 'altogether unmodified by

the will.'"[85] The influence of Chalmers' work was immense and codified much of what

else Brown had originated. "The huge popularity of Thomas Brown's *Lectures* and the

(unacknowledged) adoption of his views on emotions by Thomas Chalmers … must

together take a large measure of the credit for [the] terminological revolution [from the

vocabulary of passions, affections, and sentiments to talk of emotions]."[86]

Alexander Bain (1818-1903) is the next leading figure in the modern history of

the emotions to be considered. The treatises of Bain and Herbert Spencer in psychology

were considered authoritative in the English speaking world of the second half of the

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83. Dixon, *From Passions to Emotions,* 126.
84. Ibid., 127.
85. Ibid., 131.
86. Ibid., 133.

nineteenth century.[87] Bain's work was momentous for two reasons. First, there was his intention toward synthesis. "He entered the psychological debates of the 1850s and 1860s as the voice of a modernized associationism alert to the possibilities of the new physiology, and with a determined instinct to marry the two while making the latter subordinate to the former."[88] Secondly, his work had a profound effect on the epoch-forging work of Charles Darwin and William James. Moreover, Peirce was to acknowledge that Bain's theory of belief played a defining role in the development of pragmatism through the influence of Nicholas St. John Green, an original member of the Metaphysical Club.

Bain, the autodidactic son of a weaver, founded the journal *Mind* in 1876, subtitled, interestingly enough: *A Quarterly Review of Psychology and Philosophy.* "The conjunction expresses both, an identity and a difference, a necessary relationship and a desired independence, as the science and the philosophy pulled in contrary directions, as they did in various ways throughout the period."[89] *Mind* was, nevertheless, established as the first exclusively, "specialist psychological journal," touting psychology's scientific credentials, though it continued to take notice of related trends in philosophy on both sides of the Atlantic.[90]

The profound effect of Bain's theory of belief on the Cambridge circle of the early 1870s has already been mentioned. The attorney, Nicholas St. John Green, was credited by Peirce, in a 1907 letter to the Editor of *The Nation*, with introducing Bain's

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87. Max Fisch, "Alexander Bain and the Genealogy of Pragmatism," in Fisch, *Peirce, Semeiotic, and Pragmatism*, 82.
88. Rylance, *Victorian Psychology,* 151.
89. Rylance, *Victorian Psychology,* 16.
90. Ibid., 16, 72.

work to the Metaphysical Club around 1873, work which served as a catalyst for Peirce's establishment of pragmatism in the "Illustrations of the Logic of Science" series that appeared in *Popular Science Monthly* a few years later. Green's son, Frederick who edited his legal briefs for private publication, was in possession of his father's library, which contained copies of Bain's two major works in psychology: *The Senses and the Intellect* (1855) and *The Emotions and the Will* (1859) as well as a copy of the 1869 edition of James Mill's *Analysis of the Phenomena of the Human Mind*, bearing marginalia in Green's hand, an edition edited, in part, and heavily annotated by Bain.[91] These volumes indicate that Green was quite familiar with Bain's work and serve to corroborate Peirce's three decade old memories.

Bain was the protégé of John Stuart Mill. They met in 1841 and formed an immediate bond. Mill introduced Bain to Comte's *Cours de Philosophie Positive* in 1842.[92] Bain was the only person acknowledged by Mill to have contributed to the text of the two volume landmark, *A System of Logic,* which appeared in 1843.[93] Bain reviewed the *System of Logic* in a most sympathetic manner the following May, in the *Westminster Review.*[94] Mill returned the favor by reviewing *The Senses and the Intellect* for the October 1859 issue of *The Edinburgh Review,* approving in the strongest terms, its

91. Fisch*,* "Alexander Bain and the Genealogy of Pragmatism" in Fisch, *Peirce, Semeiotic, and Pragmatism*, 86-87; see also Nicolas St. John Green, *Essays on Tort and Crime,* ed. Frederick Green (Menasha, Wisconsin: George Banta Publishing Company), 1933.

92. Dixon, *From Passions to Emotions,* 137.

93. John Stuart Mill, *System of Logic: Ratiocinative and Inductive* (London: John W. Parker, 1843); John Stuart Mill, *Autobiography* (London: Longmans, Green, Reader and Dyer, 1873), 147n.

94. Wozniak, "Bain, Alexander," *The Dictionary of Nineteenth-Century British Philosophers,* 1:47.

author and, fresh from the press, *The Emotions and the Will*.[95] Mill's praise was not the

empty accolade heaped on one friend by another or in reciprocity for favorable print.

Robert Wozniak places the two works by Bain in an historical perspective.

> The publication of Bain's *The Senses and the Intellect* in 1855 and *The
> Emotions and the Will* in 1859 is widely considered to make the advent
> of modern psychology. Through four heavily revised editions, these
> texts served for more than thirty years as the leading English-language
> compendium of the discipline. Until superseded at the end of the
> nineteenth century by William James's *Principles of Psychology*, they
> were widely read by students and heavily cited by psychologists. Much
> that is taken for granted in modern psychology had its point of origin in
> these two great treatises.[96]

The names of the two works indicate something of the purpose behind Bain's

project. "The relational aspect of Bain's work is clear from the simple titles of his books:

both *The Senses and the Intellect* and *The Emotions and the Will* relate one of the higher

faculties – intellect and will – to what would at the time have been regarded as subaltern

mental phenomena, sensations, and emotions."[97] In the earlier work, Bain argues that

classical taxonomies that placed sense in a subordinate role to the 'higher' faculty of the

intellect have produced bad habits of misperception.[98] Whereas, Reid, Stewart, Brown,

and James Mill had considered appetite and instinct among the phenomena of sensation,

Bain wanted us to see them as spontaneous properties of the mind.

> [W]here James Mill's orthodox Utilitarian associationism had portrayed
> the mind as fundamentally passive, Bain insists that it is capable of
> initiatory action in its dealings with the world. Meanwhile, at the other
> pole of the argument, he maintained against the orthodox faculty

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95. J.S. Mill, "Bain's Psychology" in J.S. Mill, *Dissertations and Discussions: Political, Philosophical and Historical*, 3 vols.; reprinted chiefly from the Edinburgh and Westminster Reviews (London: Longmans, Green, Reader and Dyer, 1867), 3:97-152; unabridged facsimile Elibron Classics Replica Edition series (Adamant Media Corporation, 2005).
96. Wozniak, "Bain, Alexander," in *Dictionary of Nineteenth Century British Philosophers* 1:48.
97. Rylance, *Victorian Psychology,* 170.
98. Ibid.

psychologists that mind and body form a continuum. Sensation, appetite, and instinct were no longer to be classed apart, beyond the pale of the special human capacities. This quiet, but far-reaching disruption of the standard classificatory systems is very deliberate and sustained in Bain.[99]

The deliberation stemmed from a single-minded purpose that Bain had embarked upon as early as 1851 and which he set had forth in the Preface to the first edition of *The Senses and the Intellect*. Bain declared, "Conceiving that the time has now come when many of the striking discoveries of Physiologists relative to the nervous system should find a recognized place in the Science of Mind, I have devoted a separate chapter to the Physiology of the Brain and Nerves.[100] It was precisely upon this innovation that J.S. Mill focused his tribute.

> Mr. Bain possesses, indeed, a union of qualifications peculiarly fitting him for what, in the language of Dr. Brown, may be called the physical investigations of mind. With analytic powers comparable to those of his most distinguished predecessors, he combines a range of appropriate knowledge still wider than theirs; having made a more accurate study than perhaps any previous psychologist, of the whole round of physical sciences, on which the mental depend both for their methods, and for the necessary material substratum of their theories … This is especially true of the science most nearly allied, both in subject and method, with psychological investigations, the science of Physiology: which Hartley, Brown, and [James] Mill had unquestionably studied, and knew perhaps as well as it was known by anyone at the time when they studied it, but in a superficial manner compared with Mr. Bain; the science in the meanwhile assumed almost a new aspect, from the important discoveries which had been made in all its branches, and especially in the functions of the nervous system, since even the latest of those authors wrote.[101]

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99. Ibid., 171.

100. Alexander Bain, *The Senses and the Intellect,* 3rd ed. (London: Longmans, Green, and Co., 1868), iii; reference is to unabridged facsimile of this edition by Elibron Classics series (Adamant Media Corporation, 2004); see also Robert M. Young, *Mind, Brain and Adaptation in the Nineteenth Century: Cerebral localization and its biological context from Gall to Ferrier*, letter of Bain to Mill from 1851 (Oxford: Oxford University Press, 1970), 102-3.

101. John Stuart Mill, "Bain's Psychology" in *Dissertations and Discussions: Political, Philosophical, and Historical,* 3:116-117.

Bain's focus on motion was an attempt to generate a shift in the associationist view of mind from the passive sensationalism it had received from Locke. Attempts by Thomas Brown, James Mill, and David Hartley to infuse it with one species or another of motion, notwithstanding, associationism remained wedded to the empiricist notion of passive mental states and sensation as the primary, if not only, source of understanding.[102] "Bain's analysis of motor phenomena was the first union of the new physiology with a detailed association psychology in the English tradition and he thereby laid the psychological foundations of a thoroughgoing sensory-motor psychophysiology."[103] It was, however, sometime before physiology was refined enough to provide both the experimental evidence and an adequate theoretical explanation for the association of the mind with the cerebral hemispheres and for the association of the hemispheres and the ganglia.[104] Bain continually edited his work to take account of advances in physiology, though his understanding of physical structures rendered his work sketchy and incomplete. Nevertheless, "Bain provided a discussion of motor phenomena which gave association psychology a balanced sensory-motor view."[105]

Bain's separate chapter on the brain and the nerves, comprised mostly of quotations from two highly recognized treatises of the day, moved John Stuart Mill to remark that "…no rational person can doubt the closeness of the connection between the functions of the nervous system and the phenomena of mind, nor can think any exposition of the mind satisfactory, into which that connection does not enter as a

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102. Young, *Mind, Brain and Adaptation*, 114.
103. Ibid.
104. Ibid.*,* 113-114.
105. Ibid., 114.

prominent feature."[106] This feature of Bain's work, as Mill declared, was formative. "No matter how little relevance it had to the rest of the work or how little it actually explained the psychological processes under discussion, future writers almost invariably included a chapter on the structure and physiology of the nervous system.[107] As for the emotions, Bain's development led him to declare the emotions as separate and distinct from sensations under the very broad heading of 'feelings.' "Feelings are divided into Sensations (including Muscular Feelings) and Emotions. Sensations, as such are primary and simple; Emotions, as such, are secondary and compound."[108]

Having dispatched the 'Sensations' in the prior opus, Bain set out to sift through the more nebulous 'Emotions' in 1859. As was the case with the former work, the latter, *The Emotions and the Will*, underwent regular revision. From the beginning, however, Bain insisted that the emotions, unlike sensations, are derivative and do not depend on the impact of the outer world on the sensory organs:

> Mind is distinguished by the three attributes … Feeling, Volition, and Intellect. In the previous volume [*The Senses and the Intellect*], attention was called to the dependence of all mental workings whatever on Bodily Organs; and, in treating the sensations, there was given, in each instance, not merely the mental side, but the physical also … In the Sensations, the physical side includes both the mode of action on a sensitive surface, and the outward manifestations or diffused wave of effects. In the Emotions, the first is wanting. Our attention is thereby limited to the second, which consequently rises into greater importance.[109]

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106. J.S. Mill, *Dissertations and Discussions,* 3:110, quoted in Young, *Mind, Brain and Adaptation*, 119; the reference to the two treatises is found in Young, *Mind, Brain and Adaptation in the Nineteenth Century*, 110.

107. Young, *Mind, Brain and Adaptation*, 119.

108. Alexander Bain, *The Emotion and the Will,* 3rd ed. (London: Longmans, Green, and Company, 1875), 69; all references are to Elibron Classics series unabridged facsimile of this edition (Adamant Media Corporation, 2003).

109. Ibid., 3.

In this view, Bain found himself in essential agreement with Spencer and Darwin. "The innovation here was that the Brownian distinction between sensation and emotion, like the category of emotion itself, was now physicalized with reference to the nervous system by these mid-century psychologists: emotions, they said, had a central nervous origin and were in some sense 'secondary' and sensations had a peripheral nervous origin and were primary."[110] Thus was established a continuum between mind and body that would place psychological theory on a sounder scientific footing.

This innovation, however, was not without a price. "Along with the Brownian categorization of mental states into thoughts, sensations and emotions, the evolutionary-physiological school inherited the problematic inclusivity of the category of 'emotions' that had been another feature of Brown's scheme."[111] There is, as Dixon points out, a veritable 'hodge-podge' of feeling evident in the table of contents.

> After discussing feeling and emotion in general he considered thirteen topics: emotions of harmony and conflict, emotions of relativity, emotion of terror, tender emotions, emotions of self, emotion of power, irascible emotion, emotions of action/pursuit, emotions of intellect, emotions of sympathy and imitation, ideal emotion, the aesthetic emotions, the ethical emotions.[112]

Thus it was that critics were dismissive of Bain's work on the emotions. "His list of the 'special emotions' is a *pot-pourri* of the psychological, philosophical, and physiological issues of the day, and any attempts to make a coherent position from it disparate parts consistently fail."[113]

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110. Dixon, *From Passions to Emotions*, 156.
111. Ibid., 157.
112. Ibid.
113. Young, *Mind, Brain and Adaptation,* 127.

Bain's union of physiology and associationist psychology produced an uneasy

marriage. "As long as the association psychology continued to rely on individual

experience and the subtleties of philosophical arguments it failed in its investigations of

emotional phenomena."[114] It could offer no apparent account for the content of mental

life beyond sensory and perceptual stimulation of the individual, notwithstanding Bain's

intricate theory of motor-development along the lines of the Laws of Association.

Moreover, it could not account for any phenomena that might be described as trans-

generational imparting of knowledge, instinct, or predisposition. Developments in

biology and evolutionary theory, meanwhile, were giving rise to a whole new set of

questions:

> With what does the individual organism begin as a result of the
> biological history of its species? What power does it have to change or
> effect its inheritance? Is the means of transmission of this inheritance
> organic or cultural? To what extent is the mind only a phenomenon of
> consciousness and habit? What relative weight is to be given to the
> various descriptive languages and conceptual frameworks available to
> the informed psycho-physiologist? Is he to write in the registers of
> science or philosophy, of specialization or the wider culture?[115]

Spencer had been critical of Bain for altogether ignoring evolutionary theory and Bain

responded, if only half-heartedly, by adding a lengthy chapter on the evolution of the

mind to the third edition of the *Emotions* in which he entertained such topics as instinct,

habit, the inheritance of emotions and various associated behaviors.[116] However, Bain

remained quite reserved in his acceptance of evolution. "As late as 1881, in a review of

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114. Ibid., 128.
115. Rylance, *Victorian Psychology*, 209.
116. Young, *Mind, Brain and Adaptation,* 183-186.

the third edition of Spencer's *Principles* [*of Psychology*], he was pointing, rather sniffily, to the fact that Evolution was not yet a validated theory."[117]

Notwithstanding Bain's reticence when it came to the question of Darwinian evolution, his contribution to the history of the emotions was, as we have seen, two-fold. First, he brought Brown's distinction between sensation and emotion into currency and, in accounting for both, introduced contemporary physiological theory into the analysis of psychological phenomena. Secondly, he infused associationism with a theory of activity that rescued the understanding of mind from its tendency toward flaccid, reactive sensationalism. In both instances, Bain left his mark on emerging psychological theory but both contributions proved more suggestive than normative and thus merely signal a pending transition in the history of the emotions.

F.   From Spencer and Darwin to William James

Charles Darwin (1809-1882) and Herbert Spencer (1820-1903) were the two, though by no means only, leading theorists to attempt an evolutionary account of the origin of the emotions. Darwin's *The Origin of Species*[118] exploded upon the scientific community in 1859, four years after Spencer's groundbreaking; *The Principles of Psychology*[119] had appeared. It is today generally acknowledged that Darwin's was the more accurate view of evolution in general and the heritability of mental faculties in particular. "However, this twentieth-century verdict should not blind us to the historical

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117. Rick Rylance, *Victorian Psychology,* 218.
118. Charles Darwin, *On the Origin of Species by Means of Natural Selection or the Preservation of Favoured Races in the Struggle for Life* (London: John Murray, 1859).
119. Herbert Spencer, *The Principles of Psychology* (London: Longman, Brown, Green and Longmans, 1855).

situation in the mid-to-late nineteenth century, for these two versions of 'the development hypothesis' existed side by side for at least a quarter of a century and their differences were frequently blurred even by informed commentators."[120]

Herbert Spencer was, like Bain, a self-taught scholar of humble origin and one of two leading lights of psychology in English-speaking countries during the second half of the nineteenth century. It was Spencer's legacy to have commingled associationism and evolutionary theory. "His evolutionary associationism freed him from the usual procedure of starting at birth with a *tabula rasa* and explaining the development of the complex phenomena of instinct, emotion, and intellectual functions on the basis of individual experience alone."[121] Influenced by Bain, Spencer adapted associationism to evolutionary theory, in part due to the limited ability of associationism to account for either instinct or emotion. This weakness had been identified by Mill in his review of Bain. Observation was, for Spencer, sufficient to identify the weakness.

> The doctrine maintained by some philosophers, that all the desires, all the sentiments, are generated by the experiences of the individual is so glaringly at variance with hosts of facts, that I cannot but wonder how any one should ever have entertained it. Not to dwell on the multiform passions displayed by the infant, before yet there has been such an amount of experience as could by any possibility suffice for the elaboration of all passions; I will simply point to the most powerful of all passions – the amatory passion – as one which, when it first occurs, is absolutely antecedent to all relative experience whatever.[122]

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120. Rylance, *Victorian Psychology,* 225.
121. Young, *Mind, Brain and Adaptation,* 180-1.
122. Herbert Spencer, *The Principles of Psychology*, second enlarged and revised ed. in 2 vols. (London: Longmans, 1872), 2:606.

It was abundantly clear to Spencer that attempts to locate the genesis of emotion solely in the experience of the individual were in opposition to the facts and thus unjustified. Evolutionary theory provided a feasible explanation.

> By the accumulation of small increments, arising from the constant experiences of successive generations, the tendency of all the component psychical states to make each other nascent, will become gradually stronger. And when ultimately it becomes organic, it will constitute what we call a sentiment, or propensity, or feeling, having this set of circumstances for its object.[123]

This process for the trans-generational acquirement of experience, and the attending emergence of new emotions and instincts, was rooted solely in the constancy of environmental factors. "Acquired habits are passed from generation to generation until they become fixed in the nervous system."[124] Emotions, like all psychological phenomena, are instances of the inheritance of acquired characteristics through repetition and association. "What the individual feels as homogeneous emotions, undecomposable into specific experiences, are in fact 'the organized results of certain daily-repeated combinations of mental states.'"[125] The process is mechanistic and the results are deterministic, inspired by the model of Lamarckian theory. Spencer's rejection of natural selection and his lack of appreciation for Bain's theory of activity gave his developmental theory of adaptation to the environment a tendency toward passivity that could not account for deviation or spontaneity.[126]

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123. Ibid.
124. Young, *Mind, Brain and Adaptation*, 186.
125. Ibid.
126. Ibid., 183-4.

At about the time his *The Descent of Man*[127] was going to print in 1871, Darwin was starting a new book, *The Expression of Emotion in Man and Animals*,[128] a work grounded in observations of his infant son, those of other people and animals he had solicited from missionaries, zookeepers, and asylum directors over a span of thirty years.[129] He was motivated, in part, by the writings of John Abercrombie and James Mackintosh, both of whom had been deeply influenced by Thomas Brown and had adopted Brown's terminology and his tripartite division of mental states. Darwin compiled the extensive notes and observations of thirty years in the attempt to account for the formation of instincts as inherited habits of volition that became, over time, unconscious and, thus, involuntary.[130] "Darwin's primary concern in the *Expression* was not to develop a theory of the emotions but rather to explain how particular emotions and the behaviors we have come to think of as their 'expressions' might initially have become connected."[131] The emotions, for Darwin, were closely tied to their expression. "Emotions, having been formed by actions, will always lead to them."[132]

Interestingly, Darwin's *Expressions* is relatively free of references to natural selection as an explanatory hypothesis. Natural selection is mentioned only four times in nearly four hundred pages compared with over one hundred references in the *Descent of Man*.[133] The reason is readily clear to the casual reader.

127. Charles Darwin, *Descent of Man* (London: John Murray, 1871).
128. Charles Darwin, *The Expression of Emotion in Man and Animals* (London: John Murray, 1872).
129. Dixon, *From Passions to Emotions,* 160.
130. Ibid., 162.
131. Ibid., 167.
132. Darwin's marginal note in his copy of James Mackintosh, *Dissertation on the Progress of Ethical Philosophy* (Edinburgh: Black, 1837), quoted by Dixon, *From Passions to Emotions,* 166.
133. Dixon, *From Passions to Emotions,* 169.

Emotional display, to be sure, had an evolutionary history. Darwin's many comparisons of facial movements in children, adults, the insane, as well as in apes, dogs, and cats – done with the aid of photography and sketches – showed similarities across sexes and mental capacities. This kind of comparative evidence bespoke a common origin for emotional expression. But since he could discover no social or communicative function in these emotional reactions – unlike neo-Darwinians today – his theory of natural selection did not readily apply.[134]

Yet, it was the doctrine of natural selection that served as the hallmark of Darwin's grand theory and had such a telling influence on the next generation of psychologists, most notably, William James. Within the narrower scope of affective theory, however, it was Spencer and Darwin, together, who infused psychology with a sense of history –"not just the history of individuals appealed to by associationist psychologists, but the deeper history of the human race that their evolutionary hypotheses invoked."[135]

William James (1842-1910) was very much a product of his time and the vicissitudes of nineteenth century psychological theory. Reared in one of the most gifted and original families America has yet produced, during a period of tremendous ferment in American intellectual history, at the epicenter of its flowering, James came to personify much of the creative richness and intellectual crosscurrents that marked Cambridge in the second half of the nineteenth century. Slow to mature, depressive and ambivalent by nature, James responded to fifteen years of cacophonic vocational callings, studying, in turn, painting, chemistry, anatomy, natural history, and medicine before settling on first, psychology and later, philosophy. These sundry pursuits and an extraordinary gift for prose distinctly qualified him for the tremendous contribution he was about to make to

134. Robert J. Richards, "Darwin on Mind, Morals and Emotions," in *Cambridge Companion to Darwin,* eds. Jonathan Hodge and Gregory Radick (Cambridge: Cambridge University Press, 2003), 110.
135. Dixon, *From Passions to Emotions,* 178.

the understanding of the mind and the nascent field of physiological psychology. His

formative years were marked, incidentally, by immersion in the writings of William

Hamilton, Dugald Stewart, and Thomas Brown.[136]

It was, however, exposure to the research of the German schools that whet his

appetite for psychology and served to steer him in a more or less permanent quest to

attain its status as a science. During one eighteen month period in Berlin, in the late

1860s, having attended lectures in physiology at the University and having been awed by

the appearance of its well appointed physiology laboratory, James wrote presciently to

his friend, Thomas Ward.

> It seems to me that perhaps the time has come for psychology to begin to
> be a science – some measurements have already been made in the region
> lying between the physical changes in the nerves and the appearance of
> consciousness-at (in the shape of sense perceptions), and more may
> come of it. I am going on to study what is already known, and perhaps
> may do some work at it. Helmholtz and a man named Wundt at
> Heidelberg are working at it, and I hope … to go to them in the
> summer.[137]

Experimentalism had already become the hallmark of serious science and James was to

play a key role in its introduction into psychology on the American continent, and in

particular, in its employment in theorizing about the emotions.

> The Jamesian era saw shifts in the geography of academic psychology as
> well as its disciplinary boundaries. While Scottish philosophy, and
> English biology and neurophysiology, had led the way in the psychology
> of emotions earlier in the nineteenth century, the drive to
> experimentalism in psychology found the centre of gravity shifting first
> to Germany, during the 1880s, especially to Wilhelm Wundt's

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136. William James, *The Varieties of Religious Experience* (New York: Penguin Books, 1982), 2 (first published in New York: Longman, Green and Co., 1902).

137. Henry James, ed., *The Letters of William James*, 2 vols. (Boston: The Atlantic Monthly Press, 1920), 118-119.

laboratory of 'psychophysics' in Leipzig – the first of its kind, founded in the late 1870s – and thence to America.[138]

During a leave of absence in 1892, James raised funds for a new psychology laboratory at Harvard and assisted in filling his vacant position by retaining the services of Hugo Münsterberg (1863-1916), who had taken his Ph.D. under Wundt at Leipzig and established himself at Freiburg after receiving his M.D. from Heidelberg.[139]

The study of James's thought on the emotions usually begins with the paper, 'What is an emotion?' which appeared in Bain's journal, *Mind*, in 1884 and appeared with very little change as chapter XXV in *The Principles of Psychology,* the massive, two tome work that made him world famous.[140] The gist of the theory of emotion, developed independently of James in Denmark by Carl Lange (1834-1900), is the claim that emotion originates as a bodily rather than mental state.

> Our natural way of thinking about these standard emotions is that the mental perception of some fact excites the mental affection called the emotion, and that this latter state of mind gives rise to the bodily expression. My thesis, on the contrary is that *the bodily changes follow directly the* PERCEPTION *of the exciting fact, and that our feeling of the same changes as they occur* IS *the emotion.* Common sense says, we lose our fortune, are sorry and weep; we meet a bear, are frightened and run; we are insulted by a rival, are angry and strike. The hypothesis here to be defended says that this order of sequence is incorrect, that the one mental state is not immediately induced by the other, that the bodily manifestations must first be interposed between, and that the more rational statement is that we feel sorry because we cry, angry because we strike, afraid because we tremble, and not that we cry, strike, or tremble, because we are sorry, angry, or fearful, as the case may be. Without the bodily states following on the perception, the latter would be purely

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138. Dixon, *From Passions to Emotions,* 206.

139. Bruce Kuklick, *Rise of American Philosophy* (New Haven: Yale University Press, 1977), 186ff.

140. William James, "What is an emotion?" in *Essays in Psychology,* from *The Works of William James,* 13 vols., ed. Frederick H. Burkhardt (Cambridge, Massachusetts: Harvard University Press, 1983), vol. 11; and William James, *The Principles of Psychology*, 2 vols. (New York: Dover Publications, 1950).

cognitive in form, pale, colorless, destitute of emotional warmth. We
might then see the bear, and judge it best to run, receive the insult and
deem it right to strike, but we could not actually *feel* afraid or angry.[141]

A few pages later we find James making an even more reductionistic claim that he

believed emotion to be constituted wholly by the associated bodily reflexes.

> I now proceed to urge the vital point of my whole theory, which is this.
> If we fancy some strong emotion, and then try to abstract from our
> consciousness of it all the feelings of its characteristic bodily symptoms,
> we find we have nothing left behind, no "mindstuff" out of which the
> emotion can be constituted, and that a cold and neutral state of
> intellectual perception is all that remains.[142]

The cold and neutral intellectual perception could not possibly refer to any emotion.

> A purely disembodied human emotion is a nonentity. I do not say that it
> is a contradiction in the nature of things, or that pure spirits are
> condemned to cold intellectual lives; but I say that for *us*, emotion
> dissociated from all bodily feeling is inconceivable. The more closely I
> scrutinize my states, the more persuaded I become, that whatever moods,
> affections, and passions I have, are in very truth constituted by, and
> made up of, those bodily changes we ordinarily call their expression or
> consequence; and the more it seems to me that if I were to become
> corporally anaesthetic, I should be excluded from the life of the
> affections, harsh and tender alike, and drag out an existence of merely
> cognitive or intellectual form.[143]

As Dixon notes, with no clear definitions or delineation, plainly, in James's

theory, there is a conflation of 'mood,' 'affection,' and 'passion' which together are

subsumed under the category of 'emotion,' a confusion of concepts traceable to

Brown.[144] Among the other striking features of the theory is the emphasis on an assumed

chasm between the emotions and reason, again, possibly a residue of James's early

reading of Brown and a clear indication that James did not consider the possibility that

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141. James, *Essays in Psychology*, 170.
142. Ibid., 173.
143. Ibid., 174-5.
144. Dixon, *From Passions to Emotions,* 208, n14.

reason or cognition might be an instinct or other faculty resulting from adaptation.[145] "While the new science of psychology had some success in moving away from mind-body dualism, there was little development in the deconstruction of the reason-emotion dichotomy."[146] As we will see, however, James developed a nativistic theory of instinct during the three years following the appearance of the famous 1884 essay, a model that subsumed his theory of emotion and tended to blur the boundary between reason and emotion.

When it appeared in 1884, James's counter-intuitive theory of emotion stirred up a storm of controversy and was assailed on several other accounts by his contemporaries, beginning with William Gurney in the same issue of *Mind*. Writing in 1896, H.N. Gardiner reviewed the salient issues in ensuing dozen years of dispute.[147] First, there was the absence of uniformity in the relations of emotions to their expression. "If the theory were true, and emotions were really nothing but awarenesses of bodily changes, then, at least in the same subject, one set of bodily changes should uniformly give rise to the same emotion, and by the same token, any one emotion could be associated only with one set of bodily changes."[148] However, such is not the case as when we observe the phenomenon of weeping as an expression of both joy and sorrow. Furthermore, as Gardiner reminded his readers, some bodily symptoms – for example laughing, sobbing,

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145. Ibid., 227.
146. Ibid., 228.
147. H.N. Gardiner, "Notes" in *The Philosophical Review* 5 (January, 1896): 102-112.
148. Dixon, *From Passions to Emotions*, 214.

shivering, and sneezing – can and do occur without any associated emotion.[149] Hence, the

theory fails to adequately distinguish between emotion and non-emotion. Aesthetic

emotion, which is generally unaccompanied by bodily reflex, cannot be qualified as

emotion. Lastly, the theory assumes, perhaps wrongly, that in emotion there must be a

cause and effect relationship between the mental and the physical aspects and overlooks,

as David Irons (1870-1907) suggested, the possibility that emotion is independent of

bodily changes.[150] The mental and physical aspects of emotion could be simply

concomitant without one necessarily producing the other.

In fact, however, James had conceived a strong case against parallelism, a form of

automaton-theory then being advanced by William Kingdom Clifford (1845-79). James

incorporated it into chapter five of his *Principles of Psychology*, generally a revision of

his 1879 essay, 'Are We Automata?'[151] The heart of his argument, from common sense,

was that the evidence for interaction between body and mind, or more precisely, between

brain and mind, was too compelling to believe there was no interference of one with the

other. In terms of emotions, the inference was simply too paradoxical to be credible.

> That inference is that feelings, not causing nerve-actions, cannot even
> cause each other. To ordinary common sense, felt pain is, as such not
> only the cause of outward tears and cries, but also the cause of such
> inward events as sorrow, compunction, desire, or inventive thought. So
> the consciousness of good news is the direct producer of the feeling of
> joy, the awareness of premises that of the belief in conclusions. But
> according to the automaton-theory, each of the feelings mentioned is
> only the correlate of some nerve-movement whose *cause* lay wholly in a
> previous nerve-movement. The first nerve-movement called up the

149. Gardiner, "Notes" in *Philosophical Review*, 103.
150. Ibid., 111.
151. James, *Essays in Psychology,* 38-61.

second; whatever feeling was attached to the second consequently found itself following upon the feeling that was attached to the first. If, for example, good news was the consciousness correlated with the first movement, then joy turned out to be the correlate in consciousness of the second. But all the while the items of the nerve series were the only ones in causal continuity; the items of the conscious series, however inwardly rational their sequence, were simply juxtaposed.[152]

That said, James maintained a kind of agnosticism about causality in general and often pointed to Hume as providing in the end, a fallibalistic mysticism and surrogate for a scientific account of the agency of the immaterial mind. James concluded, "The only trouble that remains to haunt us is the metaphysical one of understanding how one sort of world or existent thing can affect or influence another at all. This trouble, however, since it also exists inside of both worlds, and involves neither physical improbability nor logical contradiction, is relatively small. I confess, therefore, that to posit a soul influenced in some mysterious way by the brain-states and responding to them by conscious affections of its own, seems to me the line of least logical resistance, so far as we yet have attained."[153] Nevertheless, giving priority to bodily reflex over the mental element in causing emotion seems a highly subjective choice on the part of James when, at the end of the day, all he can scientifically demonstrate is concomitant variation between the two phenomena.

Dixon's own criticism is focused on the 'reductionist' William James whose 1884 theory of emotion, he believed, was akin to the epiphenomenal views of Thomas Huxley.[154]

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152. James, *Principles of Psychology,* 1:133.
153. Ibid., 1:181.
154. Dixon, *From Passions to Emotions*, 210.

> The brain, [Huxley] claimed, received stimulation from the environment and issued motor acts as a result; the engine of the central nervous system simply transformed one kind of energy into another, without consciousness playing any mediating role at all. Rather, conscious mind hovered over brain activity like mists of steam coughed up from the dynamo actually doing the work.[155]

Dixon's assertion is that James's theory is an unambiguous reduction of emotions to products of physical processes that, in turn, qualified it as epiphenomenalism.[156] "[James] saw the 'spiritual fact' of emotional experience as purely a product of bodily changes, and such a view might reasonably be called epiphenomenalist if not a materialistic account of the spiritual aspect of human life."[157] The charge of epiphenomenalism, however, cannot account for the importance James placed on will and independence of the mind. In order to bring these disparate elements of James' views into some measure of harmony, the theory of emotion must be understood in relation to his evolutionary theories of instinct and will.

Like many of his generation, James had become enamored of Spencer's evolutionism, despite being pained by the inference that mind was forged solely and passively by response to the external environment[158] In some measure through the influence of Chauncey Wright and Charles Peirce, James gradually shifted from Spencer's mechanistic theory to Darwinism through which he began to perceive an

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155. Robert J. Richards, *Darwin and the Emergence of Evolutionary Theories of Mind and Behavior* (Chicago: The University of Chicago Press, 1987), 430-431.
156. Dixon, *From Passions to Emotions*, 210.
157. Ibid.
158. Richards, *Darwin and the Emergence of Evolutionary Theories of Mind and Behavior*, 426.

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argument for the independence of the mind.[159] In a series of essays published during the

1880s, sandwiched around his famous paper on emotion, James presented theories of will

and instinct. The theory of will supported the theory of emotion, which, in turn, supported

the theory of instinct.

The first of these essays appeared in 1880 under the title, 'The Feeling of Effort,'

which was expanded into a prodigious 106-page chapter on will in the *Principles*.[160] For

James, reflex, instinctive, and emotional movements were all viewed as primary

performances – automatic and involuntary responses.[161] Richard M. Gale traces the rise

of voluntary will in James' account.

> For James, all actions initially are involuntary. In some cases a sensory idea of the motion or its immediate effects is formed. This creates a neural pathway from the brain to the concerned motor organ so that now mere consciousness of this idea causes the action. In the simplest cases, that of the "ideo-motor" will, there is no fiat or effort. But human beings quickly become more complex so that for many ideas they might entertain there is a competing idea which blocks its motor discharge. Such a case of conflict sets the stage for an occurrence of an effort to attend to one of these competing ideas so that it alone will fill consciousness for a sufficient time with sufficient intensity and thereby lead to its motor discharge. This effort to attend is the voluntary will. *"The essential achievement of the will … when it is most 'voluntary,' is to ATTEND to a difficult object and hold it fast before the mind.* The so-doing is the *fiat*; and it is a mere physiological incident that when the object is thus attended to, immediate motor consequences should ensue" (*Principles of Psychology* 2.1166).[162]

This notion of will buttressed the view of emotion found in the famous essay of 1884,

where bodily sensation holds priority.

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159. Ibid., 424.

160. Ibid., 437; citation for James' essay is "The Feeling of Effort" included in James, *Essays in Psychology,* 83-124, first appearing in *Anniversary Memoirs of the Boston Society of Natural History* (Boston: Boston Society of Natural History, 1880).

161. James, *Principles of Psychology,* 2:487.

162. Richard M. Gale, "John Dewey's Naturalization of William James," *The Cambridge Companion to William James*, ed. Ruth Anna Putnam (Cambridge: Cambridge University Press, 1997), 57.

As we have seen, in that essay James described emotions as mere feelings of bodily response. In an 1887 paper, 'What is an Instinct?' James advanced a comprehensive and nativistic theory of instinct that encompassed the theory of emotion.[163] In this essay James joined others in defining an instinct as "the faculty of acting in such a way as to produce certain ends, without foresight of the ends and without previous education in the performance."[164] Having earlier asserted that cognition does not cause emotion, James went on to iterate his position "that emotion is a direct response to the instinctive wisdom of the body … a stage in the release of innate instinctive reactions."[165] Surprisingly, instinct and emotion became, in James' view, difficult to distinguish.

> In speaking of the instincts it has been impossible to keep them separate from the emotional excitements which go with them. Objects of rage, love, fear, etc., not only prompt a man to outward deeds, but provoke characteristic alterations in his attitude and visage, and affect his breathing, circulation, and other organic functions in specific ways. When the outward deeds are inhibited, these latter emotional expressions still remain, and we read the anger in the face, though the blow may not be struck, and the fear betrays itself in voice and color, though one may suppress all other sign. *Instinctive reactions and emotional expressions thus shade imperceptibly into each other. Every object that excites an instinct excites an emotion as well.* Emotions, however, fall short of instincts, in that the emotional reaction usually terminates in the subject's own body, whilst the instinctive reaction is apt to go farther and enter into practical relations with the exciting body.[166]

Working in tandem, instincts and the concurrent emotions drive behavior in patterns or habits altered only by slight variations in experience, the mind playing only a secondary

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163. William James, "What is an instinct?" *Scribner's Magazine* 1 (1887): 355-365.
164. Ibid., 355.
165. Richards, *Darwin and the Emergence of Evolutionary Theories of Mind and Behavior*, 437.
166. James, *Principles of Psychology,* 2:442.

role of differentiation. "Wherever the mind is elevated enough to discriminate; wherever several distinct sensory elements must combine to discharge the reflex-arc; wherever, instead of plumping into action instantly at the first rough intimation of what *sort* of a thing is there, the agent waits to see which *one* of its kind it is and what the *circumstances* are of its appearance; wherever different individuals and different circumstances can impel him in different ways; wherever these are the conditions – we have a masking of the elementary constitution of the instinctive one."[167] The repertoire of possible responses points, once again, not only to the blurring of any distinction between reason and emotion, but between reason and instinct.

> Thus, then, without troubling ourselves about the words instinct and reason, we may confidently say that however uncertain man's reactions upon his environment may sometimes seem in comparison with those of lower creatures, the uncertainty is probably not due to their possession of any principles of action which he lacks, but to his possessing all the impulses that they have, and a great many more besides. In other words, there is no material antagonism between instinct and reason. Reason, *per se*, can inhibit no impulses; the only thing that can neutralize an impulse is an impulse the other way. Reason may, however, make an *inference which will set loose* the impulse the other way; and thus, though the animal richest in reason might be the animal richest in instinctive impulses too, he would never seem the fatal automaton which a *merely* instinctive animal would be.[168]

In a second essay on instinct in the same year, James underscored his core belief that the fundamental difference between animals and humans is not, as conventional wisdom has it, that animals possess more instincts and that by developing increased powers of reason, humans are less reliant on instinct.[169]

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167. James, "What is an instinct?" 360.
168. Ibid.
169. William James, "Some Human Instincts," *Popular Science Monthly* 31 (June 1887): 160-170, 666-681.

> It is generally considered that a cardinal *differentia* of the human race is its poor endowment in the way of instincts … I believe this doctrine to be a great mistake. Instead of having fewer, man has more instincts than any other mammal. He has so many that they bar one another's path, and produce an indeterminateness of action in him, supposed to be incompatible with that automatic uniformity which, according to popular belief, characterizes all instinctive performances.[170]

This theme was prevalent in the two volumes of the *Principles* that finally came to press in 1890, ten years behind schedule. This groundbreaking work, largely a compilation of essay material spanning those ten years, was reviewed somewhat critically by Peirce for the *Nation,* who began by stating the obvious.

> Upon this vast work no definitive judgment can be passed for a long time; yet it is probably safe to say that it is the most important contribution that has been made to the subject for many years. Certainly it is one of the most weighty productions of American thought. The directness and sharpness with which we shall state some objections to it must be understood as a tribute of respect.
> Beginning with the most external and insignificant characters, we cannot much admire it as a piece of bookmaking; for it misses the unity of an essay, and almost that of a connected series of essays, while not attaining the completeness of a thorough treatise. It is a large assortment of somewhat heterogeneous articles loosely tied up in one bag, with tendencies toward sprawling.[171]

Despite its meandering and, at times, disjointed style, James' work marked the apex of the development of emotion theory in the nineteenth century English-speaking world and directed the discourse of nearly a generation of researchers and writers.

Beginning with an 1868 series of essays for the *Journal of Speculative Philosophy*, Charles Sanders Peirce developed his own theory of emotion that, while

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170. Ibid., 160.
171. Charles Sanders Peirce, "James' Psychology," in *The Nation* (July 2, 1891): 15; in *CN* 1 (1975).

never completely refined, was both original and suggestive and rightly belongs to any

study of the nineteenth century philosophy of mind, though such has rarely been the case.

Chapter Three

Peirce's Semiotic Theory of Emotion

Consciousness, then, does not appear to itself chopped up in bits. Such words as 'chain' or 'train' do not describe it fitly as it presents itself in the first instance. It is nothing jointed; it flows. A 'river' or a 'stream' are the metaphors by which it is most naturally described. In talking of it hereafter, let us call it the stream of thought, of consciousness, or of subjective life.
--James, *Principles of Psychology*

*As for the mind's watching its own operations, no such thing is possible. It is pure delusion. Take, for example, a train of ideas. A man may recall some of the ideas of the train. But what are they? They are objects, imaginary objects, **products** of the mind's operation, but not the movement of mind itself.*
--Peirce, *Collected Papers*

A. Streams and Trains: Peirce, James and Consciousness

General access to Peirce's theory of emotion is more readily achieved through

juxtaposition of his views on matters of the mind with those of James. James and Peirce

represent a special instance of what Royce was saying when he wrote that, "contrast is

the mother of clearness."[1] Despite their unflagging friendship and deep mutual respect,

Peirce and James were often philosophically at odds. Peirce's letters to James and

occasional reviews of his work were frequently polemical, reflecting not only the deep

differences between them in perspective but in philosophical attitude and temperament.[2]

As we have noted, James was characteristically generous in his praise of Peirce's work

and acknowledged the intellectual debt he owed by dedicating *The Will to Believe* to his

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Epigraph. James, *Principles of Psychology* 1, Chap. 9.
Epigraph. *CP* 7.376.
1. Josiah Royce, *The World and the Individual*, 2 vols. (New York: The Macmillan Company, 1901; New York: Dover Publications, 1959), 2:262.
2. See, for example, Ralph Barton Perry, *The Thought and Character of William James* (Boston: Little, Brown and Company, 1935), 2:423ff.

old friend in 1897. What is sometimes overlooked, because of the remonstrant attitude Peirce adopted toward James, is the stimulation and suggestion that James' work often provided him.[3] This was particularly true in the case of the *Will to Believe.* Despite his misgivings about the title phrase and its implications, a book which James always regretted not having called, the '*Right* to Believe,' Peirce was moved to reassess his views on, among other things, individual will.[4] Also, as Nathan Houser notes, "from at least that time [1897] on, the role of instinct, or sentiment, as a co-participant with reason in the acquisition of knowledge became a key concern for Peirce, and it would not be long until he came to regard ethics and esthetics as epistemically more fundamental than logic."[5] This influence will be further explored in the subsequent chapters.

We might begin by contrasting three types of theory of mental activity. Anglophone philosophy has been most fond of what James Crombie calls the *first-person* type, an approach well represented by James.[6] This type is adhered to by those who, like James, maintain that we possess a privileged access to the contents of our own minds, and that nothing can be as incorrigible as knowledge of our own mental states. These contents of our introspection, these "inner" mental phenomena, such as thoughts, dreams, pains, and desires, are readily contrasted with the physical phenomena or objects of the

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3. See *CP* 8.296 where, writing to James in 1904, Peirce acknowledges: "Your mind and mine are as little adapted to understanding one another as two minds could be, and therefore I always feel that I have more to learn from you than from anybody."

4. See Ralph Barton Perry, *The Thought and Character of William James*, 438, for Peirce's views of the title and 488 for James'; see also *CP* 5.3 for Peirce's feelings about its philosophical implications and *CP* 6.182 for Peirce's acknowledgement of the occasionally discourteous tone he took with James.

5. Nathan Houser, introduction to *The Essential Peirce: Selected Philosophical Writings,* ed. Peirce Edition Project (Bloomington and Indianapolis: Indiana University Press, 1998), 2:xxi.

6. E. James Crombie, "Peirce on our Knowledge of Mind," *Two Centuries of Philosophy in America*, ed. Peter Caws (Totowa, New Jersey: Rowman and Littlefield, 1980), 77-85.

"outer" world. This approach to the knowledge of mind treats consciousness as completely insular and the hallmark of this subjectivism is inescapable privacy.

> The only states of consciousness that we naturally deal with are found in personal consciousness, minds, selves, concrete particular I's and you's. Each of these minds keeps its own thoughts to itself. There is no giving or bartering between them … Absolute insulation, irreducible pluralism, is the law. It seems as if the elementary psychic fact were not *thought* or *this thought* or *that thought,* but *my thought,* every thought being *owned.* Neither contemporaneity, nor proximity in space, nor similarity of quality and content are able to fuse thoughts together which are sundered by this barrier of belonging to different personal minds. The breaches between such thoughts are the most absolute breaches in nature.[7]

Within the thinking subject thoughts are experienced as a continuous whole, a stream, unobstructed by gaps in time or altered states of consciousness. The awaking subject understands the sleeping, dreaming subject as belonging to self.

This approach to the knowledge of mind can be contrasted with Crombie's *third-person* type or what C.F. Delaney calls the "externalist" tradition.[8] It is represented both by behaviorism and identity-theory analysis, which "analyze mental terms as referring to some overt, publicly identifiable feature of intelligent beings, such as their actual conduct or the current state of their brains and nervous systems."[9] It is probably fair to mention that Quine believed that "Peirce made a general and explicit declaration for behaviorism, indeed, in the following terms: 'We have no power of Introspection, but all knowledge of the internal world is derived by hypothetical reasoning from our knowledge of external

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7. James, *Principles of Psychology*, 1:226.
8. Crombie in Caws, "Peirce and our Knowledge of Mind," 79; and C.F. Delaney, "Peirce's Account of Mental Activity," *Synthese* 41 (1979): 25-26.
9. Crombie in Caws, "Peirce and our Knowledge of Mind," 78.

facts."[10] The view expressed below is that while Peirce's account of belief in the

pragmatic maxim is certainly behavioristic in spirit – Quine asserted that beliefs

construed as dispositions to action constitute behavioristic semantics – there is still much

that separates him from vulgar behaviorism.

Both the *first-person* and the *third-person* approaches are fraught with well

known difficulties. Wittgenstein's allegory of the "beetle in a box" illustrates the problem

of private language inherent in *first-person* accounts.[11] The *third-person* accounts of

behaviorism and mental/physical identity theses are no less troublesome. Intuitively, the

report of a mental state, an acute pain for instance, seems more or other than that which is

conveyed by pain behavior or by accounts of brain processes, especially to the one

reporting the pain experience. The experience of pain and the mental process language

used to report it, i.e., references to pain behavior and the brain process language of

neurons and C-fibers, may all have the same referent but have different meanings.[12]

Peirce is credited by Vincent Colapietro, James Crombie, and C.F. Delaney with

providing a third type, an approach I will call inferentialist, in contrasting it with the

intuitionist and externalist types.[13] Peirce's denial of any power of introspection, a

faculty he identified as a salient feature of Cartesianism, is a constant theme in his

10. W.V. Quine, "The Pragmatists' Place in Empiricism," in *Pragmatism*, eds. Robert J. Mulvaney and Philip M. Zeltner (Columbia: University of South Carolina Press, 1981), 36. The quote of Peirce is found in *CP* 5.265.

11. "Suppose everyone had a box with something in it: we call it a 'beetle.' No one can look into anyone else's box, and everyone says he knows what a beetle is only by looking at *his* beetle. – Here it would be quite possible for everyone to have something different in his box." Ludwig Wittgenstein, *Philosophical Investigations,* 3rd ed., trans. G.E.M. Anscombe (Oxford: Blackwell Publishing, 2001), I§293.

12. J.J.C. Smart, "Sensations and Brain Processes," *Materialism and the Mind-Body Problem*, ed. David M. Rosenthal, 2nd ed. (Indianapolis: Hackett Publishing Co., 2000), 53-66.

13. Vincent Colapietro, *Peirce's Approach to the Self* (Albany: State University of New York Press, 1989); Crombie in Caws, "Peirce and our Knowledge of Mind"; Delany, "Peirce's Account of Mental Activity."

writings beginning with the series of three essays published in the *Journal of Speculative Philosophy* in 1868-9.[14] In the first of these essays Peirce clarified his understanding of the term.

> By introspection, I mean a direct perception of the internal world, but not necessarily a perception of it *as* internal. Nor do I mean to limit the signification of the word to intuition, but would extend it to any knowledge of the internal world not derived from external observation.[15]

Thirty years later, Peirce's zealous denial of this faculty was unabated. In his review of Karl Pearson's, *Grammar of Science* for *The Popular Science Monthly,* he wrote:

> [Pearson] tells us that that each of us is like the operator at a central telephone office, shut out from the external world, of which he is informed only by sense-impressions. Not at all! Few things are more completely hidden from my observation than those hypothetical elements of thought which the psychologist finds reason to pronounce 'immediate,' in his sense. But the starting point of all our reasoning is not in those sense-impressions, but in our percepts. When we first wake up to the fact that we are thinking beings and can exercise some control over our reasonings, we have to set out upon our intellectual travels from the home where we already find ourselves. Now, this home is the parish of percepts. *It is not inside our skulls, either, but out in the open* [emphasis mine]. It is the external world that we directly observe. What passes within we only know as it is mirrored in external objects. In a certain sense, there is such a thing as introspection; but it consists in an interpretation of phenomena presenting themselves as external percepts. We first see blue and red things. It is quite a discovery when we find the eye has anything to do with them, and a discovery still more recondite when we learn that there is an *ego* behind the eye, to which these qualities properly belong.[16]

And in a series of articles for *The Monist* in 1905, Peirce reiterated his position.

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14. This series is comprised of "Questions Concerning Certain Faculties Claimed for Man," *Journal of Speculative Philosophy* 2 (1868): 103-14; "Some Consequences of Four Incapacities," *Journal of Speculative Philosophy* 2 (1868): 140-57; and "Grounds of Validity of the Laws of Logic," *Journal of Speculative Philosophy* 2 (1869): 193-208 and appears in *CP* 5.213-263; it is commonly referred to as the "Cognition Series" and represents Peirce's critique of Cartesianism.

15. *CP* 5.244, 249.

16. *CP* 8.144 [1901]; review first appeared in *Popular Science Monthly* 58 (Jan. 1901): 296-306.

Introspection is wholly a matter of inference. One is immediately
conscious of his Feelings, no doubt; but not that they are feelings of an
ego. The *self* is only inferred. There is no time in the Present for any
inference at all, least of all for inference concerning that very instant.
Consequently the present object must be an external object, if there be
any objective reference in it.[17]

Peirce criticized James' conflation of feeling-qualities with thoughts as evidence for

James' wrong-headed and misdirected internalism.[18] "Our cognitive gaze is first directed

outward and only by reflection turned inward, so that our knowledge of ourselves, our

mental acts, and the data of consciousness is not immediate but logically parasitic on our

more ordinary awareness of the objects around us."[19] Peirce did not so much deny a

power of introspection as he affirmed that such a faculty provided only a mediated,

indirect and derivative access to our thoughts, and thus, no more secure than any other

inference.

Now the truth is that the data of introspection are … altogether
analogous to those of external observation. Introspection does not
directly reveal what is immediately present to consciousness, at all; but
only what seems to have been present from the standpoint of subsequent
reflection. It does not even tell what the normal appearance from this
subsequent standpoint is, without its testimony being falsified at all
times with serious accidental errors.[20]

Colapietro notes that "According to [Peirce], we are unable to catch our own thought in

flight; we cannot know what we are presently thinking, only what we have just now

thought."[21] Peirce tells us why.

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17. *CP* 5.462. The series in *The Monist* was comprised of "What Pragmatism Is," 15 (April 1905):
161-181; "Issues of Pragmaticism," 15 (Oct. 1905): 481-499; and "Prolegomena to an Apology for
Pragmaticism," 16 (Oct. 1906): 492-546 with minor corrections listed in 17:160.
18. *CP* 8.81.
19. C.F. Delaney, *Science, Knowledge and Mind* (Notre Dame: University of Notre Dame Press,
1993), 102.
20. *CP* 7.420.
21. Colapietro, *Peirce's Approach to the Self*, 116

We have already seen that an idea cannot be instantaneously present, that consciousness occupies time, and that we have no consciousness in an instant. So that at no time have we a thought. But now it further appears that in reference to a belief not only can we not have it in an instant, but it can not be present to the mind in any period of time. It does not consist in anything which is present to the mind, but in an habitual connection among the things which are successively present.[22]

The data of introspection are thus conditioned by prior percepts.

Our logically initial data are percepts. Those percepts are undoubtedly purely psychical, altogether of the nature of thought. They involve three kinds of psychical elements, their qualities of feelings, their reaction against my will, and their generalizing or associating element. But all these I find out afterward. I see an inkstand on the table: that is a percept. Moving my head I get a different percept of the inkstand. It coalesces with the other. What I call the inkstand is a generalized percept, a quasi-inference from percepts, perhaps I might say a composite-photograph of percepts. In this psychical product is involved an element of resistance to me, which I am obscurely conscious of from the first. Subsequently, when I accept the hypothesis of an inward subject for my thoughts, I yield to that consciousness of resistance and admit the inkstand to the standing of an external object. Still later, I may call this in question. But as soon as I do that, I find that the inkstand appears there in spite of me. If I turn away my eyes, other witnesses will tell me that it still remains. If we all leave the room and dismiss the matter from our thoughts, still a photographic camera would show the inkstand still there, with the same roundness, polish, and transparency and with the same opaque liquid within. Thus, or otherwise, I confirm myself in the opinion that its characters are what they are, and persist at every opportunity in revealing themselves, regardless of what you, or I, or any man, or generation of men, may think they are. That conclusion to which I find myself driven, struggle against as I may, I briefly express by saying that the inkstand is a *real* thing. Of course, in being real and external, it does not in the least cease to be a purely psychical product, a generalized precept, like everything of which I can take any sort of cognizance.[23]

22. *CP* 7.355.
23. *CP* 8.144.

This is one way Peirce had of asserting his realism and at the same time rejecting the

first-person subjectivism of James and, in turn, its view of mind as private and insular

with every thought melding into the continuous stream of consciousness.

James had written in *The Principles of Psychology:*

No thought even comes into direct sight of a thought in another personal
consciousness than its own … My thoughts belong with my other
thoughts, and your thought with your other thoughts … Each of these
minds keeps its own thoughts to itself. There is no giving or bartering
between them … Absolute insulation, irreducible pluralism, is the law.[24]

In unpublished notes, presumably prepared for his review of James' *Principles* in *The*

Nation, Peirce responded:

Is not the direct contrary nearer observed facts? Is not this pure meta-
physical speculation? You think there *must* be such insulation, because
you confound thoughts with feeling-qualities; but all observation is
against you. There are some small particulars that a man can keep to
himself. He exaggerates them and his personality sadly.[25]

Herein lays, perhaps, philosophically the biggest difference between the two

friends. "One way to state this difference between James and Peirce is to note that, for the

former, the most fundamental feature of personal consciousness is the irreducible fact of

privacy whereas, for the latter, its most basic characteristic is the ubiquitous possibility of

communication."[26] For Peirce, consciousness was a train of thought, each thought

conditioned by those before it and conditioning those that follow. It is a product of sign-

action and, as he never tired of heralding, all thought is in signs,[27] and, as such, is

communicable.

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24. James, *Principles of Psychology*, 1:226
25. *CP* 8.81
26. Colapietro, *Peirce's Approach to the* Self, 78.
27. For example, *CP* 1.191, 4.551, 5.251, 5.553, 7.356.

every state of consciousness [is] an inference; so that life is but a sequence of inferences of a train of thought. At any instant then man is a thought, and as thought is a species of symbol, the general answer to the question what is man? is that he is a symbol."[28]

This last sentence is one of Peirce's most intriguing ideas and one that we will return to in subsequent chapters.

One further feature of Peirce's theory of mind should be noted. Besides his denial of both the privileged status of introspective data and the insularity of an individual's mental states and his affirmation of both the communicability of thought and the representative nature of thought, Peirce asserted the externality of the mind. Again, he reminded his readers that the "parish of precepts" is not located, "inside our skulls … but [rather] out in the open."[29] In an intriguing passage in which his prop is once again an inkstand, Peirce wrote the following in 1902 (a year after his review of Pearson's *Grammar of Science*).

> The psychologists say that consciousness is the essential attribute of mind; and that purpose is only a special modification. I hold that purpose, or rather, final causation, of which purpose is the conscious modification, is the essential subject of psychologists' own studies; and that consciousness is a special, and not a universal, accompaniment of mind … A psychologist cuts out a lobe of my brain (*nihil animale me alienum puto*), and then, when I find I cannot express myself, he says, "you see your faculty of language was localized in that lobe." No doubt it was; and so, if he had filched my inkstand, I should not have been able to continue my discussion until I had got another. Yea, the very thoughts would not come to me. So my faculty of discussion is equally localized in my inkstand. It is localization in the sense in which a thing can be in two places at once.[30]

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28. *CP* 7.583.
29. *CP* 8.144.
30. *CP* 7.366; see Peter Skagestad, "Peirce's Inkstand as an External Embodiment of Mind," *Transactions of the Charles S. Peirce Society* 35:551-561.

This passage underscores Peirce's conviction that mind is much broader than personal consciousness and, as such, is not confined to the protoplasmal content of brain cells any more than an electric current resides inside the copper wires of a circuit, an analogy he draws later in the same passage.[31] Consciousness, as an unbroken train of thought, extends infinitely into the past and infinitely into the future. Peter Skagestad suggests that Peirce is saying, "thoughts come to him through the act of writing, so that having writing implements is a condition for having certain thoughts – e.g., those thoughts that issue from trains of thoughts too long to be entertained in [his individual] human consciousness."[32] In the notes he prepared for his review in *The Nation*, Peirce quoted from James' *Principles*: "The cortex is the sole organ of consciousness in man,"[33] and responded by observing, "The reasoning seems pretty loose for settling all the important positions implied in this statement. What is consciousness anyway?"[34]

Peirce argued that consciousness was both an exceptionally ambiguous (*CP* 7.585) and vague (*CP* 5.313) term, noting that it could be used to express the emotion that accompanies the reflection that we have animal life, or it can refer to the introspective knowledge we have of our mental states, or it can denote the Kantian concept of "I think," i.e., the apperception of being or the unity in thought.[35] In a 1904 letter to James, in response to James' essay "Does 'Consciousness' Exist?" that appeared in *The Journal of Philosophy, Psychology, and Scientific Methods*,[36] Peirce further noted

31. *CP* 7.366.
32. Skagestad, "Peirce's Inkstand as an External Embodiment of Mind," 35:551.
33. James, *Principles of Psychology*, 1:66.
34. *CP* 8.72.
35. *CP* 7.585.
36. *Journal of Philosophy, Psychology and Scientific Methods* 1 (September 1, 1904): 477-491.

three usages of the term 'consciousness' by a variety of contemporary schools. It was

used by sensationalists, including James, to indicate mere feeling. It was used by others,

such as Bain and Mary Whiton Calkins, to signify knowledge of both "inner" and "outer"

worlds, i.e., of subject-consciousness and object-consciousness. Thirdly, Peirce joined his

own use the of the term with that of Thomists, Hegelians and other "Intellectualists" who

denote three modes of consciousness: "that of feeling, that of experience (experience

meaning precisely that which the history of my life has forced me to think; so that the

idea of a struggle, of not mere twoness but active oppugnancy is in it), and [that of] the

consciousness of the future (whether veridical or not is aside from the question) in

expectation, which enters into all general ideas according to my variety of

pragmatism."[37]

In a largely unpublished manuscript, Peirce had differentiated three states of mind

as feeling, acting/reacting, and thinking.[38] Each will be examined in some detail below.

Asserting the vagueness of the term 'consciousness' and, once again, the externality of

mind, Peirce wrote, "Consciousness may mean any one of the three categories. But if it is

to mean Thought it is more without us than within."[39] This vagueness as to the precise

meaning of the term was, for Peirce, a product of its generality. As Robert Innis points

out, "Peirce refuses to identify consciousness with any one of its forms or to make it

some mysterious inner realm or 'space.' Consciousness is exemplified in each category;

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37. *CP* 8.291.
38. *MS* 404, §1; Nathan Houser and Christian Kloesel, eds., *The Essential Peirce* (Bloomington and Indianapolis: Indiana University Pess, 1992), 2:4-5.
39. *CP* 8.256.

there are, in fact, different kinds – as well as elements – of consciousness."[40] Thought, too, is so general (and thus vague) that "[it] is not necessarily connected with a brain. It appears in the work of bees, of crystals, and throughout the purely physical world."[41] Rulon Wells saw this tendency to overly generalize, especially in regard to the concept of mind, to be a fatal flaw, vitiating Peirce's semiotic. As a practicing scientist, and more specifically a logician of scientific method, Peirce acquired the tendency honestly. "Often this attempt [to generalize] is inspired by the notion that generalizing is one of the things one does in science."[42] We will return to this criticism in our treatment of the general theory of signs below.

Peirce's inferentialism rests on the conviction that "every state of consciousness [is] an inference; so that life is but a sequence of inferences or a train of thought."[43] Objecting to James' classification of mental states as either feelings or thoughts, Peirce suggested that a more useful, and clearly more scientific and logical, division would attempt to account not for "mental states" but rather for "mental elements" as "feeling-qualities, reactions (volition and experience), and habit-taking."[44] The mental elements of consciousness, including the notion of an experiencing self, are themselves products of inference. James Crombie describes how the dual nature of experience produces a consciousness of self.

> Peirce's suggestion, which is to construe the existence and properties of
> an empirical self as inferable from anomalies and contradictions in the

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40. Robert E. Innis, *Consciousness and the Play of Signs* (Bloomington and Indianapolis: Indiana University Press, 1994), 17.
41. *CP* 4.551.
42. Rulon S. Wells, "Criteria for Semiosis," *A Perfusion of Signs*, ed. Thomas Sebeok (Bloomington and London: Indiana University Press, 1977), 1.
43. *CP* 7.583.
44. *CP* 8.80.

world as it presents itself to us, from how our observations of the external world seem to be "affected" by something not belonging to that world: The landscape appears to me today to be somehow not so cheerless and hard as it did yesterday. But when I mention this "fact" to family and friends, it is universally maintained that today is, if anything, even more wretched and miserable than yesterday and the landscape is certainly not more inviting. Upon reflection, then, I find that I cannot identify any precise feature in which today's landscape differs from yesterday's, either in the color of the dead leaves against the sky or in the cold and the intensity of the wind. I therefore attribute to a change in my own inner state a change which I had at first thought to observe in external facts. This, then, is the general line which Peirce proposes as an alternative to the suggestion that the contents of our minds are open to direct, intuitive introspection.[45]

In describing the nature of the category of Secondness or experience in his Lowell

Lectures of 1903, Peirce had said:

> You have a sense of resistance and at the same time a sense of effort. There can be no resistance without effort; there can be no effort without resistance. There are only two ways of describing the same experience. It is a double-consciousness. We become aware of ourself in becoming aware of the not-self. The waking state is a consciousness of reaction; and as the consciousness *itself* is two-sided, so it has also two varieties; namely, action, where our modification of other things is more prominent that their reaction on us, and perception, where their effect on us is overwhelmingly greater than our effect on them. And this notion, of being such as other things make us, is such a prominent part of our life that we conceive others things also to exist by virtue of their reactions against each other. The idea of other, of *not*, becomes a very pivot of thought. To this element I give the name of Secondness.[46]

Quoting this passage in one of his few papers on Peirce, John Dewey, who had taken

Peirce's courses on logic as a graduate student at Johns Hopkins during the early 1880s,

observed that Peircean

> [consciousness's] 'two-sidedness' anticipates what James later, but probably independently, called the doublebarreledness of experience. Implicitly, but not explicitly, it anticipates the principle of

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45. Crombie, "Peirce on our Knowledge of Mind," 80.
46. *CP* 1.324.

"indeterminancy," according to which, when a cat looks at a king, there is a bumping in which the king as well as the cat is moved – though not of course to anything like the same extent. Perception of "internal" and "external" worlds is a matter of one and the same event – the event to which, in recent psychology, the same "sensori-motor" is applied. And while Peirce uses the word "internal" to express the organism's part in this two-sided affair, it is equally true that the organism's side is "external" to that of the part of environing conditions in the common transaction. It all depends, so to say, on whose side we are on.[47]

In the next chapter we will examine Peirce's inferential theory of mind in more detail, in particular the argument for the self from the 1868 Cognition Series.[48] It is here that "[Peirce] goes so far as to maintain that the whole notion that there is an empirical self which is the subject of my judgments and emotions is likewise reached by a species of inference from 'external facts' and is in fact reached at about the time that we learn to distinguish between judgment and emotion, between fact and mere appearance."[49] For now it is enough to note that Peirce's theory is distinct from either traditional first-person or the third-person approaches. Whether one sides with C.F. Delaney in the claim that Peirce is "the philosopher who carried through [the] externalist program most self-consciously and most completely,"[50] or views Peirce's position as a unique third type, it is clear that "it differs from a third-person approach in that it involves inference from the nature of one's *own* experience, but differs from the first-person approach in that the experiences in question concern the outer and not the inner world."[51]

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47. John Dewey, "Peirce's Theory of Linguistic Signs, Thought and Meaning," *Journal of Philosophy* 43 (Feb. 14, 1946): 90.
48. See footnote 14 for a description of the "Cognition Series."
49. Crombie, "Peirce on our Knowledge of Mind," 81.
50. C.F. Delaney, "Peirce's Account of Mental Activity," *Synthese* 41 (1979): 27.
51. Crombie, in Caws, "Peirce and our Knowledge of Mind," 83.

B. Categories and Semiotic

In endeavoring to describe Peirce's theory of emotion, it is necessary to come to some understanding of his semiotic. In order to accomplish that, it is required that we account for his metaphysical categories, the basic universal conceptions upon which his semiotic and, thus, much of the rest of his philosophy rests. Charles Hartshorne, who, with Paul Weiss, edited the first six volumes of Peirce's *Collected Papers,* did not overstate the case when he wrote that "Although it receives but a bare mention in the writings published during his lifetime, Peirce's theory of the categories is really his entire philosophy in its most technical and original aspects."[52] Moreover, as Richard Bernstein adds, "We can … draw together the various strands in [Peirce's] thought by reference to his theory of categories which pervades all his thinking."[53] In order to avoid getting bogged down in the more technical aspects, it will be necessary to keep our treatment somewhat general and cursory and focused upon the psychological purpose and application of the categories.

Throughout his life, Peirce acknowledged an early debt to Kant and, for a time, counted himself among his most ardent disciples.

> I came to the study of philosophy not for its teaching about God, Freedom, and Immortality, but intensely curious about Cosmology and Psychology. In the early sixties I was a passionate devotee of Kant, at least as regarded the Transcendental Analytic in the *Critic of the Pure Reason*.[54] I believed more implicitly in the two tables of the Functions

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52. Hartshorne, Charles, "Foreword" to *Categories of Charles Peirce*, ed. Eugene Freeman (Chicago: The Open Court Publishing Company, 1934).

53. Richard J. Bernstein, "Charles Sanders Peirce and *The Nation*," in Charles Sanders Peirce, Contributions to *The Nation*, Part 1, 1869-1893, compiled and annotated by Kenneth Laine Ketner (Lubbock: Texas Tech University Press, 1975), 21.

54. *Critic of the Pure Reason*, see Charles Sanders Peirce, Contributions to *the Nation,* Part 3, 1901-1908, compiled and annotated by Kenneth Laine Ketner and James Edward Cook (Lubbock: Texas Tech University Press, 1979), 95. Peirce consistently and deliberately used *'Critic'* rather than the more

of Judgment and the Categories than if they had been brought down from Sinai.[55]

For much of the 1860s, Peirce was consumed with the study of Kant, a passion tempered by the critical eye of his father, Benjamin Peirce. In preparing his 1867 essay, "On a New List of Categories," Peirce recalled that, "Before I came to man's estate, being greatly impressed with Kant's *Critic of Pure Reason*, my father, who was an eminent mathematician, pointed out to me lacunae in Kant's reasoning which I should probably not otherwise have discovered.[56] Charles soon became immersed in these, committing three hours a day for two years to problems he perceived in Kant's formal logic.[57] "Peirce's further investigations undermined his confidence in all of the details of Kant's table [of the Functions of Judgment], but left him convinced that Kant's project of deriving a system of categories from a logical investigation of the structure of judgment and argument was of fundamental importance."[58] Questions concerning Kant's logic and his ultimate rejection of the unknowable *ding an sich*, notwithstanding, Peirce salvaged enough from Kant's approach for a deduction of three *a priori* categories: Firstness, Secondness, and Thirdness.[59] Peirce presented his new list by reminding his readers of the groundwork Kant had laid in showing that "the function of conceptions is to reduce

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common English translation of *'Critique'* because "Kant, not being insane, did not propose to criticize the Reasoning Power, unless to approve it in one paragraph. But what he chiefly criticized and had reference to in his title was the faculty of knowing first principles, *The Reason*. Consequently, his book, the 'Critik der reinen Vernunft,' is a work concerning 'Critic of the Pure Reason.'"

55. *CP* 4.2

56. *CP* 1.560.

57. *CP* 4.2.

58. Christopher Hookway, *Peirce* (London: Routledge and Kegan Paul, 1985), 83.

59. Both Christopher Hookway and Gayle Ormiston acknowledge that while Peirce did not, strictly speaking, provide a Kantian metaphysical deduction of his three categories, a non-Kantian deduction, traceable from his writings, clearly shows how the categories were conceived in experience and logically deduced. See Hookway, *Peirce,* 81-88, and Gayle L. Ormiston, "Peirce's Categories: Structure of Semiotic," *Semiotica* 19 (1977): 209-231.

the manifold of sensuous impressions to unity, and that the validity of a conception

consists in the impossibility of reducing the content of consciousness to unity without the

introduction of it."[60] That groundwork was at the very core of one of Peirce's most

mature expressions of Pragmatism, the seven *Harvard Lectures on Pragmatism*.[61] There,

in conclusion to the seventh and last lecture, he stated, "The elements of every concept

enter into logical thought at the gate of perception and make their exit at the gate of

purposive action; and whatever cannot show its passports at both those two gates is to be

arrested as unauthorized by reason."[62]

In an undated manuscript, Peirce introduced the categories in the following way:

"Three ideas are basic: those of something, other and third … In this mathematical

proposition (for such it is shown to be), you have all logic and all metaphysics in a

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60. CP 1.545.

61. Charles Sanders Peirce, *Pragmatism as a Principle and Method of Right Thinking: 1903 Harvard Lectures on Pragmatism*, ed. Patricia Ann Turrisi (Albany: State University of New York Press, 1997). Of these lectures, Peirce wrote to his former student, Christine Ladd-Franklin: "In the Spring of 1903 I was invited, by the influence of James, Royce, and [Harvard psychologist Hugo] Münsterberg, to give a course of lectures in Harvard University on Pragmatism. I had intended to print them; but James said he could not understand them himself and could not recommend their being printed. I do not myself think there is any difficulty in understanding them, but all modern psychologists are so soaked with sensationalism that they can not understand anything that does not mean that, and mistranslate into the ideas of Wundt whatever one says about logic." Christine Ladd Franklin, "Charles S. Peirce at the Johns Hopkins," *The Journal of Philosophy, Psychology, and Scientific Methods* 13 (Dec. 21, 1916): 719-20. Given James' lack of understanding, it is perhaps not insignificant that James was not in attendance for the second and either the sixth or seventh lectures and read manuscripts of both, sent by Peirce, some time after they had been delivered. These were returned to Peirce on June 5th. James wrote to his brother, the novelist Henry James, Jr., on May 3rd, "Charles Peirce is lecturing here – queer being …Boott (sic) is in good spirits, and a sociable as ever." George Santayana was present for the third lecture, and recalled the experience many years later: "I heard one of [Peirce's] Harvard lectures. He had been dining at the James's and his evening shirt kept coming out of his evening waistcoat. He looked red-nosed and disheveled, and a part of his lecture seemed *ex-tempore* and whimsical. But I remember and have often used in my own thought, if not in actual writing, a classification he made that evening of signs into indexes and symbols and images: possibly there was still another distinct category which I don't remember." Brent, *Charles Sanders Peirce: A Life,* 289-292. See also William James, *The Letters of William James,* 2 vols., ed. Henry James (Boston: Atlantic Monthly Press, 1920), 2:191.

62. *CP* 5.212.

nutshell."[63] As Peirce sees it, these three *a priori* categories are "ideas so broad that they

may be looked upon rather as moods or tones of thought, than as definite notions …[and]

viewed as numerals, to be applied to what objects we like, they are indeed thin skeletons

of thought, if not mere words."[64] Still, as he expressed it to the Victorian semiotician,

Lady Victoria Welby, once the categories occurred to him, they formed the organizing

idea behind his subsequent work.

> I was long ago [1867] led, after only three or four years of study, to
> throw all ideas into the three classes of Firstness, of Secondness, and of
> Thirdness. This sort of notion is as distasteful to me as to anybody; and
> for years, I endeavored to pooh-pooh and refute it; but it long ago
> conquered me completely. Disagreeable as it is to attribute such meaning
> to numbers, and to a triad above all, it is as true as it is disagreeable.[65]

And in a "Prolegomena for an Apology to Pragmatism" he wrote:

> I cannot tell you with what earnest and long continued toil I have
> repeatedly endeavored to convince myself that my notion that these
> three ideas [categories] are of fundamental importance in philosophy
> was a mere deformity of my individual mind. It is impossible; the truth
> of the principle has ever reappeared clearer and clearer.[66]

Until the end of his career, and not without warrant, Peirce fretted about the

pervasiveness of triads in his work as possible evidence of a disease he termed *triadamy*

but not without irony was once prepared to call *trichimania.*[67] A growing obsession with

triads is clearly indicated in the latter third of his life when his philosophical interests

shifted to evolutionary cosmology. In an incomplete manuscript of 1910, he took the time

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63. *MS* 915, "The Three Categories and the Reduction of Fourthness," quoted from Hans G. Herzberger, "Peirce's Remarkable Theorem," in *Pragmatism and Purpose*, eds. L.W. Sumner, John G. Slater, and Fred Wilson (Toronto: University of Toronto Press, 1981), 41.

64. *CP* 1.355.

65. *CP* 8.328.

66. Charles S. Peirce, *The New Elements of Mathematics,* 4 vols. in 5, ed. Carolyn Eisele (The Hague: Mouton Publishers, 1976), 4:331.

67. *CP* 1.568. See also C.W. Spinks, *Peirce and Triadomania* (Berlin and New York: Mouton de Gruyter, 1991), 9n1.

to outline "The author's response to the anticipated suspicion that he attaches a superstitious or fanciful importance to the number three, and forces divisions to a Procrustean bed of trichotomy."[68] For three pages his readers are cautioned against rushing to the conclusion that the author is a triadomaniac, notwithstanding the large number of trichotomies in the corpus of his work and at once are asked to consider two arguments for why he is not a victim of *idée fixe.* After all, "Kant, the King of modern thought, it was who first remarked the frequency in logical analytics of *trichotomics* or threefold distinctions."[69] For all of that, Peirce had to admit that while different numbers have been championed by others – two by Peter Ramus, four by the Pythagoreans, five by Sir Thomas Browne – his own leaning was to the number three in philosophy. At one point he said "In fact, I make so much use of threefold divisions in my speculations that it seems best to commence by making a slightly preliminary study of the conceptions upon which all such divisions must rest."[70] However, his explanation failed to dispel the suspicion that a commitment to psychological realism and an essentialist belief in the esoteric nature of triads allowed Peirce to find exactly what he was looking for in hairsplitting distinctions. Or, more frankly, in the words of Richard Rorty, there is nothing here to indicate Peirce was not "just one more whacked-out triadomaniac."[71]

To my knowledge, Peirce never comprehensively addressed how he came to think of his three categories. He did, however, give a hint at how Kant was a catalyst. In 1905, Peirce radically revised his 1867 paper "On a New List of Categories" for inclusion in a

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68. *CP* 1.568.
69. *CP* 1.369.
70. *CP* 1.355.
71. Richard Rorty, *Philosophy and Social Hope* (London: The Penguin Group, 1999), 134.

larger work that was never finished. In this paper he remembered "As early as 1860,

when I knew nothing of any German philosopher except Kant, who had been my revered

master for three or four years, I was much struck with a certain indication that Kant's list

of categories might be a part of a larger system of conceptions."[72]

> In my studies of Kant's great *Critic*, which I almost knew by heart, I was
> very much struck by the fact that, although, according to his own
> account of the matter, his whole philosophy rests upon his "functions of
> judgment," or logical divisions of propositions, and upon the relation of
> his "categories" to them, yet his examination of them is most hasty,
> superficial, trivial, and even trifling, while throughout his works, replete
> as they are with evidences of logical genius, there is manifest a most
> astounding ignorance of the traditional logic, even of the very *Summulæ
> Logicales*, the elementary schoolbook of the Plantagenet era.[73]

In this essay Peirce shared how he came to think the relationship between the two tables

of Kant's Transcendental Analytic in the First Critique – the Function of Judgments and

the Categories (A/70-B/95 and A/80-B/106 respectively) – comprised, as they are, of four

sets of triads, might be flawed.

> For instance, the categories of relation – reaction, causality, and
> subsistence – are so many different modes of *necessity*, which is a
> category of modality; and in like manner, the categories of quality –
> negation, qualification, degree, and intrinsic attribution – are so many
> relations of inherence, which is a category of relation. Thus, as the
> categories of the third group are to those of the fourth, so are those of
> second to those of the third; and I fancied, at least, that the categories of
> quantity, unity, plurality, totality, were, in like manner, different intrinsic
> attributions of quality. Moreover, if I asked myself what was the
> difference between the three categories of quality, the answer I gave was
> that negation was a merely *possible* inherence, and intrinsic attribution a
> *necessary* inherence; so that the categories of the second group are

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72. *CP* 1.563. The 1867 paper had also been rewritten in 1893. This earlier revision is *MS* 403 in
Richard Robin's catalog of Peirce's papers presently housed in the Houghton Library at Harvard
University. See Richard Robin, *Annotated Catalogue of the Papers of Charles S. Peirce* (University of
Massachusetts Press, 1967). The 1893 version has been presented along side the 1867 original by Joseph
Ransdell and is located at the Arisbe website: http://www.cspeirce.com/menu/library/bycsp/
ms403/ms403.pdf (accessed August 2008).

73. *CP* 1.560.

distinguished by means of those of the fourth; and in like manner, it seemed to me that to the question how the categories of quantity – unity, plurality, totality – differ, the answer should be that *totality*, or system, is the intrinsic attribution which results from reactions, *plurality* that which results from causality, and *unity* that which results from inherence. This led me to ask, what are the conceptions which are distinguished by negative unity, qualitative unity, and intrinsic unity? I also asked, what are the different kinds of necessity by which reaction, causality, and inherence are distinguished? I will not trouble the reader with my answers to these and similar questions. Suffice it to say that I seemed to myself to be blinding groping among a deranged system of conceptions; and after trying to solve the puzzle in a direct speculative, a physical, a historical, and a psychological manner, I finally concluded the only way was to attack it as Kant had done from the side of formal logic.[74]

The logical process through which Peirce was able to reduce Kant's twelve categories to three, and through which he came to "the demonstrative certitude that there was something wrong about Kant's formal logic,"[75] is outside the scope of the present work. Besides, as Murray Murphey points out, Peirce neglected to tell us precisely how the "demonstrative certitude" was reached.[76] However, Peirce allowed:

> Even without Kant's categories, the recurrence of triads in logic was quite marked, and must be the croppings out of some fundamental conceptions. I now undertook to ascertain what the conceptions were. This search resulted in what I call my categories. I then [1867] named them Quality, Relation, and Representation. But I was not then aware that undecomposable relations may necessarily require more subjects than two; for this reason *Reaction* is a better term [than Relation]. Moreover, I did not then know enough about language to see that to attempt to make the word *representation* serve for an idea so much more general than it habitually carried, was injudicious. The word *mediation* would be better. Quality, reaction, and mediation will do. But for scientific terms, Firstness, Secondness, and Thirdness, are to be preferred as being entirely new words without any false associations whatever.[77]

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74. *CP* 1.563.
75. *CP* 4.2.
76. Murray G. Murphey, *The Development of Peirce's Philosophy* (Cambridge: Harvard University Press, 1961), 55.
77. *CP* 4.3.

While Peirce employed a variety of methods for iterating the categories, he primarily made use of two. The first was phenomenological, by which he engaged the psychologist-phenomenologist James in a thought experiment.[78] The second method was what he termed "ideoscopic," which he used in correspondence with the semiotician, Lady Victoria Welby.[79]

Having read the second of the seven 1903 Harvard lectures on pragmatism from the manuscript Peirce had provided him, James returned it, with a copy of one of the other lectures, on June 5th, enclosing the following note.

> I have read the Second one [on the Categories] twice – but so original, and your categories are so unusual to other minds, that although I recognize the region of thought and the profundity and reality of the level on which you move, I do not yet assimilate the various theses in the sense of being able to make use of them for my own purposes. I may get it later; but at present event 1st, 2nd & 3rdness are outside my own sphere of practically applying things, and I am not sure even whether I apprehend them as you mean them to be apprehended. I get, throughout your whole business, only the sense of something dazzling and imminent in the way of truth. This is very likely partly due to my mind being so non-mathematical and to my slight interest in logic; but I am probably typical of a great many of your auditors – of the majority, so my complaint will be theirs … You cannot start with too low an idea of their intelligence. Look at me as one![80]

Peirce found James' incapacity most vexing and he responded on June 8th in an attempt at elucidation.

> It rather annoys me to be told that there is anything novel in my three categories; for if they have not, however confusedly, been recognized by men since men began to think, that condemns them at once. To make them as distinct as it is in their nature to be is, however, no small task …

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78. *CP* 8.266-269.
79. *CP* 8.328.
80. The Correspondence of William James, eds. Ignas K. Skrupskelis and Elizabeth M. Berkeley (Charlottesville and London: University Press of Virginia), 10:257.

But I am going to try to make here a brief statement that, I think, will do something for them. By the *phenomenon* I mean whatever is before our minds in any sense. The three categories are supposed to be the three kinds of elements that attentive perception can make out in the phenomenon.[81]

As Nathan Houser explains "Here the categories appear as fundamental categories of experience (or consciousness): firstness is the monadic element of experience usually identified with feeling, secondness is the dyadic element identified with the sense of action and reaction, and thirdness is the triadic element identified with the sense of learning or mediation as in thought or semiosis."[82]

To illustrate, Peirce asked James to imagine the breakers on the seashore as indicating the character of secondness as involving effort. All effort involves resistance and is hence, dyadic. "All the *actual* character of consciousness is merely the sense of the shock of the non-ego upon us. Just as a calm sea sleeps except where its rollers dash upon the land."[83] Secondness is a dyadic relation, indicated in a two place predicate, e.g., X kills Y. It indicates the element of struggle, resistance, or irritation. It is brute fact or existence, the sense of otherness, actuality.

If I ask you what the actuality of an event consists in, you will tell me that it consists in its happening *then* and *there*. The specifications *then* and *there* involve all its relations to other existents. The actuality of the event seems to lie in its relations to the universe of existents. A court may issue *injunctions* and *judgments* against me and I care not a snap of my finger for them. I may think them idle vapor. But when I feel the sheriff's hand on my shoulder, I shall begin to have a sense of actuality. Actuality is something *brute*. There is no reason in it. I instance putting your shoulder against a door and trying to force it open against an unseen, silent, and unknown resistance. We have a two-sided consciousness of effort and resistance, which seems to me to come

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81. *CP* 8.265.
82. Houser, introduction to *The Essential Peirce,* 1: xxxi.
83. *CP* 8.266.

tolerably near to a pure sense of actuality. On the whole, I think we have here a mode of being of one thing which consists in how a second object is. I call that secondness.[84]

Next, Peirce beckons James to "imagine that feeling retains its positive character but loses all relation, (and thereby all *vividness*, which is only the sense of shock)."[85]

What remains is the mere sense of quality. Here Peirce employs a mental image he had used many times before. He points to a patch of red and to that "element that makes *red* to be such as it is, whatever anything else may be."[86] It is unmediated, neither individual nor general. Quality:

> is not anything which is dependent, in its being, upon mind, whether in the form of sense or in that of thought. Nor is it dependent, in its being, upon the fact that some material thing possesses it. That quality is dependent upon sense is the great error of the conceptualists. A quality is a mere abstract *potentiality*, and the error of these schools lies in holding that the potential, or possible, is nothing but what the actual makes it to be … First that the quality of red depends on anybody actually seeing it, so that red things are no longer red in the dark, is a denial of common sense … The sensation is requisite for its apprehension; but no sensation nor sense-faculty is requisite for the possibility which is the being of the quality.[87]

Feeling, including sensation, is a monadic relation represented by a one place predicate, e.g., X is red. It is represented in quality, in the immediate, in the presentness of the present.

> Go out under the blue dome of heaven and look at what is present as it appears to the artist's eye. The poetic mood approaches the state in which the present appears as it is present. Is poetry so abstract and colorless? The present is just what it is regardless of the absent,

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84. *CP* 1.24.
85. *CP* 8.267.
86. Ibid.
87. *CP* 1.422.

regardless of past and future. It is such as it is, utterly ignoring anything else.[88]

What the world was to Adam on the day he opened his eyes to it, before he had drawn any distinctions, or had become conscious of his own existence – that is first, present, immediate, fresh, new, initiative, original, spontaneous, free, vivid, conscious, and evanescent. Only, remember that every description of it must be false to it.[89]

Imagine me to make and in a slumberous condition to have a vague, unobjectified, still less subjectified, sense of redness, or of salt taste, or of an ache, or of grief or joy, or of a prolonged musical note. That would be, as nearly as possible, a purely monadic state of feeling.[90]

Thirdness, or the third element of the phenomenon, is that we perceive it to be a thing capable of being represented. "We perceive it to be intelligible, that is, to be subject to law, or capable of being represented by a general sign or Symbol … [and] whatever is capable of being represented is itself of a representative nature.[91] As such, Thirdness is a triadic relation, mediating between a first and a second, indicated by a three place predicate, e.g., A gives B to C. Whereas, firsts, being unreferred, are neither individual nor general, seconds are individual and thirds are general. Thus it is, as Peirce proclaimed in his 1903 Harvard lectures that "Thirdness pours in upon us through every avenue of sense, in our very perceptual judgments, and all reasoning, so far as it depends on necessary reasoning, that is to say, mathematical reasoning, turns upon the perception of generality and continuity at every step."[92] Thirdness, for Peirce, has many aspects including "generality, infinity, continuity, diffusion, growth, and intelligence."[93] It is

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88. *CP* 5.44.
89. *CP* 1.357.
90. *CP* 1.303.
91. *CP* 8.268.
92. *CP* 5.157, 5.150.
93. *CP* 1.340.

also intelligibility, universality, regularity, lawfulness, mediation, vagueness,

representation, destiny, reasonableness and life.[94] In an especially fertile passage on

examples of Thirdness, Peirce claims that:

> Continuity represents Thirdness almost to perfection. Every process
> comes under that head. Moderation is a kind of Thirdness. The positive
> degree of an adjective is first, the superlative second, the comparative
> third. All exaggerated language, "supreme," "utter," "matchless," "root
> and branch," is the furniture of minds which think of seconds and forget
> thirds. Action is second, but conduct is third. Law as an active force is
> second, but order and legislation are third. *Sympathy, flesh and blood,
> that by which I feel my neighbor's feelings,* is third.[95]

The suggestion that sympathy – as he defines it, what might today be called the empathic

response, though the term 'empathy' has a short history, never appearing in the Oxford

English Dictionary prior to 1930 – is a third is especially rich. As we delve into Peirce's

theory of emotion we will begin to see that as primarily a cognitivist, Peirce views

particular emotions as judgments *about* something that is, as intentional in nature. Thus

emotions, like thoughts, are thirds.

Toward the end of a 1935 article "Peirce's Theory of Quality,"[96] Dewey shifted to

the psychological identifications and descriptions of the three categories.

> In this psychological universe of discourse, Quality (including
> sensations as barely *had* and not referred) represents feeling; Secondness
> represents existence as conative (since involving effort-resistance); and
> Thirdness, as cognitive thought, represents rationality.[97]

As such, these psychological descriptions could, according to Dewey, be interpreted in

two ways. One interpretation, certainly harmonious with Peirce's "panpsychic

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94. Rulon S. Wells, "Thirdness and Linguistics," *The Signifying Animal*, eds. Irmegard Rauch and Gerald F. Carr (Bloomington: Indiana University Press, 1980), 186, 199 and 200n1.
95. *CP* 1.337 (emphasis mine).
96. *The Journal of Philosophy* 32 (Dec. 19, 1935): 701-708.
97. Ibid., 707.

predilections," would be to construe them as constituents in a grand cosmological

scheme, comprised of hypostasized mathematical relations "isomorphic with three

elements active in the universe – chance, law, and habit-taking."[98] That is the view, says

Dewey, that "*apart* from experience and phenomenology, the universe is constituted of

something very like feelings and acts of effort-resistance, while natural continuity is

inherently assimilable to what presents itself in experience as reflective thought."[99]

The second, far more modest, interpretation of the psychological descriptions of

the three categories stands apart from metaphysics.

> Whether "feelings," for example, are or are not constituents of the
> natural world, it can be affirmed that, *psychologically* it is through
> feeling (including sensation as such) that qualities present themselves in
> *experience*; that it is through volitional experiences that existence, as a
> matter of action-reaction, is actualized in experience, and it is through
> thought that continuities are experienced … This idea that feeling is the
> true *psychical representative* [see *CP* 5.44] of that immediacy of being
> which characterizes, according to Peirce, everything in the natural
> world, is all that is essential to his theory. The rest is supernumery; as he
> repeatedly says, with unusual frankness for a philosopher, it is a *guess*. If
> what is suggested …is followed out, we do not define or identify quality
> in terms of feeling. The reverse is the case. Anything that can be called a
> feeling is objectively defined by reference to immediate quality:
> anything that is a feeling, whether of red or of a noble character, or of
> King Lear, is of some immediate quality when that is present as
> experience.[100]

In what follows we will trace elements of both interpretations as they are presented in

Peirce's notions of instinct, emotion, and sentiment and the roles these play in inquiry

and action. I will take the position that for Peirce these two interpretations do not in any

way bifurcate reality, that he felt, as he attempted to show in his 1887-88 essay, "A Guess

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98. Houser, introduction to "A Guess at the Riddle," *The Essential Peirce,* 1:245.
99. Dewey, "Peirce's Theory of Quality," 707.
100. Ibid.

at the Riddle," essentially an outline for a book he never finished, the categories were the

foundation of an architectonic that revealed the universe in both its vastness and

intricacy.

The second method Peirce frequently used for iterating the categories was what he

called ideoscopic. Its clearest articulation is found in a letter to Lady Victoria Welby

dated October 12, 1904.[101] The term, like another he used in this letter, "cenoscopic,"

was borrowed from Jeremy Bentham.[102] Its meaning is clear from the following passage.

> *Ideoscopy* consists in describing and classifying the ideas that
> belong to ordinary experience or that naturally arise in connection with
> ordinary life, without regard to their being valid or invalid or to their
> psychology … The ideas of Firstness, Secondness, and Thirdness are
> simple enough. Giving to being the broadest possible sense, to include
> ideas as well as things, and ideas that we fancy we have just as much as
> ideas we do have, I should define Firstness, Secondness, and Thirdness
> thus:
> Firstness is the mode of being of that which is such as it is,
> positively and without reference to anything else.
> Secondness is the mode of being of that which is such as it is,
> with respect to a second but regardless of any third.
> Thirdness is the mode of being of that which is such as it is, in
> bringing a second and a third into relation to each other.
> I call these ideas the cenopythagorean categories.[103]

Here Peirce returned to thought experiment to illustrate his ideoscopic

conclusions regarding firstness and secondness.

> Imagine yourself to be seated alone at night in the basket of a balloon,
> far above the earth, calmly enjoying the absolute calm and stillness.

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101. *CP* 8.328.

102. Paul Grimley Kuntz, "Doing Something for the Categories," *From Time and Chance to Consciousness: Studies in the Metaphysics of Charles Peirce,* Papers from the Sesquicentennial Harvard Congress, eds. Edward C. Moore and Richard S. Robin (Oxford and Providence, USA: Berg Publishers, 1994), 195n3; see Jeremy Bentham, *Chrestomathia and Chrestomathia,* Part 2, introduced by Jeffrey Stern (1816, repr., Bristol, England: Thoemmes Press, 1994), Table V, 352-3. Bentham stipulated that "'Eudæmonics' or Ontology is divided between Coenoscopic (regarding properties or adjuncts common to all Beings) and Ideoscopic (regarding properties or adjuncts peculiar to different classes of Beings)."

103. *CP* 8.328.

Suddenly the piercing shriek of a steam-whistle breaks upon you, and continues for a good while. The impression of stillness was an idea of Firstness, a quality of feeling. The piercing whistle does not allow you to think or do anything but suffer. So that too is absolutely simple. Another Firstness. But the breaking of the silence by the noise was an experience. The person in his inertness identifies himself with the precedent state of feeling, and the new feeling which comes in spite of him is the non-ego. That consciousness of the action of a new feeling in destroying the old feeling is what I call an *experience*. Experience generally is what the course of life has *compelled* me to think. Secondness is either *genuine* or *degenerate*. There are many degrees of genuineness. Generally speaking genuine secondness consists in one thing acting upon another, brute action. I say brute, because so far as the idea of any *law* or *reason* comes in, Thirdness comes in.[104]

Revisiting his illustration of the shrieking steam-whistle, now from the standpoint of a person in a room startled from a dreamy, half-awake state in which he was thinking of nothing but a pleasing color, Peirce turned to thirdness.

[L]et us imagine that our now-awakened dreamer, unable to shut out the piercing sound, jumps up and seeks to make his escape by the door, which we will suppose had been blown to with a bang just as the whistle commenced. But the instant our man opens the door, let us say the whistle ceases. Much relieved, he thinks he will return to his seat, and so shuts the door again. No sooner, however, has he done so than the whistle recommences. He asks himself whether the shutting of the door had anything to do with it; and once more opens the mysterious portal. As he opens it, the sound ceases. He is now in a third state of mind: he is *Thinking*. That is, he is aware of learning, or going through a process by which a phenomenon is found to be governed by a rule, or has a general knowable way of behaving … This third state of mind is entirely different from the other two. In the second there was only a sense of brute force; now there is a sense of government by a general rule. In Reaction only two things are involved; but in government there is a third thing which is a means to an end.[105]

The conception of Thirdness, i.e. the element in phenomena that allows us to see it as a thing capable of being represented, leads us to Peirce's general theory of signs. The

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104. *CP* 8.330.
105. *MS* 404 (1894), see Arisbe website: http://www.iupui.edu/~peirce/ep/ep2/ep2book/ch02/ep2ch2.htm (accessed August 2008).

theory of signs arises from an analysis of conscious experience from the viewpoint of his

three universal categories. Later in *MS* 404, in §2, Peirce observed that:

> There are three kinds of interest we may take in a thing. First, we may
> have a primary interest in it for itself. Second, we may have a secondary
> interest in it, on account of its reactions with other things. Third, we may
> have a mediatory interest in it, in so far as it conveys to a mind an idea
> about a thing. In so far as it does this, it is a *sign,* or representation.[106]

As David Savan points out, it is in the 1867 essay, "On a New List of Categories," that

Peirce presents his triadic analysis of the sign as dependent upon his categories.[107]

C. Peirce's General Theory of Signs

In his article, "Questions Concerning Certain Classifications Claimed for Signs,"

a play on Peirce's leading essay in the *Journal of Speculative Philosophy* series of 1868,

"Questions Concerning Certain Faculties Claimed for Man," David Savan asks "What is

the relation of categories to signs?" He begins by raising the question "What is a sign?"

Peirce had many answers to that question, no fewer than seventy-six, in fact, as

catalogued by Robert Marty and Alfred Lang.[108] In the 1902 Baldwin Dictionary entry

for "Sign," contributed by Peirce, a sign is:

> Anything which determines something else (its *interpretant*) to refer to
> an object to which itself refers (its *object*) in the same way, the
> interpretant becoming in turn a sign, and so on *ad infinitum*.[109]

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106. Ibid.
107. David Savan, "Questions Concerning Certain Classifications Claimed for Signs," *Semiotica* 19 (1977): 180.
108. "76 Definitions of The Sign by C.S. Peirce" collected and analyzed by Robert Marty, Department of Mathematics, University of Perpignan, Perpignan, France, with an Appendix of "12 Further Definitions or Equivalents proposed by Alfred Lang, Department of Psychology, University of Bern, Switzerland." See the Arisbe website: http://www.cspeirce.com/; URL for the document is: http://www.cspeirce.com/menu/library/rsources/76defs/76defs.htm (accessed August 2008).
109. James Mark Baldwin, ed., *Dictionary of Philosophy and Psychology*, 3 vols. (New York: Peter Smith, 1940), 2:527.

It is clear that in Peirce's mind, a sign has three references: "A REPRESENTAMEN is a subject of a triadic relation TO a Second, called its OBJECT, FOR a third, called its INTERPRETANT."[110] His most common and generic way of stating it was to say that "A sign, or representamen [sometimes representation], is something which stands *to* somebody *for* something in some respect or capacity,"[111] or, as a very early formulation had it, "A representation is something that *stands for* something *to* someone who so interprets it – more precisely, to the '*interpretant*,' which that person forms in response to the sign and which is a second representation of the same thing."[112] What each of these slightly different takes on the sign makes clear it that for Peirce a sign is any "one of three relata – sign, object, interpretant – of a single, triadic relation."[113]

Those familiar with Peirce know that he was continuously revising his thoughts on signs. "As he did that in several stages over many years – often in letters or unfinished manuscripts – what we now possess is little more than a sequence of contradictions, a series of ambitious yet unfinished sketches of elaborate but mutually incompatible structures."[114] In 1907, after the investment of thirty years, Peirce could only describe himself as "a pioneer; or rather a backwoodsman, in the work of clearing and opening up what I call semiotic, that is, the doctrine of the essential nature and fundamental varieties

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110. *CP* 1.541.
111. *CP* 2.228.
112. *W* 1:466; see T.L. Short, "The Development of Peirce's Theory of Signs," in *The Cambridge Companion to Peirce,* ed. Cheryl Misak (Cambridge: Cambridge University Press, 2004), 237n1, for a possible explanation of why Peirce spoke of interpretants rather than interpretations; and Thomas L. Short, "David Savan's Peirce Studies," *Transactions of the Charles S. Peirce Society* 22 (Spring 1986): 89-124; quote of Peirce on p. 98, on why an interpretant is not an interpreter: "Instead, it is the particular thought, action, or feeling which interprets a sign. The formation of interpretants constitutes an interpreter, which in some cases is a person." In *MS* 318 Peirce wrote: "A sign without an interpreter has as an interpretant, a 'would-be', i.e., what would determine in the interpreter if there were one."
113. Short, "The Development of Peirce's Theory of Signs," in Misak, 214.
114. Ibid.

of possible semiosis; and I find the field too vast, the labor too great for a first comer."[115]

Yet, his writings on signs cannot be ignored, because "the semeiotic is the center from

which most of Peirce's thought radiates," and "[t]he conception of the semeiotic triad is

the central unity in Peirce's philosophy, from beginning to end."[116] Peirce himself put it

this way: "It has never been in my power to study anything – mathematics, metaphysics,

gravitation, thermodynamics, optics, chemistry, comparative anatomy, psychology,

phonetics, economics, the history of science, whist, men and women, wine, metrology –

except as a study of semiotic."[117] Moreover, "his pragmatic theory of inquiry and his

synechistic account of the mind are incomplete without it."[118]

The fragmentary state of his semiotic writings has, however, given Peirce's critics

a looming target and presented his interpreters with a rather thorny hermeneutical

problem. Rorty's claim is that the recent tendency to overly praise Peirce is largely due to

the unfinished but suggestive character of his sign theory.

> [T]he main reason for Peirce's undeserved apotheosis is that his talk
> about a general theory of signs looks like an early discovery of the
> importance of language. For all his genius, however, Peirce never made
> up his mind what he wanted a general theory of signs *for*, nor what it
> might look like, nor what its relation to either logic or epistemology was
> supposed to be.[119]

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115. *CP* 5.488.
116. David Savan, "Peirce and Idealism," in *Peirce and Contemporary Thought,* ed. Kenneth Laine Ketner (New York: Fordham University Press, 1995), 315; and David Savan, "The Unity of Peirce's Thought," in *Pragmatism and Purpose,* eds. L.W. Sumner, John G. Slater, and Fred Wilson (Toronto: University of Toronto Press, 1981), 10-11, respectively.
117. Charles S. Hardwick, ed., *Semiotic and Significs: The Correspondence Between Charles S. Peirce and Victoria Lady Welby* (Bloomington: Indiana University Press, 1977), 85-6.
118. Short, "The Development of Peirce's Theory of Signs" in Misak, 214.
119. Richard Rorty, *Consequences of Pragmatism* (Minneapolis: University of Minnesota Press, 1982), 161.

While Rorty is correct in claiming that Peirce never made up his mind about what the general theory of signs might finally look like, he did know exactly what he wanted it for, how logic as a species of semiotic related to it,[120] and how it related to the ultimate goal of outlining a "theory so comprehensive that, for a long time to come, the entire work of human reason, in philosophy of every school and kind, in mathematics, in psychology, in physical science, in history, in sociology, and in whatever other department there might be, shall appear as the filling up of its details."[121] It was this vision that consumed his last years. His biographer, Joseph Brent noted that:

> Despite his steadily declining health and increasingly undependable mind, Peirce continued until the last few weeks of his life to work doggedly and surprisingly fruitfully on his great undertaking, now called a 'system of logic defined as formal semeiotic.' This dry description meant far more than a change in name. Between about 1900 and 1912, Peirce transfigured his entire architectonic on the basis of a transcendental doctrine of signs that had been in kernel in 1867.[122]

Our interest here is, of course, much narrower in scope, specifically the relation of sign theory to instinct, sentiments, and the emotions. However, even here, at the level of the affective, in the unity of thought and feeling, in the relation between science and sentiment, in the understanding of instinct and abduction, the development of the theory of signs is salient.

The hermeneutical problem arises in the philological task of reconstructing what the general theory of signs might have looked like had Peirce settled on its final form. The natural tendency of interpreters is to work backward from what is often rendered as

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120. *CP* 1.444, 4.9, 8.377.
121. *CP* 1.1.
122. Joseph Brent, *Charles Peirce: A Life* (Bloomington and Indianapolis: Indiana University Press, 1991).

the "mature" work that occurred after 1906. Short says that "To speak of this mature

theory at all [however] is to speak hypothetically: It has to be construed from the

surviving manuscripts of Peirce's last years plus all that is consistent with them from his

earlier writings."[123] The work is highly speculative. As Umberto Eco notes, lacking a

final iteration upon which to account for the stages of a supposed development, the

interpreter must extrapolate what represents the "authentic" theory and what is "a mere

abortive deviation."[124] Efforts to impose coherence by extraction of an essential kernel

from the extraneous chaff tend, for Eco, to result more in "Peircist" interpretations than a

"Peircean" reconstruction. At just such a risk and for the sake of brevity, we turn now to

a thumbnail sketch of the theory.

We should begin with a note on spelling. "For σημειωσιζ – sign-action, the

operation or function of a sign, sign-interpretation, or the act of inferring from signs – he

uses two English forms, *semiosis* and *semeiosy* ... For σημειωτικη – the art or science or

doctrine or general theory of semioses [Peirce] uses *semeiotic*; much less often,

semeiotics or *semiotic,* very rarely, *semeotic*; never *semiotics.*[125] For the balance of this

work, in quoting, I shall adopt whatever spelling is used in the original and outside of

quotations I shall use the more common 'semiotic.'

We began this discussion by raising David Savan's question, "What is the relation

of categories to signs?" As fundamental to all being, potential or actual, the three

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123. Short, "The Development of Peirce's Theory of Signs," in Misak, 214
124. Umberto Eco, "Peirce's Notion of Interpretant," *Modern Language Notes* 91, Comparative Literature (Dec. 1976): 1457-1472.
125. Max H. Fisch, "Peirce's General Theory of Signs," in *Peirce, Semeiotic, and Pragmatism: Essays by Max H. Fisch,* eds. Kenneth Laine Ketner and Christian J. W. Kloesel (Bloomington: Indiana University Press, 1986), 322.

irreducible categories impose a triadic structure upon all signs.[126] "The sign relation is *fundamentally* triadic: eliminate either the object or the interpretant and you annihilate the sign."[127] Thus it can be said that:

> [T]he 'cenopythagorean categories' are the structure on which Peirce built his theory of signs. Following his inquiry from the Kantian categories into his own deduction one can see how each category is dependent on and determined by the preceding categories. And, in so doing, Peirce shows how the categories function in their limited capacities, that of drawing attention to certain general characteristics within phenomena. The categories are the 'skeletons of thought' (1.355) and, as the skeleton of thought they offer or suggest a way of thinking, a perspective to look at the picture.[128]

More importantly, beyond merely imposing a structure on the theory of signs, Savan responds to his own question by arguing that Peirce's categories are themselves signs. "When Peirce writes … that *being* and *cognizable* are synonymous he is saying that *being* and *representable* are synonymous."[129] For our immediate purposes, the general theory of signs can be roughly summarized as follows.

From three fundamental kinds of relations – monadic, dyadic, and triadic – there are three mathematical relations – first, second and third or, via hypostatic abstraction, Firstness (a monad or quality), Secondness (a dyad or relation), and Thirdness (a triad or representation or mediation). A sign, as that which stands *for* something (its object) *to* something (its interpretant), has two objects: a dynamic object, "the object in itself," and

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126. For a thorough discussion and formal demonstration of Peirce's reduction thesis, whereby all quadruple or higher relations are reducible to triads and no further reduction is possible, see Hans G. Herzberger, "Peirce's Remarkable Theorem," in eds. Sumner, Slater and Wilson, *Pragmatism and Purpose* (Toronto: University of Toronto Press, 1981), 41-59; and *CP* 3.144, 3.317, 1.345-7; *MS* 482, 439.

127. Houser, Introduction to the *Essential Peirce*, 1:xxxvi.

128. Gayle L. Ormiston, "Peirce's Categories: Structure of Semiotic," 224.

129. David Savan, "Questions Concerning Certain Classifications Claimed for Signs," *Semiotica* 19 (1977): 183; the reference in Peirce's writing is to *CP* 5.257 from the second essay of the 1868 Cognition Series.

an immediate object, "the object as the sign represents it."[130]   Helmut Pape explains that

"The immediate object is internal to the sign – just the idea of an object to which the sign

gives rise to. The *dynamical* object is the external object of the sign, an intersubjective

item that different people at different times locate in their experience as the same object

that these people have experienced before."[131]   To illustrate Peirce says:

> 'It is a stormy day.' Here is [a] sign. Its *Immediate Object* is the the
> notion of the present weather so far as this is common to her mind and
> mine – not the *character* of it, but the *identity* of it. The *Dynamical
> Object* is the *identity* of the actual or Real Meteorological conditions at
> the moment.[132]

Additionally, every sign has three interpretants: a final interpretant, the "effect that would

be produced on the mind by the sign after sufficient development of thought," a dynamic

interpretant, the "effect actually produced on the mind," and an immediate interpretant,

the "interpretant represented or signified in the sign."[133] Returning to the example of the

stormy day, Peirce says:

> The *Immediate Interpretant* is the *schema* in her imagination, i.e. the
> vague Image or what there is in common to the different Images of a
> stormy day. The *Dynamical Interpretant* is the disappointment or
> whatever actual effect it at once has upon her. The final interpretant is
> the sum of the *Lessons* of the reply, Moral, Scientific, etc.[134]

Using Peirce's own words, Jay Zeman very effectively summarizes the distinction

between the immediate and dynamical in the following way:

> …the Immediate Object … is the object as the Sign itself represents it,
> [making its] Being … dependent on the Representation of it in the Sign

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130. *CP* 4.536 and 8.343.
131. Helmut Pape, "Charles S. Peirce on Objects of Thought and Representation," *Noûs* 24 (June, 1990): 382.
132. *CP* 8.314.
133. *CP* 8.343.
134. *CP* 8.314.

…; the Immediate Interpretant … is the interpretant as it is revealed in the right understanding of the sign itself.[135]

Immediate is contrasted to dynamical:

…the Dynamical Object … is the Reality which by some means contrives to determine the sign to its Representation. … the Dynamical Interpretant … is the actual effect which the sign as sign really determines.[136]

So far as interpretants are concerned, Peirce speaks of a *final* interpretant as well as an immediate and a dynamical:

"…the Final Interpretant … refers to the manner in which a Sign tends to represent itself to be related to its object."

He goes on, "I confess that my own conception of this third interpretant is not yet quite free from mist." Thanks.[137]

Elsewhere, as if to turn the mist to fog, Peirce uses another trichotomy of interpretants, that of the emotional interpretant (a feeling), the energetic interpretant (an action), and the logical interpretant (a thought).[138] This second trichotomy has been the source of considerable controversy over whether it is to be understood as synonymous with the first division or as representative of a new departure. Among the Peirce scholars who believed the trichotomies are synonymous are Paul Weiss and Arthur Burks, Thomas Goudge, James Feibleman, Justus Buchler, Manley Thompson, and Douglas Greenlee.[139] A second group of interpreters, represented by Thomas L. Short and Jay

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135. *CP* 4.536.

136. Ibid.

137. J. Jay Zeman, "The Esthetic Sign in Peirce's Semiotic," *Semiotica* 19 (1977): 246.

138. *CP* 5.475, 5.486; in a letter to the author, Thomas L. Short said, "If you look at Peirce's 'Logic Notebook' (*MS* 339) in years 1903 onward you will find so many different versions of the interpretants that every consistent account of them must be contradicted in one passage or another."

139. See Paul Weiss and Arthur Burks, "Peirce's Sixty-Six Signs," *Journal of Philosophy* 42 (July 5, 1945): 383-8, esp. 386; Thomas A. Goudge, *The Thought of C.S. Peirce* (Toronto: The University of Toronto Press,1950),154-5; James Feibleman, *An Introduction to Peirce's Philosophy* (New York: Harper & Brothers, 1946),133; Justus Buchler, *Charles Peirce's Empiricism* (London: Kegan Paul, Trench,

Zeman, believe that the two trichotomies are very different but do not compete or conflict with one another.[140] James Jakób Liszka holds that the the two trichotomies of intepretants co-exist not merely synonymously but have a complementary relationship.[141] Finally, John J. Fitzgerald and Brandon Lalor are two scholars who contend that the emotional/energetic/logical trichotomy is merely a special case of either the dynamical (Fitzgerald) or the immediate/dynamic/final trichotomy.[142]

I will follow Lalor's lead in holding that the emotional/energetic and logical classification of 1906 is a special case of the immediate/dynamical/final trichotomy of 1909 as it reflects the concrete human experience of semiosis while the latter characterizes semiosis more generally. In spite of Thomas L. Short's contention that the two trichotomies, defined on different principles, thus intersect without being identical, he is forced to admit that Peirce continued revision of his work on interpretants until the end of his career and that as late as 1907, in *MS* 318, the two trichotomies are identified with one another.[143] While Lalor is left to explain how the trichotomy of 1906 could be a special case of one not fully developed for three more years, he points out that Peirce's work on the subject was in a more or less constant state of flux, that there were several

Trubner & Co., 1939), 19, 104n1, 162n1; Manley Thompson, *The Pragmatic Philosophy of C.S. Peirce* (Chicago: The University of Chicago Press, 1952), 295n19; and Douglas Greenlee, *Peirce's Concept of Sign* (The Hague: Mouton,1973), 117n8.

140. Thomas L. Short, "Semiosis and Intentionality," *Transactions of the Charles S. Peirce Society* 17 (Summer 1981): 212-19; Thomas L. Short, "Life Among the Legisigns," *Transactions of the Charles S. Peirce Society* 18 (Fall 1982): 287ff; J. Jay Zeman, "The Esthetic Sign in Peirce's Semiotic," *Semiotica* 19 (1977): 246ff.

141. James Jakób Liszka, "Peirce's Interpretant," *Transactions of the Charles S. Peirce Society* 26 (Winter 1990): 17-62.

142. John J. Fitzgerald, *Peirce's Theory of Signs as Foundation for Pragmatism* (The Hague & Paris: Mouton & Company, 1966), 78ff; Brandon Lalor, "The Classification of Peirce's Interpretants," *Semiotica* 114 (1997): 31-40.

143. Thomas L. Short, "Life Among the Legisigns," *Transactions of the Charles S. Peirce Society* 18 (Fall 1982): 288, 306n2.

other terminologies employed between 1893 and 1904, that as late as 1909 Peirce was writing to Welby of his "gropings after the *three kinds of interpretant*," that even in *MS 318* when both trichotomies are mentioned together, it is ostensibly to identify rather than distinguish them, and that nowhere does Peirce claim they are distinct.[144] Lalor's interpretation gains us two things.

First, the emotional/energetic/logical trichotomy, as a special case of the more abstract immediate/dynamic/final classification, provides a vehicle for the examination of feeling as manifested in psychological identifications, in human experiences of emotion, instinct and sentiment and, at the same time, as reflected in the grand scheme of Peirce's panpsychical metaphysics. In this we are able to account for Peirce's synechism, i.e. his theory of continuity and account of evolution, and his view of instinct as instrumental in accounting for both the success of scientific hypothesis and the source of the *summum bonum*.[145] From this we are able to trace what Peirce referred to as his *Ideal-Realism*, a view containing elements of both idealism and realism, attributed to his father as "the opinion that nature and the mind have such a community as to impart to our guesses a tendency toward the truth, while at the same time they require the confirmation of empirical science."[146] Klaus Oehler argues that because he retained language common to the controversy between idealism and realism that marked much of the nineteenth and early twentieth centuries, it is easy to miss the fact that the theory of thought-signs, that Peirce advanced in 1868-9, is a first step in the attempt at overcoming the false

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144. Brandon Lalor, "The Classification of Peirce's Interpretants," *Semiotica* 114 (1997): 40n6.
145. Brent, *Charles Sanders Peirce: A Life*, 344.
146. *The Century Dictionary Online,* 12 vols. (1889), for 'Ideal-Realism' by Charles Sanders Peirce 4:2974; see http://www.global-language.com/CENTURY/ (accessed August 2008).

alternatives of that protracted and unproductive debate over the question of reality –

whether, on the one hand, the object of experience stands outside of consciousness or, on

the other hand, is a product of consciousness.[147] The essence of Peirce's argument is that

thought can only be cognized by external facts.

> If we seek the light of external facts, the only cases of thought which we
> can find are of thought in signs. Plainly, no other thought can be
> evidenced by external facts. But we have seen that only by external facts
> can thought be known at all. The only thought, then, which can possibly
> be cognized is thought in signs. But thought which cannot be cognized
> does not exist. All thought, therefore, must necessarily be in signs.[148]

Because all thought is in signs, by nature all signs refer to each other. "Since meaning

cannot be located in any thought-sign, it must be found in the very process by which one

thought interprets another."[149] This very premise, however, revealed a fatal flaw in the

early theory of signs. Short notes that:

> [Peirce] supposed that significance depends on interpretation, but then
> explained interpretation as consisting in signs. Thus, the problem of
> accounting for significance is not solved but merely handed on, from
> one sign to the next. Nor does it matter that the process of interpretation
> continues *ad infinitum.* That merely postpones an answer *ad
> infinitum.*[150]

It was a flaw that was not resolved until 1907 when Peirce conceded that every

interpretant of a thought-sign need not be another thought-sign in an infinite series. "In

1907, Peirce reversed himself by drawing a distinction within the category of logical

interpretants between those that are signs and those that are not. The latter he named

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147. Klaus Oehler, "Peirce's Foundation of a Semiotic Theory of Cognition," in *Peirce Studies: A Symposium by Members of the Institute for Studies in Pragmatism,* no. 1 (Lubbock, Texas: Texas Tech University Press, 1979), 70f.
148. *CP* 5.251.
149. Short, "The Development of Peirce's Theory of Signs," 217.
150. Ibid.

'ultimate logical interpretants.'"[151] The ultimate logical interpretant of a sign is a habit of

conduct.

> To say that I hold that the import, or adequate ultimate interpretation, of
> a concept is contained, not in any deed or deeds that will ever be done,
> but in a habit of conduct, or general moral determination of whatever
> procedure there *may come to be*, is no more than to say that I am a
> pragmaticist. Now every animal must have habits. Consequently, it must
> have innate habits. Insofar 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.[152]

The notion of such habits of conduct, covering all cases of the subjunctive as general, is

at the core of Peirce's later pragmatism, what he came to call pragmaticism, and extends

to qualities of feeling.

> Among phanerons there are certain qualities of feeling, such as the the
> color of magenta, the odor of attar, the sound of a railway whistle, the
> taste of quinine, the quality of the emotion upon contemplating a fine
> mathematical demonstration, the quality of feeling of love, etc. I do not
> mean the sense of actually experiencing these feelings, whether
> primarily or in any memory or imagination … But I mean the qualities
> themselves which, in themselves, are mere may-bes, not necessarily
> realized.[153]

The existence of ultimate interpretants gives rise to the question of just how general

Peirce's theory of signs truly is. The quick answer to the question is to present the

distinction between token and type, sometimes termed the distinction between replica and

legisign,[154] first introduced by Peirce in *The Monist* in1906 and later adopted by, among

others, Davidson.[155] In his 1923 review of the *Tractatus Logico-Philosophicus* for *Mind*,

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151. Ibid., 227.
152. *CP* 5.504.
153. *CP* 1.304.
154. *CP* 2.246.
155. *The Monist* 16 (1906): 494-546; and especially *CP* 4.537; see Don Davidson, "Mental
Events," in *Materialism and the Mind-Body Problem*, ed. David M. Rosenthal, 2nd ed. (Indianapolis &
Cambridge: Hackett Publishing Company, Inc., 2000), 232-248.

Frank Ramsey suggested that a fuller understanding of certain aspects of Wittgenstein's work could be gained from the introduction of Peirce's type-token distinction.[156] To illustrate, Peirce noted that there is but one definite article in the English language but that any printed page will contain a dozen instances. The one is the type to which the twelve are the tokens. "[T]he types are signs in a prior and preeminent sense; they confer signhood on their tokens."[157] Thus the ultimate interpretant as a habit is also, as a type, a sign, not merely as a constituent part of a compound as any interpretant would be a sign, but as any other type, bestowing signhood upon its tokens.

The second thing gained by accepting the emotional/energetic/logical trichotomy as a special instance of the immediate/dynamic/final classification of interpretants, viewing the former as standing in relation to the latter as species to genus, is the hedge it affords Peirce against the danger of psychologism that he feared was lurking behind all attempts to relate semiosis to human experience.

> Peirce hoped to be able to generalize the conclusions reached from our human point of view, to characterize semiosis universally. He recognized that to do so unprovisionally would be to base a proposition of logic on a proposition of psychology. Thus, he stressed that the soundness of the generalization is conditional on the truth of the assumed analogy between modifications of human consciousness and interpretants in general. In this light, it should be no surprise that his 1906 classification of the interpretants as emotional, energetic, and logical, reflects an anthropomorphic way of looking at semiosis. The 1909 trichotomy lays down a general structural pattern which Peirce believed can be found in all kinds of semiosis.[158]

Peirce was keenly sensitive to the hints of psychologism that were evidenced in his early work, in particular his use of the sensations of belief and doubt in the first founding of

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156. F.P. Ramsey, "Review," *Mind* 32 (October, 1923): 468.
157. Fisch, "Just How General Is Peirce's General Theory of Signs?" in Ketner and Kloesel, 357.
158. Lalor, "The Classification of Peirce's Interpretants," 7-8.

pragmatism in the "Illustrations of the Logic of Science" series of articles and did his

utmost to expunge any such suggestions from subsequent formulations.[159] One strategy

for overcoming any tendency toward psychologism was, as Max Fisch points out,

Peirce's insistence on the difference between thinking and thought.

> Early and late, Peirce made frequent and wide-ranging use of the
> distinction between thinking and thought. Thinking is a matter for
> psychology, thought for logic. Thought is type; thinking is token.[160]

We will return to the issue of psychologism in subsequent chapters.

With respect to the subject of this dissertation, a final remark on the special

relationship of meaning to the emotional interpretant is in order before we turn to other

aspects of the general theory of signs. Peirce's clearest statement on this relationship was

published in 1907 in the *Popular Science Monthly.*

> Now the problem of what the "meaning" of an intellectual concept is can
> only be solved by the study of the interpretants, or proper significate
> effects, of signs. These we find to be of three general classes with some
> important subdivisions. The first proper significate effect of a sign is a
> *feeling* produced by it. There is almost always a feeling which we come
> to interpret as evidence that we comprehend the proper effect of the sign,
> although the foundation of truth in this is very slight. This "emotional
> interpretant," as I call it, may amount to much more than that feeling of
> recognition; and in some cases, it is the only proper significate effect
> that the sign produces. Thus, the performance of a piece of concerted
> music is a sign. It conveys, and is intended to convey, the composer's
> musical ideas; but these usually consist merely in a series of feelings.[161]

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159. This series was comprised of five essays, the first two of which articulated the salient features of pragmatism. These were "The Fixation of Belief," *Popular Science Monthly* 12 (November 1877): 1-15; and "How to Make Our Ideas Clear," *Popular Science Monthly* 12 (January 1878): 286-302. Karl-Otto Apel refers to these essays as the "two birth certificates of Peirce's Pragmatism." Karl-Otto Apel, *Charles S. Peirce: From Pragmatism to Pragmaticism,* trans. John Michael Krois (Highlands,New Jersey: Humanities Press, 1981), 177.

160. Fisch, "Just How General Is Peirce's General Theory of Signs?" 360.

161. *CP* 5.475.

By his own admission, Peirce had "terribly neglected" the study of aesthetics, which he

nevertheless believed to be a science foundational to logic.

>...it is generally said that the three normative sciences are logic, ethics, and esthetics, being the three doctrines that distinguish good and bad; *Logic* in regard to representations of truth, *Ethics* in regard to efforts of will, and *Esthetics* in objects considered simply in their presentation. Now that third normative science [i.e. esthetics] can, I think, be no other than that which I have described. It is evidently the basic normative science upon which as a foundation, the doctrine of ethics must be reared to be surmounted in its turn by the doctrine of logic.[162]

For Peirce, the normative sciences, representing the second grand division of philosophy

after phenomenology, examine the relation of phenomena to ends. Logic, as self-

controlled thought, directed at the good end of representing something, depends upon

ethics for the principle of self-control. Ethics, as self-regulated action directed at the good

end of action, depends upon aesthetics for its notion of the *summum bonum*. Aesthetics,

concerned with beauty and directed at the good end of feelings, is foundational. In this

way, aesthetics is a first, ethics a second, and logic a third.[163] The esthetic sign, while

largely undeveloped by Peirce, represents the category of feeling as experience, i.e., at its

most immediate contact with the object. Peirce draws his example of the emotional

interpretant from the esthetic experience of music. Jay Zeman explains:

>An anecdote told of Schubert (whether apocryphal or not) illustrates the key role of the immediate, and so of the emotional interpretant, in esthetic experience. The composer had played one of his pieces on the piano, and afterwards was asked by a lady who had been listening, "Oh, Maestro, what does it *mean*?" Whereupon he sat back down at the pianoforte and played the composition again. Any answer to her question other than the providing of the immediate experience of the music would have missed the point, for the point was found precisely in

162. *CP* 5.36.
163. *MS* 312; published in *CP* 5.120-150, the fifth of the Harvard lectures, delivered April 30, 1903.

the ineffable immediacy of the experience – in the Peircean emotional interpretant which was its effect. Esthetic experience may be the *locus* where the emotional interpretant is most easily recognized, but this interpretant is by no means restricted to experience in the arts. Rather, it is an element of experience in general; in fact, "If a sign produces any further proper significate effect [beyond the emotional interpretant], it will do so through the mediation of the emotional interpretant."[164]

We turn now to further divisions in the theory of signs that are necessary for understanding Peirce's treatment of instinct, emotion, and sentiment. First, Peirce sometimes spoke of the *ground* of a sign. For instance:

> A sign, or representamen, is something which stands to somebody for something in some respect or capacity. It addresses somebody, that is, it creates in the mind of that person an equivalent sign, or perhaps a more developed sign. That which it creates I call the *interpretant* of the first sign. The sign stands for something, its *object*. It stands for that object, not in all respects, but in reference to a sort of idea, which I have sometimes called the *ground* of the representation.[165]

Hartshorne and Weiss date this unidentified fragment from around 1897. Peirce's use of 'ground' was rare and, according to Thomas L. Short, the cited passage is the only instance in which it was employed after 1867 and thereby only to refer to earlier views.[166] As such, the 'ground' is not a feature of the sign in the same way as the three relata of sign (or representamen), object and interpretant but rather a device for identifying the nature of the particular sign or explaining how the sign picks out its objects.[167] In 1867, Peirce explained the ground as being "the common characters of [the sign's] objects, or its connotation."[168] As David Savan notes:

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164. J. Jay Zeman, "Peirce's Theory of Signs," in *A Perfusion of Signs,* ed. Thomas Sebeok (Bloomington: Indiana University Press, 1977), 32.

165. *CP* 2.228.

166. Thomas L. Short, "David Savan's Peirce Studies," *Transactions of the Charles S. Peirce Society* 22 (1986): 99.

167. Ibid.; see also Houser, introduction to *The Essential Peirce,* 1:xxxvii.

168. *CP* 1.559.

[J]ust as a predicate may be said to refer to some character, say 'being white,' through which it refers to some correlated object, say the thing that is white, so Peirce says that every sign is a reference to a ground. A ground is an abstraction, like redness or squareness, color or shape. That which is concrete, is limited in its spatio-temporal existence, and is referred to such an abstract ground, Peirce calls a *quale*.[169]

From this standpoint, a sign will be either a quality (a "qualisign" – *CP* 2.244), an existent thing or event (a "sinsign" – *CP* 2.245) or a law or habit (a "legisign" – *CP* 2.246).[170] This first of three further trichotomic divisions, comprised of the qualisign, sinsign, and legisign, views the sign "as it is in itself," i.e., the relatum in the triadic sign relationship designated as the sign or the representamen. In a return to one of his favorite illustrations, Peirce explains the trichotomy.

A sign is either of the nature of an appearance, when I call it a *qualisign* or secondly, it is an individual object or event, when I call it a *sinsign* (the syllable *sin* being the first syllable of *semel, simul, sin*gular, etc.); or thirdly, it is of the nature of a general type, when I call it a *legisign* [from the Latin *Lex*]. As we use the term 'word' in most cases, saying that 'the' is one 'word' and 'an' is a second 'word,' a 'word' is a legisign. But when we say of a page that it has 250 'words' upon it, of which twenty are 'the's,' the word is a sinsign. A sinsign so embodying a legisign, I term a 'replica' of the legisign … The qualisign, on the other hand, has no identity. It is the mere quality of an appearance and is not exactly the same throughout a second. Instead of identity, it has great similarity, and cannot differ much without being called quite another qualisign.[171]

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169. David Savan, "Questions Concerning Certain Classifications Claimed for Signs," *Semiotica* 19 (1977): 181.

170. Houser, introduction to *The Essential Peirce*, 1:xxxvii.

171. *CP* 8.334.

Qualisigns, as firsts, are the most abstract of the three. Qualisigns do not operate as signs until incarnate in an object but the actualization has nothing to do with their identity as signs.[172] Until embodied, they are mere possibilities.

Another division of signs involves the sign considered in relation to its dynamical object. This division, by far the most developed by Peirce, is the division of signs into icons, indices, and symbols. Icons, or likenesses, represent by bearing a resemblance to the object. They represent simply through imitation. Examples of icons include photographs, especially instant photos, a design an artist draws of a statue, architectural elevations, imitative gestures and sounds, hieroglyphics, a painted portrait, an historical novel, or a theatrical performance.[173] "An icon has no dynamical connection with the object it represents; it simply happens that its qualities resemble those of that object, and excite analogous sensations in the mind for which it is a likeness."[174]

Indices, on the other hand, represent by being physically or causally connected to the object, representing and making an organic pair. Or, in another way Peirce stated it around 1903, "an index is a sign which refers to the Object it denotes by virtue of being really affected by that Object."[175] Examples of indices include a weather vane, a plumb line, measles spots, temperature readings, billowing smoke, exclamations of pain, a bullet hole, lightning, the pole star, a scream for help, cartoons, footprints, a pointing index finger. As we will see, Peirce believed indices, like icons, are natural signs, and thus

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172. Michael Hoffmann, "The 1903 Classification of Triadic Sign-Relations," Digital Encyclopedia of Charles S. Peirce, ed. João Qeuiros, São Paulo (PUC), located at the Peirce Digital Encyclopedia, see http://www.digitalpeirce.fee.unicamp.br/home.htm (accessed August 2008).

173. *MS* 404; published in part in CP 2.281, 285, 297-302; see also Peter Skagestad, "Peirce's Semeiotic Model of the Mind," in *The Cambridge Companion to Peirce,* ed. Cheryl Misak (Cambridge: Cambridge University Press, 2004), 246.

174. *CP* 2.299.

175. *CP* 2.248.

signify regardless of whether an interpreter is present. "[Indices] brutely direct the eyeballs of the interpreter to the object in question."[176] "The *index ...* forces the attention to the particular object intended without describing it."[177] "The *index* …like a pointing finger exercises a real physiological *force* over the attention, like the power of a mesmerizer, and directs it to a particular object of sense."[178] However, as Wittgenstein effectively demonstrated, one could imagine "a person [who] naturally reacted to the gesture of pointing with the hand by looking in the direction of the line from finger-tip to wrist, not from wrist to finger-tip."[179] Swelling, pain, redness and heat are indices of inflammation in a body. "Indices … furnish positive assurance of the reality and the nearness of their objects."[180] Thus, a map of a particular place, a guidepost, or a fence may be an index. A sundial or a clock is an index of the time of day. A man with a rolling gait may be a probable indication that he is a sailor just as a bowlegged man in gaiters and a jacket may be the probable indication that he is a jockey. Moreover, letters of a geometrician on parts of a diagram indicate *that* part. A rap on the door, a thunderbolt, "anything which startles us is an indication, in so far as it marks the junction between two portions of experience."[181]

Icons and indices, as distinguished from instituted or conventional signs or symbols, are natural signs. As such, Max Fisch points out, they

> need not be thought of as having an utterer. We may therefore drop the
> utterer from the general model in terms of which we construct our

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176. *CP* 8.350.
177. *CP* 1.369.
178. *CP* 8.41.
179. Ludwig Wittgenstein, *Philosophical Investigations,* 3rd ed., trans. G.E.M. Anscombe (Oxford: Blackwell Publishing, 2001), §185.
180. *CP* 4.531.
181. *CP* 2.285.

definition of a sign. And a sign does not cease to be a sign when no interpreter is present. So we may drop the interpreter also from our definition.[182]

Thus we are able to refer to the interpretant rather than an interpreter because a natural sign is a sign regardless of its being interpreted as a sign.[183] Icons rest on likeness and indices rest on association by contiguity.[184] Neither hinge upon a rational animal for their signification.

Symbols, apart from being marked by the social or conventional, are distinguished from icons and indices negatively, that is, conceived as signs that are neither icons nor indices.[185]

> There may be a mere relation of reason between the sign and the thing signified; in that case, the sign is an *icon*. Or, there may be a direct physical connection; in that case, the sign is an *index*. Or there may be a relation which consists in the fact that the mind associates the sign with its object; in that case the sign is a *name* [or *symbol*].[186]

As such, symbols, unlike icons and indices, possess generality. "A *symbol* is a representamen whose special significance or fitness to represent just what it does represent lies in nothing but the very fact of there being a habit, disposition, or other effective general rule that it will be so interpreted."[187] Symbols, or general signs, are associated with their meanings by custom or usage and, as such, most words, phrases, speeches, books, and libraries would be symbols. After tracing symbol as etymologically derived from εμβολον (embolum) as a thing thrown into something or, in the case of the

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182. Fisch, "Just How General Is Peirce's General Theory of Signs?" 359.
183. *CP* 4.447.
184. Thomas Sebeok, "Indexicality," in *Peirce and Contemporary Thought*, ed. Kenneth Laine Ketner (New York: Fordham Press, 1995), 226.
185. *CP* 1.372, 4.447.
186. *CP* 1.372.
187. *CP* 4.447.

symbol, thrown together (σνμΒολον) as in a contract or convention, Peirce lists other

examples as a watch fire, a badge, a church creed, a ticket or a check, and, intriguingly,

any expression of sentiment. Finally, almost any common word such as "give," "bird," or

"marriage" is a symbol to the extent that the idea of each is connected with the word that

in no case shows us an actual bird, or a marriage or a giving.[188]

Yet another division of signs involves the relation of the interpretant to the sign

and how it "represents" a sign as a *rhema* ('word' in Greek), *dici* (alluding to judgment or

proposition) or, as a chain of propositions, an *argument*. Peirce's fullest expression of his

general theory of signs contains a total of ten classifications or trichotomies, which, if

they proved to be independent of one another – by his own reckoning, highly improbable

– would result in 59,049 different kinds of signs.[189] The ones we have covered will

suffice in our attempt at accounting for Peirce's treatment of emotion and sentiment.

Before moving on to the semiotic theory of emotion, a couple of points are in

order. On the whole, Peirce's work in semiotics has been lauded as pioneering and

suggestive while at the same time much of it remains not only incomplete but

unintelligible, contradictory and fruitless. The theory has its critics but none as incisive as

Yale University's Rulon S. Wells, who in five essays raises several issues often

overlooked by those who enthusiastically endorse Peirce's groundbreaking work, issues

we do well to acknowledge to the extent that his treatment of emotion, like so much of

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188. *CP* 2.297.
189. *CP* 1.291.

his work, hinged on his categories and semiotic.[190] Three of these criticisms are especially pertinent to Peirce's treatment of emotion, sentiment and instinct.

First, Wells points out that Peirce confines his treatment of semiotic almost exclusively to human animals and to intellectual activity. As such, Peirce can be called a cognitivist, if, in following David Savan's lead, we "mean by cognitivism in emotion theory the denial that emotions are feeling or natural behavior, and the assertion that emotions are identical with cognitive or evaluative judgments or with words and concepts that figure in cognitive or evaluative judgments."[191] There is no doubt, as we will demonstrate in the next section, that Peirce was every bit a cognitivist in this sense, to the extent he affirmed that emotions are judgments. However, as Wells contends, there are plenty of passages, both published and unpublished, in which Peirce appears to be taking the contrary position, "that along side of wanting a cognitivistic semiotics that treats judgment as the paradigm of semiosis, he also wants a semiotics which applies in a natural way to behavior, brute and human, and to human experiences that are not obviously cognitive."[192]

Peirce's various treatments of instinct and emotion provide both a glaring example of a vexing ambivalence in his psychology and a window into his evolutionism.

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180. The essays are, in chronological order, "The True Nature of Peirce's Evolutionism," in *Studies in the Philosophy of Charles Sanders Peirce*, 2nd series, eds. Edward C. Moore and Richard S. Robin (Amherst: The University of Massachusetts Press, 1964); "Distinctively Human Semiotic," in *Essays in Semiotics*, eds. Julia Kristeva, Josette Rey-Debove, and Donna J. Umiker (The Hague: Mouton Press, 1971); "Criteria for Semiosis," in *A Perfusion of Signs*, ed. Thomas Sebeok (Bloomington and London: Indiana University Press, 1977); "Peirce's Notion of the Symbol," *Semiotica* 19 (1977): 197-208; and "Thirdness and Linguistics," in *The Signifying Animal,* eds. Imenegard Rausch and Gerald F. Carr (Bloomington and Indianapolis: Indiana University Press, 1980).
191. David Savan, "Peirce's Semiotic Theory of Emotion," in *Proceedings of the C.S. Peirce Bicentennial International Congress*, eds. Kenneth L. Ketner, Joseph M. Ransdell, Carolyn Eisele, Max H. Fisch and Charles S. Hardwick (Lubbock: Texas Tech University Press, 1981), 320.
192. Wells, "Peirce's Notion of Symbol," 198.

Elsewhere Wells ascribes to Peirce a peculiar brand of innatism, the view that the human

mind possesses intrinsic powers, akin to the instincts of brutes, among which is guessing

ability.[193] Herein lay the only original details that Wells credits to Peirce's

evolutionism.[194] Guessing, usually termed abduction or retroduction, is one of three

classes of inference, the others being deduction and induction. As will further be explored

in chapter six, abduction is an instinctive behavior as well as a class of inference. It is a

capacity for guessing the correct hypothesis, explained by principles of mathematical

probability, a propensity for successful scientific investigation that arose through natural

selection, a process generalized by Peirce to, among other things, explain the emergence

of habit which, in turn, Peirce assimilates into instinct.[195]

Peirce's evolutionism is, for Wells, yet another source of confusion and a

symptom of an ultimately fatal Peircean flaw, an incurable schizophrenia apparent in his

stand on Darwinism.[196] Wells explains:

> In relation to Darwinism Peirce shifts in two ways. (1) He switches
> between taking it as a scientific theory and taking it as a philosophy;
> (2) When taking it as a philosophy, he varies between favoring it and
> opposing it. The vacillation cannot be explained away by chronological
> considerations … There are other symptoms of Peirce's disease, but I
> pick Darwinism for its combination of two properties. It is evolutionary;
> and it is scientific – and Peirce claims to be fundamentally scientific.[197]

193. Rulon S. Wells, "Distinctively Human Semiotic," in *Essays in Semiotics,* eds. Kristeva, Rey-Debove, and Umiker (The Hague: Mouton, 1971), 102.

194. Rulon Wells, "Peirce as an American" in *Perspectives on Peirce,* ed. Richard J. Bernstein (New Haven and London: Yale University Press, 1965), 28ff.

195. Wells, "Distinctly Human Semiotic," 104.

196. Wells, "The True Nature of Peirce's Evolutionism," 304.

197. Ibid.

Peirce's oscillating position on Darwinism stems from what Wells sees as a tendency to over generalize. Philip Wiener traced Peirce's evolutionism to three sources that are held in tension.

> Peirce's evolutionism was not simply Darwin's hypothesis of Natural Selection, but a certain deliberate generalization of it in Peirce's own speculative form. In the first place, Peirce regarded Darwin's view as indicating only one of three equally operative modes of the evolution of organic species: (1) Darwin's "successively purely fortuitous and insensible variations *in reproduction*"; (2) Lamarck's mode of inheritance of acquired characters, which assumes continuous, very minute changes due wholly to strivings or efforts of individuals in adapting themselves to the environment; (3) Cuvier's and Agassiz' defense of the cataclysmal mode of large abrupt changes in reproduction. All three of these modes of evolution have been operative, according to Peirce.[198]

It is this very insistence on holding to three incongruent modes of evolution, generalized so as to form a single, ultimately untestable hypothesis that, for Wells, degenerates to pseudo-science or metaphysical Darwinism. When speculation is extended to the question of the origin of triadic relationships, Peirce finds himself at a loss.

> The problem of how genuine triadic relationships first arose in the world is a better, because more definite, formulation of the problem of how life first came about; and no explanation has ever been offered except that of pure chance, which we must suspect to be no explanation, owing to the suspicion that pure chance may itself be a vital phenomenon. In that case, life in the physiological sense would be due to life in the metaphysical sense."[199]

The alternative, not considered here, is:

> that chance is not itself vital, and is a fundamental, irreducible phenomenon, in which case the explanation that life arose by chance is genuinely an explanation, whether it is the true one or a false one. Now in many places Peirce does speak of chance as fundamental, especially

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198. Philip Wiener, *Evolution and the Founders of Pragmatism* (Cambridge: Harvard University Press, 1949), 77.
199. *CP* 6.322.

in his cosmogonic discussions where he describes the successive evolution of Firstness, Secondness, and Thirdness. Life as thirdness ought according to these discussions to be an evolute of chance as firstness, with secondness somehow interposed. And one of the reasons why Darwinism appealed to Peirce in certain moods is his belief that it resembles statistical mechanics in exhibiting the rise of order out of chaos. According to this line of thinking, choice is opposed to chance as the mental to the non-mental.[200]

Closely related to this is the question of the evolution of signs. A requirement of evolution is that if something *x* is said to have evolved, it did so from what it is not, i.e., from non-*x*.

> So if judgment is to have evolved, it must have evolved from non-judgment. A common view of its evolution is that judgment evolved from feeling. What is the relevance for semiotics? Here the fundamental question is whether signs have evolved from non-signs – so that they are not omnipresent in the universe – or whether signs are omnipresent as thirdness is omnipresent, so that any evolution of signs must be of one kind of sign from another, e.g. thought-signs (signs whose interpretants are thoughts) from feeling-signs.[201]

> This leads us to the third of Wells' criticisms of Peirce's sign theory that we will

mention. The classification of signs into icons, indices, and symbols suffers from two

basic faults, according to Wells.

> (*a*) It is not what it purports to be, a classification of signs, but rather a classification of aspects of signs. The utility of the trichotomy is greatly increased if we think of a sign not as being an icon, or an index, or a symbol, but as having iconic, indexical, or symbolic aspects. For then we may find more than one aspect in a sign, and we will be free to describe a sign as, say, predominantly iconic but with a discernible symbolic component. (*b*) The trichotomy presupposes Peirce's categories; this renders it scientifically unsuitable because of their idealism. Peirce attempts, as part of his idealism, to generalize the concept of mind so that it applies to phenomena that would ordinarily be considered non-mental.[202]

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200. Wells, "The True Nature of Peirce's Evolutionism," 316.
201. Wells, "Peirce's Notion of the Symbol," 201.
202. Wells, "Distinctively Human Semiotic," 9.

It is this process of generalization, inspired by mathematics, which Wells believes vitiates

Peirce's semiotics by being conflated with the process of virtualization, whereby the

twitching frog leg and the logic machine are said to "reason" virtually, i.e., behave as

they would if they actually reasoned, a treatment that tempts behaviorism.[203] This, for

Wells, represents a serious philosophical error.

> Generalization and virtualization are incompatible operations, i.e. in any instance where we apply one of them, we must not apply the other. We must not say both that x is a special case of y [generalization] and that every y, other than what is plainly x, is virtually x. If we regard x as a special case of y, we can give to some word which originally denoted the class x a generalized sense whereby it denotes y. When the two classes are furthermore such that the 'effects' of any y are the same effects of any x, then any word which denotes x will, when qualified by 'virtually' denote y. Thus any instance of virtualization is also an instance of generalization; a y that *is virtually* an x in the original sense *is* without qualification an x in the generalized sense. Whenever virtualizing is possible, generalizing is unnecessary, but virtualizing is not always possible.[204]

Elsewhere Wells shows how Peirce employs the methodological error to assimilate

choice, as a salient quality of minds, to the process of natural selection.[205] He quotes a

very telling passage from Peirce that makes his point.

> This is the way the mathematician supplements facts in the interest of formal rhetoric. …He must take care not to misrepresent the real world; but his ideal addition to it may have any properties that simplicity dictates. This is an immense engine of thought in mathematics."[206]

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203. *CP* 2.711, 6.144.
204. Wells, "Peirce's Notion of the Symbom," 199-200,
205. Wells, "The True Nature of Peirce's Evolutionism," 315.
206. *CP* 4.117.

Methodological errors aside and for the sake of argument allowing virtual thought to stand, Wells finds Peirce's treatment of emotions as interpretants an intriguing possibility for a Peircean zoosemiotic.

> With emotions as interpretants, we may give a different account than otherwise of brutes, i.e., nonhuman animals. With virtual thought admitted … it [becomes] possible to say that brutes think. But according to one fairly common view, brutes don't actually think (have thoughts), but they do actually perceive and actually feel. Of course we could ascribe virtual perception and virtual feeling to them as well as virtual thought, but if emotions (feelings) are not excluded from being interpretants, the way is open to accommodating the fairly common view in these terms: Brute semiosis is only virtual semiosis when the interpretant is a thought, but may be actual when the interpretant is an emotion.[207]

However, as Thomas L. Short is quick to point out in his new book, Peirce's distinctive explanation of the intentionality of emotions limits the theory of signs to animals.[208] "Outside of purposeful action, which appears to be limited to animals, no mistakes are possible, and where no mistakes are possible, there can be no intentionality, hence, no interpretation; but all significance is relative to potential interpretation."[209] Thus Short denies, in opposition to many of Peirce's better known interpreters, among them Thomas Sebeok, Helmut Pape, and Jasper Hoffmeyer, and certainly Peirce himself, that the semiotic can be extended to all of life or to cosmology.[210] This limitation would seem to jeopardize not only the generality of the sign theory but also Peirce's synechism. We will return to the notion of intentionality in the next section. We turn now to Peirce's semiotic theory of emotion.

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207. Wells, "Peirce's Notion of the Symbol," 207.
208. Thomas L. Short, *Peirce's Theory of Sign,* (Cambridge: Cambridge University Press, 2007).
209. Ibid., 177.
210. Ibid.

D. Peirce's Semiotic Theory of Emotion

While Peirce's writings on the emotions are dispersed throughout the body of his work and lack a systematic explication, they do possess a remarkable consistency because he never deviated from the postulate that all mental phenomena resemble cognitions in that they are capable of representation. Not only was Peirce explicit on what an emotion is, he was clear on what an emotion is for. Using Peirce's sign theory David Savan pieced together the scattered fragments of these writings to form what he believed to be a coherent, comprehensive, and provocative emotion theory.[211] It is this landmark work that will provide the backdrop for our study.

To begin, as we have noted, Peirce's views on emotion place him in opposition to the dominant psychological views expressed by James in the 1880s. According to that theory, emotions originate as bodily rather than mental states. They are mere feelings of bodily response reducible to sensation. As such it is impossible to distinguish emotions because as immediate, all feelings are alike. Knowledge requires discrimination and discrimination requires the introduction of a mediating concept.

For Peirce, emotions cannot be immediately intuited feelings or there would be no way to distinguish one emotion from another. Here Peirce makes use of the Kantian distinction between 'immediate' and 'mediate.'

> Quality seems at first sight to be given in the impression. Such results of introspection are untrustworthy. A proposition asserts the applicability of a mediate conception to a more immediate one. Since this is *asserted*, the more mediate conception is clearly regarded independently of this circumstance, for otherwise the two conceptions would not be

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211. Savan, **"**Peirce's Semiotic Theory of Emotion," 319.

distinguished, but one would be thought through the other, without this latter being an object of thought, at all … Take, for example, the proposition, "This stove is black." Here the conception of *this stove* is the more immediate, that of *black* the more mediate, which latter, to be predicated of the former, must be discriminated from it and considered *in itself*, not as applied to the object, but simply as embodying a quality, *blackness.*[212]

The process of discriminating mediate from immediate conceptions itself was referred to

by Peirce as *precision* or *prescission* and adapted from Dun Scotus.

> The terms "precision" and "abstraction," which were formerly applied to every kind of separation, are now limited, not merely to mental separation, but to that which arises from *attention* to one element and *neglect of* the other … Abstraction or precision ought to be carefully distinguished from two other modes of mental separation, which may be termed *discrimination* and *dissociation*. Discrimination has to do merely with the senses of the terms, and only draws a distinction in meaning. Dissociation is that separation which, in the absence of a constant association, is permitted by the law of association of images. It is the consciousness of one thing, without the necessary simultaneous consciousness of the other. Abstraction or precision, therefore, supposes a greater separation than discrimination, but a less separation than dissociation.[213]

In an interesting footnote to this passage he adds:

> Some writers called every description of abstraction by the name *precision,* dividing precision into the real and the mental, and the latter into the negative and the positive; but the better usage named these *abstraction* divided into *real* and *intentional*, and the latter into *negative* (in which character from which abstraction is made is imagined to be *deniable* of the subject prescinded) and into *precisive abstraction* or *precision,* where the subject prescinded is supposed (in some hypothetical state of things) without any supposition, whether affirmative or negative, in respect to the character abstracted.[214]

Thus, like his contemporary Franz Brentano, of whose work he seems to have been

ignorant, Peirce unearthed the Scholastic concept of intentionality and used it to mark off

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212. *CP* 1.551.
213. *CP* 1.549.
214. *CP* 1.549n2.

the mental. Anything having intentionality has an object and, as such, is a sign, being

comprised of a subject, its object, and an interpretant, possesses intentionality. As we will

see, emotions as signs, like thoughts, also possess intentionality or are about something, a

subject. We will return to this discussion of intentionality in the next chapter where it

raises some interesting questions for Peirce's understanding of the self, for as we have

seen, Peirce contends all thought is in signs but not all thought is necessarily connected

with a brain. Thomas L. Short summarizes the challenge facing Peirce:

> Peirce denies both that all interpretants are thoughts and that they are all
> formed by or in persons. Besides, Peirce wished to analyze the human
> mind as a special case of semeiosis, rather than semeioisis as a special
> application of mind. He repeatedly described thoughts as signs (e.g., as
> early as 1868: *CP* 5.283-309) and even portrayed man as being a sign
> (*CP* 5.310-317). Therefore, if his philosophy is coherent, Peirce must be
> able to account for the intentionality of signs without presupposing that
> of thought.[215]

Here we should pause to offer a few words of explanation on how Peirce

understood the concepts of 'feeling' and 'emotion.' As Savan points out, "Peirce

sometimes slipped and spoke of emotions as feelings … but he never departed from his

position that such emotion feelings are not immediate intuitions, or 'first impressions of

sense.'"[216] Early and late, Peirce denied the power of introspection to provide privileged

information of mental states, and linked feelings, along with emotions, to cognition as the

fundamental type of mental activity. This is a central theme of the 1868 Cognition Series.

In 1902, his position had changed very little.

> It is nonsense to call attention to an outward object by the name of
> introspection. Introspection is direct observation of the operations of the

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215. Thomas L. Short, "Semeiosis and Intentionality," *Transactions of the Charles S. Peirce Society* 17 (Summer 1981): 203.

216. Savan, "Peirce's Semiotic Theory of Emotion," 321n6.

mind as mental operations; because, as for feelings, they are always referred to some object, and there is no observation of feelings except as characters of [external] objects.[217]

In addressing the doctrine of association in 1893 he again assailed the popular notion of introspection.

> Now the truth is that the data of introspection are in these respects altogether analogous to those of external observation. Introspection does not directly reveal what is immediately present to consciousness, at all; but only what seems to have been present from the standpoint of subsequent reflection… We cannot directly observe even so much as that there is such a thing as present consciousness.[218]

As such, feelings, like emotions, are derivative; all mental states are signs and all signs are cognitions. "Every emotion, every burst of passion, every exercise of will, is like cognition."[219] Stanley M. Harrison summarizes this epistemological view.

> The significance and originality of Peirce's position is seen in his view that even sensations and emotions are interpretative or representative responses to an object. In short, Peirce developed the position that "a sensation is not … [a] first impression of sense" (*CP* 5.291), but the result of a manifold of more complex impressions originating in the sense organs. A sensation of a certain color, for example, is for Peirce "a simple predicate taken in place of a complex predicate; in other words, it fulfills the function of any hypothesis" (*CP* 5.291). Inasmuch as this occurs spontaneously, a sensation is a "natural mental sign …, a predicate of something determined logically by the feelings which precede it" (*CP* 5.292-292).[220]

As we observed, the confounding of first impressions of sense with thought is an error that Peirce saw leading James to the error of internalism.[221]

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217. *CP* 7.376.
218. *CP* 7.420.
219. *CP* 1.376.
220. Stanley M. Harrison, "Peirce on Persons," in *Proceedings of the C.S. Peirce Bicentennial Congress,* eds. Kenneth L. Ketner, Joseph Ransdell and Carolyn Eisele (Lubbock: Texas Tech University Press, 1981), 218.
221. *CP* 8.81.

In the essay "Some Consequences of Four Incapacities," Peirce further distinguished sensations from emotions. Observing that for every feeling there seems to be a corresponding motion in the body, he goes on to say that:

> In the case of a *sensation*, the manifold of impressions which precede and determine it are not of a kind, the bodily motion corresponding to which comes from any large ganglion or from the brain, and probably for this reason the sensation produces no great commotion in the bodily organism; and the sensation itself is not a thought which has a very strong influence upon the current of thought except by virtue of the information it may serve to afford. An *emotion*, on the other hand, comes much later in the development of thought – I mean, further from the first beginning of the cognition of its object – and the thoughts which determine it already have motions corresponding to them in the brain, or the chief ganglion: consequently, it produces large movements in the body, and independently of its representative value, strongly affects the current of thought. The animal motions to which I allude, are, in the first place and obviously, blushing, blenching, staring, smiling, scowling, pouting, laughing, weeping, sobbing, wriggling, flinching, trembling, being petrified, sighing, sniffing, shrugging, groaning, heartsinking, trepidation, swelling of the heart, etc., etc. To these may, perhaps, be added, in the second place, other more complicated actions, which nevertheless spring from a direct impulse and not from deliberation.[222]

Emotions, therefore, as Thomas L. Short has indicated, serve to connect information to action for "'leading to action' is precisely what is meant by the noun 'affect.'"[223] Finally, Peirce discriminated sensations and emotions from the feeling of a thought.

> That which distinguishes both sensations proper and emotions from the feeling of a thought, is that in the case of the two former the material quality is made prominent, because the thought has no relation of reason to the thoughts which determine it, which exists in the last case and detracts from the attention given to the mere feeling.[224]

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222. *CP* 5.293.
223. Thomas L. Short, "David Savan's Peirce Studies," *Transactions of the Charles S. Peirce Society* 22 (1986): 118.
224. *CP* 5.294.

Peirce provided a number of examples of sensation ranging from the simple, such as the experience of a particular color to the more complex, such as that of beauty.[225]

So emotions and sensations are, for Peirce, signs and he offered three arguments for why they are such and not, as James contended, feelings of bodily change or qualities of immediately intuited feelings.[226] First, they are not qualities of immediate feeling because an immediate feeling is, as we have seen, unmediated and, as such, can only be considered sui generis. As immediate, nothing can be predicated of feeling; it is a First, undistinguished, unanalyzable, inexplicable, and unintellectual.[227] If emotions were immediate feelings, we could not tell one emotion from another and such is not the case. Secondly, emotions, as Thirds, are not feeling events. Feeling events are Seconds, existing in a period of time. When that time has ended that particular occurrence of the feeling will have passed from existence. On the contrary, David Savan noted:

> [That] emotions do recur. My revulsion at torture is the same today as it
> was yesterday. To compare two temporally distinct occurrences they
> must be brought together, set side by side, and this can happen only if
> the two occurrences are represented. An emotion is, then, a
> representamen, a sign.[228]

Finally, for Peirce, whatever else an emotion might be, it is a representation, a predicate to a subject.

> If a man is angry, he is saying to himself that this or that is vile and
> outrageous. If he is in joy, he is saying "this is delicious." If he is
> wondering, he is saying "this is strange." In short, whenever a man feels,
> he is thinking of *something*. Even those passions which have no definite

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225. *CP* 5.291.
226. These arguments are summarized by Savan in his essay, "Peirce's Semiotic Theory of Emotion," 321ff.
227. *CP* 5.289.
228. Savan, "Peirce's Semiotic Theory of Emotion," 321.

object – as melancholy – only come to consciousness through tinging the *objects of thought*.[229]

Elsewhere he noted that the intrinsic connection between emotions and objects is how the child learns not only how to identify emotions but also gains a sense of self.

> A child hears it said that the stove is hot. But it is not, he says; and, indeed, that central body is not touching it, and only what that touches is hot or cold. But he becomes aware of ignorance, and it is necessary to suppose a *self* in which this ignorance can inhere.[230]

The resulting burn incites feelings which are not predicates but which cause the child to ascribe the pain to the stove. The stove is bad and she is made furious by the awful thing that burned her. The immediate feeling produced by the stove is pain. The emotion of anger that arises from the pain is a judgment relating the pain to the stove.

> In this way, Peirce contended, emotions are analogous to hypotheses.

> The emotions, as a little observation will show, arise, when our attention is strongly drawn to complex and inconceivable circumstances. Fear arises when we cannot predict our fate; joy in the case of certain indescribable and peculiarly complex sensations. If there are some indication that something greatly for my interest, and which I have anticipated would happen, may not happen; and if, after weighing probabilities, and inventing safeguards, and straining for further information, I find myself unable to come to any fixed conclusion in reference to the future, in the place of that intellectual hypothetic inference which I seek, the feeling of *anxiety* arises. When something happens for which I cannot account, I *wonder*. When I endeavor to realize to myself what I never can do, a pleasure in the future, I *hope*. "I do not understand you," is the phrase of an angry man. The indescribable, the ineffable, the incomprehensible, commonly excite emotion. Thus an emotion is always a simple predicate substituted by an operation of the mind for a highly complicated predicate. Now if we consider that a very complex predicate demands explanation by means of an hypothesis, that that hypothesis must be a simpler predicate substituted for that complex one; and that when we have an emotion, an

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229. *CP* 5.292.
230. *CP* 5.233.

hypothesis, strictly speaking, is hardly possible – the analogy of the parts played by emotion and hypothesis is very striking.[231]

There is, however, a marked difference between an emotion and an intellectual hypothesis.

> [I]n the case of the latter, that to whatever the simple hypothetic predicate can be applied, of that the complex predicate is true; whereas, in the case of an emotion this is a proposition for which no reason can be given, but which is determined merely by our emotional constitution. But this corresponds precisely to the difference between hypothesis and reasoning from definition to definitum ….[232]

For all of its novelty the theory as presented thus far has not been without its critics. Wells questioned the depiction of emotions as predicates not only as one more instance of Peirce's propensity to over-generalize but a reductionism directly resulting from this propensity.

> When someone, A, is angry, Peirce proposes to say that his anger is a predicate. A predicate of what? Not of A, but of the universe, or at least of the world that A confronts. It is, then, what since Santayana has been called an objectified emotion: not 'A is angry,' but 'Things are (or the world is) anger-worthy.' This is Peirce's preferred treatment, a feature of his cognitivistic face, but it is not dictated either by his abstract definition of sign or by his phaneroscopy [i.e. phenomenology]. Phaneroscopy could justify saying that besides anger there is anger-worthiness, and perhaps anger-worthiness is the cause of anger, but it could not justify saying that 'A is angry at B' is nothing but "A judges that B is anger-worthy'; it could not justify reductionism in general, nor cognitivism in particular.[233]

G. Lynn Stephens is critical of the analogy of emotion to hypothesis. Having claimed that both arise under conditions of perplexity or uncertainty through the substitution of a

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231. *CP* 5.292.
232. *CP* 5.292.
233. Wells, "Peirce's Notion of the Symbol," 206.

simple for a complex predicate, Peirce must show how emotions operate both to simplify

our thinking and assuage our uncertainty.

> The analogy presents certain problems as it stands. Is emotion connected
> with uncertainty in the way Peirce suggests? It would seem that fear, for
> example, often arises when we *can* predict our fate. I'm afraid of the
> injection because I know it is going to hurt … A more pressing question
> is, How should we take this analogy? Is it only an analogy, or does he
> regard the mental activity involved in emotion as a form of hypothetic
> reasoning. He suggests that both emotion and hypothesis represent a
> simplification of our thinking on some matter. The sorts of
> simplification may be different, however. The hypothesis simplifies by
> explaining: it makes sense of a puzzling situation. When hypothetic
> reasoning is successful, we understand things better than we did before.
> Does Peirce really attribute such an explanatory function in the
> emotions? Do I understand my situation better because I get angry about
> it? Does fear make me better able to predict my fate?[234]

Pointing to Peirce's treatment of anxiety in *CP* 2.592 above, Stephens concludes that:

> [A]nxiety appears not as a hypothesis, but as a substitute for hypothetic
> inference: "in place of the intellectual hypothetic inference which I seek,
> the feeling of anxiety rises." The simplification achieved by becoming
> anxious seems to be a matter of replacing a state of mind characterized
> by conflicting inclinations and attributes by one in which a single feeling
> predominates. Whatever the similarities between this sort of process and
> hypothetical explanation, anxiety can hardly be regarded as a form of
> explanation.[235]

The text of *CP* 5.292 makes it clear that the simplification attained by emotion is non-

explanatory in nature. The feeling of a thought, Peirce argued in *CP* 5.292, has a logical

relation to the thoughts which precede it. It is governed by the rules of valid or probable

inference. Sensations and emotions bear no such marks. For Peirce, they involve thought

– in fact *are* thoughts by virtue of being *about* something – without involving or *being*

cognitions. "Cognition is a sequence of thoughts in which the propositions expressed by

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234. G. Lynn Stephens, "Cognition and Emotion in Peirce's Theory of Mental Activity,"
Transactions of the Charles S. Peirce Society 22 (1981), p.135.
235. Ibid.

the successive thoughts are related by the rules of valid inference."[236] The emotions are not so ordered. "There is nothing in the content of the [emotional] thought which explains why it should arise only on occasion of these determining thoughts."[237]

Instead, Stephens reminds us that Peirce claimed emotions rise from brute connections effected by the "constitution of our nature," and not through the logical connections between thoughts that marking cognition as such, are not reducible to cognition.[238] By introducing reference to our emotional constitution, Peirce gives up his assertion that cognition is the essential form of mental activity and that every mental act is an inference derived either from hypothetical or abductive reasoning, on the one hand, or by reasoning from definition to definitum, i.e., generalization, on the other hand.[239] Notwithstanding the analogies he draws between these mental processes of cognition and those giving rise to emotion, emotion is not on Peirce's own account, reducible to cognition and "thus he abandons, tacitly at least, the project of explaining every mental action as an instance of valid inference."[240] In chapter six we will return to Stephens' rather serious charge when we examine in more detail Peirce's notion of abductive reasoning as it relates to his understanding of instinct. It is my contention that his synechism and his inferentialist program do afford us a cognitive understanding of emotion on Peirce's own terms.

If we accept Peirce's declaration in *CP* 1.376 – "every emotion, every burst of passion, every exercise of will, is like a cognition" – as more than simile and grant that

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236. Ibid., 138-9.
237. *CP* 5.294.
238. Stephens, "Cognition and Emotion in Peirce's Theory of Mental Activity," 131.
239. *CP* 2.426, 5.291.
240. Stephens, "Cognition and Emotion in Peirce's Theory of Mental Activity," 131.

all mental states are signs and all signs are cognitions, then we can begin to examine what kind of signs emotions might be. If an emotion is a sign, what are its grounds, its objects, and its interpretants? Peirce was not at all clear on the matter but David Savan believes it is relatively easy to draw conclusions from the mass of his semiotic. As to the ground of an emotion, i.e., the nature of the sign or how it picks out its objects, Savan concludes that an emotion is a legisign because every emotion has certain law-like features.

> First, an emotion has a pattern unrolling over a period of time. Joy rises and falls, becomes more intense and fades. Fear comes to us in waves, moving us to flight but also freezing us into immobility. Anger runs a course, taking some time to reach its zenith, growing more intense if it is not then discharged, and so on.
> Second, an emotion is general, and exists only through instances. I may be moved to joy by any number of things – a meeting with an old friend, good news, Beethoven's Ninth, and so on.
> Third is Peirce's repeated thesis that what can be fitted into a system of explanation must have at least some of the characteristics of a law But emotions do enter the systematic explanation of behavior. Further, emotions can be justified, shown to be inappropriate, disproportionately strong or weak, and so it.[241]

Finally, Savan points out that emotions, like all legisigns, exist through instances or replicas, i.e., as tokens to a type.

Peirce held that the immediate object of a sign, or the object under a specific description, is relative to circumstances of time and place and Savan believes it is easily identifiable in expressions of emotion. An approaching friend makes me feel happy. The lurking stranger fills me with fear. The dynamic object of an emotion as sign could only be known, according to Savan, by the ideal completion of an investigation revealing the class of all things giving rise to a particular emotion.

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241. Savan, "Peirce's Semiotic Theory of Emotion," 323.

Given the two trichotomies Peirce employed, the interpretant of an emotion is far less obvious. Savan's account of emotions as interpretants is complicated by his advocacy of a six-fold classification consisting of both of Peirce's triads, a position that he asserts "emerged obscurely and laconically in some of [Peirce's] last writings."[242] According to Savan's classification, interpretants are, for Peirce, either immediate, dynamic, or final (or normal) and dynamic interpretants, as the *actual* dynamic effect of a sign can be emotional, energetic, or logical.

> The information which the sign is capable of transmitting to its interpretants, and which it has collected from the prior signs it interprets. It is this significance, conveyed by the simple presentation of the sign itself, that is the *Immediate Interpretant*.[243]

> The *Dynamic Interpretant* is the actual semeiotic effect which the sign in fact produces.[244]

> The *Final Interpretant* is the semeiotic effect which *would be* produced by a sign if it could finally and fully satisfy the norm by which it is intended to be judged. Since this purpose provides the norm influencing the changes in the succession of Dynamic Interpretants, it may also be called the Normal Interpretant.[245]

> First, the *emotional dynamic interpretant* is the *qualitative* semeiotic effect of that sign … Second, the *dynamic interpretant* may be an act in which some energy is expended, and such an act Peirce called an *energetic* interpretant. The energetic interpretant may be a muscular encounter with the external world, or it may be the manipulation and exploration of the images of our inner world. … The *logical* dynamic interpretant is the thought, concept, or general understanding actually produced by a sign. To think is to make inferences, to draw out the consequences of certain premises, to move in accordance with some general rule.[246]

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232. David Savan, *An Introduction to C.S. Peirce's Full System of Semeiotic,* Monograph Series of the Toronto Semiotic Circle, no. 1, Toronto (1987-8), 48.
  243. Ibid., 52-3.
  244. Ibid., 55.
  245. Ibid., 63.
  246. Ibid., 57-8.

Brandon Lalor, whose classification of Peirce's intepretants we are following,

simplifies this presentation by treating the emotional, energetic, logical triad as a case of

the particular, concrete, experience or effect that interprets a sign. As such, the emotional

interpretant is a feeling produced by a sign. The energetic interpretant is an action

produced by a sign. The logical interpretant is a rule, habit, or law produced by a sign.[247]

If, as Peirce seems to indicate at least some of the time that interpretants are signs[248] and

all signs are cognitions, it would seem that emotions viewed as interpretants would at the

very least be quasi-cognitions and not just a superfluity of unruly thought, simple brute

connections emanating from our evolved emotional constitution and standing in a merely

analogous relation to cognition. This is the case Peirce seems to be trying to make in the

Cognition Series of 1868. Ten years later his position, fundamentally unchanged, would

be stated in even stronger terms.

> Hypothesis substitutes for a complicated tangle of predicates attached to
> one subject, a single conception. Now, there is a peculiar sensation to
> belonging to the act of thinking that each of these predicates inheres in
> the subject. In hypothetical inference this complicated feeling so
> produced is replaced by a single feeling of greater intensity, that
> belonging to the act of thinking the hypothetic conclusion. Now when
> our nervous system is excited in a complicated way, there being a
> relation between the elements of the excitation, the result is a single
> harmonious disturbance which I call an emotion. Thus, the various

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247. For an interesting treatment of the important differences between rule and law see Rulon S. Wells, "Thirdness and Linguistics," in *The Signifying Animal,* eds. Imenegard Rausch and Gerald F. Carr (Bloomington and Indianapolis: Indiana University Press, 1980).

248. Thomas L. Short has this to say in response to the question of whether every interpretant is a sign: "Such a view is consonant with the theory of cognition Peirce sketched in two articles in 1868. According to that theory there is no first cognition and no last cognition … Evidence for Peirce's having relinquished the view that every sign is an interpretant may be found in his accounts of the three basic relations of sign to object: in none of them must the sign be an interpretant of a prior sign of the same object. The proposition that every interpretant is a sign, however, is one that Peirce seems to have maintained to about 1906." Thomas L. Short, "David Savan's Peirce Studies," *Transactions of the Charles S. Peirce Society* 22 (1986): 103-4.

sounds made by the instruments of an orchestra strike upon the ear, and the result is a peculiar musical emotion, quite distinct from the sounds themselves. This emotion is *essentially the same thing* [emphasis mine] as an hypothetic inference, and every hypothetic inference involves the formation of such an emotion. We may say, therefore, that hypothesis produces the *sensuous* element of thought.[249]

Here 'hypothesis' is used to refer to both the type of reasoning (later termed abduction or retroduction) and the product of that reasoning, the simplifying predicate.

Savan noted, however, that if this was the sum of the theory, it would be an inadequate account of emotion. A theory in which emotions are understood only in their role as simplifying hypotheses or coping mechanisms does not lead us to an understanding of emotional affect, or the normative or evaluative function of emotion, without which we can never come to a deeper appreciation for the real differences between sensation and emotion. In chapters six and seven we will address the normative function of what Peirce called the logical sentiments. For the present we will turn our attention to the dynamic affect of emotion.

Savan wished us to understand 'affect' in a specialized way as:

That variation in intensity of arousal and agitation that is manifested both by involuntary physiological changes and by larger movements of approach and withdrawal. And emotional person – and this usage of the word 'emotion' is often passed over by cognitivists – is one who readily undergoes sharp changes of affect. He or she is volatile, easily agitated, passing quickly from elation to depression, from calm to excitement or lassitude. He or she is overwhelmed by emotion, dominated by it, and held in its grip. An emotional meeting is one in which we expect tears and laughter, passionate gestures, tempestuous movements. It is *affect* which is the criterion of the presence of emotion.[250]

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249. *CP* 2.643.
250. Savan, "Peirce's Theory of Emotion," 326.

This understanding complements Short's etymological rendering of the noun as "leading to action" noted earlier. It is a definition that honors the Latin *motus animae*, as the apparent root of 'emotion' and does justice to nineteenth century psychology by not introducing any twentieth-century notions.

Savan traced the origin of dynamic affect to the 1878 *Popular Science Monthly* series of six essays, the first two of which –"The Fixation of Belief" and "How to Make Our Ideas Clear" – are largely regarded as the first formal statement of pragmatism. However, Short believes the roots of the affective dimension of emotion are present in the papers of 1868, especially in *CP* 5.293 where Peirce makes it clear that emotions are conceived as both simplifying hypotheses and as affective expressions and, as such, serve more than as a mere conveyance of information.[251] Interestingly, the 1878 series makes no use of semiotic. This is no doubt in part due to the fact that this series, collectively titled "Illustrations of the Logic of Science," was written for general consumption and published in a popular journal. In any case, Peirce presented an affective theory of doubt and belief in 1878 that shows him to be more than a pure cognitivist.

"Peirce's theory of doubt is the kernel of a semeiotic theory of emotion as affect."[252] The first thing Peirce wants to show is that doubt cannot be willed any more than can love or joy or fear. This is at the crux of his critique of Cartesianism.

> Some philosophers have imagined that to start an inquiry it was only necessary to utter a question whether orally or by setting it down upon paper, and have recommended us to begin our studies with questioning everything! But the mere putting of a proposition into the interrogative

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251. Short, "David Savan's Peirce Studies," 118,
252. Savan, "Peirce's Semiotic Theory of Emotion*,"* 327.

form does not stimulate the mind to any struggle after belief. There must be a real and living doubt, and without this all discussion is idle.[253]

Why cannot men see that what we do not doubt, we do not doubt, so that it is false pretense to pretend to call it into question?[254]

Pretending to doubt is as irrational as it is mendacious.

Real, living, doubt is however, a feeling of irritation that we seek to overcome with the "calm and satisfactory state" (*CP* 5.372) acquired in belief. Belief is "a subjective feeling of mastery" (*CP* 5.389) in which the irritation of doubt is assuaged, regardless of whether the belief is mistaken. "Doubt is an uneasy and dissatisfied state from which we free ourselves and pass into the state of belief."[255] We find that "the action of thought is excited by the irritation of doubt, and ceases when belief is attained."[256] Doubt, then, is a visceral discomfort by which we are goaded in inquiry toward the settlement of belief. Belief, for its part, has but three properties.

First, it is something we are aware of; second, it appeases the irritation of doubt; and, third, it involves the establishment in our nature of a rule of action, or, say for short, a *habit.*[257]

We possess "an instinctive dislike of an undecided state of mind, exaggerated into a vague dread of doubt" and this causes us "cling spasmodically" to the views we already have.[258]

Savan asserts that "doubt is an energetic interpretant of an emotion that has been disturbed by a sharp encounter with resistant fact."[259] Peirce described the experience as

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253. *CP* 5.376.
254. *CP* 2.192.
255. *CP* 5.372.
256. *CP* 5.394.
257. *CP* 5.397.
258. *CP* 5.377.
259. Savan, "Peirce's Semiotic Theory of Emotion," 327.

shocking or percussive,[260] something beyond our control. As with all energetic

intepretants, as we can see from the language Peirce chose, doubt excites action, irritates,

moves us, causes us to cling, i.e., involves effort. "The effort may be a muscular one …

but is much more usually an exertion upon the Inner World, a mental effort."[261] The

effect can, however, be outward and turbulent, uncontrollable and controlling.

> For example, it is the shock of encounter with an outrageous act or
> person that triggers our first violent anger. If the outrageous act persists
> we become more agitated and enraged. The persistence of the
> outrageous act operates as an imperative, demanding our complete and
> absorbed attention. Emotional affect preempts both mind and body,
> imperiously controlling all thought and action. To be overwhelmed by
> an emotion is to become its creature.[262]

To further understand the affective dimension of emotion we must turn to the

feeling subject of this turbulence, the experiencing self. From there we will return to the

role of affect in inquiry, the process defined by Peirce in the 1878 essays as the struggle

to attain a state of belief caused by the irritation of doubt. It is this state of belief that, in

turn, is our guide to action by satisfying our desires.[263]

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260. *CP* 8.370.
261. *CP* 5.475.
262. Savan, "Peirce's Semiotic Theory of Emotion", 328.
263. *CP* 5.374-5.

Chapter Four

The Self as Sign

For, as the fact that every thought is a sign,
taken in conjunction with the fact that life is a train of thought,
proves that man is a sign; so that every thought is an external sign,
proves that man is an external sign.
That is to say, the man and the external sign are identical in the same sense
in which the words homo and man are identical.
Thus my language is the sum total of myself; for the man is thought.
-- Peirce, Collected Papers

A. The Negated Self

Richard Bernstein spoke for generations of interpreters when he wrote that, "The nature of human individuality always seemed to be a source of intellectual embarrassment for Peirce."[1] William James, on the other hand, had written in his *Principles of Psychology* that, *"*The only states of consciousness that we naturally deal with are found in personal consciousness, minds, selves, concrete particular I's and you's.[2] Writing in 1892, just two years later, Peirce labeled the philosophical theory of personal identity, "the metaphysics of wickedness."[3] To be sure, a sampling of what else he had to say on the subject reveals that Peirce did not hold the notion of self in high regard.

> Ignorance and error are all that distinguish our private selves from the absolute ego of pure apperception.[4]

Epigraph. CP 5:314.
1. Richard J. Bernstein, "Action, Conduct, and Self-Control," in *Perspectives on Peirce,* ed. Richard J. Bernstein (New Haven: Yale University Press, 1965), 90.
2. James, *Principles of Psychology*, 226.
3. *CP* 7.571.
4. *CP* 5.235.

Now you and I – what are we? Mere cells on the social organism
…Psychological analysis shows that there is nothing which distinguishes
my personal identity except my faults and my limitations – or, if you
please, my blind will, which it is my highest endeavor to annihilate.[5]

[Y]our neighbors are, in a measure, yourself, and in far greater measure
than, without deep studies in psychology, you would believe. Really, the
selfhood you like to attribute to yourself is, for the most part, the
vulgarest delusion of vanity. In the second place, all men who resemble
you and are in analogous circumstances are, in a measure, yourself,
though not quite in the same way in which your neighbors are you.[6]

There is still another direction in which the barbaric conception of
personal identity must be broadened. A Brahmanical hymn begins as
follows: "I am that pure and infinite Self, who am bliss, eternal,
manifest, all-pervading, and who am the substrate of all that owns name
and form." This expresses more than humiliation, the utter swallowing
up of the the poor individual self in the Spirit of prayer. All
communication from mind to mind is through the continuity of being. A
man is capable of having assigned to him a role in the drama of creation,
and so far as he loses himself in that role, no matter how humbly it may
be, so far he identifies himself with its Author.[7]

The Bulgarian philosopher Ivan Mladenov recently concluded, more generally, that "after

a closer look, the strong impression remains that something about the issue of

subjectivity constantly irritated Peirce [and] this did not change with the maturing of his

view."[8] This chapter will consist of an attempt to account for possible reasons why.

In a set of questions on William James's *Principles of Psychology*[9] that Peirce

prepared for the writing of a review article in the *Nation*, there are two that are pertinent

to the matter of the individual ego. The first, addressing James' view of the absolute

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5. *CP* 1:673.
6. *CP* 7.571.
7. *CP* 7.572.
8. Ivan Mladenov, *Conceptualizing Metaphors* (London and New York: Routledge, 2006), 104.
9. *CP* 8.72-90.

insulation of individual minds, was cited in the previous chapter. The second response

follows a lengthy quote from *Principles* on the privacy of thoughts.

> Everybody will admit a personal self exists in the same sense in which a
> snark [the imaginary animal of Lewis Carroll's poem] exists; that is,
> there is a phenomenon to which that name is given. It is an illusory
> phenomenon; but still it is a phenomenon. It is not quite *purely* illusory,
> but only *mainly* so. It is true, for instance, that men are *selfish*, that is,
> that they are really deluded into supposing themselves to have some
> isolated existence; and in so far, they *have* it. To deny the reality of
> personality is not anti-spiritualistic; it is only anti-nominalistic.[10]

Peirce's negative view of the individual has several probable sources.

First, as Bernstein reminds us, pragmatism began, in some measure, as a rebellion

against the excesses of subjectivism common to much modern epistemology.[11] The result

was a failure of the entire movement, as much as of Peirce himself, to produce a coherent

theory of self.

Furthermore, for Peirce pragmatism and realism entailed one another.[12] "In

clarifying the meaning of his *pragmaticism* [coined circa 1900 to distinguish it from more

popularized versions, including James'], Peirce is acutely conscious of the categorical

difference between Thirdness and Secondness."[13] An undue emphasis on Secondness,

that is, unmediated experience or existence, is the source of nominalism, and in turn, the

source of most of what he found errant in most modern philosophy,[14] including

sensationalism, phenomenalism, materialism, and especially, individualism.[15] For

Peirce, the overall effect on rationality is insidious. Nominalism's explanation of

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10. *CP* 8.82.
11. Richard J. Bernstein, *Praxis and Action* (Philadelphia: University of Pennsylvania Press,
1971), 197.
12. *CP* 5.453, 5.470, 5.503.
13. Bernstein, *Praxis and Action,* 186.
14. *CP* 1.19.
15. *CP* 8.38.

experience blocks the road of inquiry by holding that no amount of evidence from the past can provide predictability regarding the future. There are no necessary connections between phenomena. Laws are mere habits of association and the whole enterprise of science is rendered unintelligible. Paul Forster sums up Peirce's views of the effects of nominalism's materialistic psychology.

> The conception of reasoning as deliberation is threatened by determinism. Errors are deemed to be inevitable, beyond the control of those who make them. Humans are reduced from autonomous reasoners to rational machines … More seriously, Nominalist psychology is incapable of establishing its own foundational status. The defense of psychology must itself exploit psychological concepts and methods. Psychology thus accounts for its own authority only by presuposing it, leaving it an edifice that "floats on air" (8.158).[16]

The latter point accounts for Peirce's sustained attack on psychologism that will concern us in the next chapter.

Thirdly, Bernstein suggests there might be "an intimate connection between Peirce's failure to develop a positive theory of the self and his personal difficulties."[17] Peirce's personal and professional failings have been well documented and often are cited, justly or otherwise, as cause for shortcomings in his philosophy. In a missive to his employer, Peirce's first wife observed, "All his life from babyhood it seems as though everything had conspired to spoil him with indulgence."[18] Nearing the end of his life Peirce was moved to prolonged periods of remorse and self-loathing. In a reflective moment he observed, "For long years I suffered unspeakably … from ignorance of how

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16. Paul D. Forster, "Peirce and the Threat of Nominalism," *Transactions of the Charles S. Peirce Society* 28 (Fall 1992): 696.

17. Richard J. Bernstein, "Action, Conduct, and Self-Control," in *Perspectives on Peirce* (New Haven: Yale University Press, 1965), 90.

18. Quoted in Murray G. Murphey, *The Development of Peirce's Philosophy* (Cambridge: Harvard University Press, 1961), 17.

to go to work to acquire sovereignty over myself."[19] In a letter to James in the spring of

1897 he was finally able to acknowledge:

> I have learned a great deal about philosophy in the last few years
> because they have been very miserable and unsuccessful years, – terrible
> beyond anything that the man of ordinary experience can possibly
> understand or conceive … Much have I learned of life and the world,
> throwing strong lights upon philosophy in these years. Undoubtedly its
> tendency is to make one value the spiritual more, but not an abstract
> spirituality … (It has) led me to rate higher than ever the individual deed
> as the only real meaning there is (in) the Concept, and yet at the same
> time to see more sharply than ever that it is not the mere arbitrary force
> in the deed but the life it gives to the idea that is valuable.[20]

This is the first inkling Peirce gave that he had established a station for the individual as

inquirer and moral agent apart from the ideal community of scientific investigators in

which he had always vested the limits of inquiry. He was fifty-six years old.

In an attempt to account for the feeling subject, we will summarize in this section

what Peirce said about the self in a few key points while heeding Thomas L. Short's

cautionary note "that sometimes he changed his mind and sometimes he changed his

language, and that often he stretched terms so as to emphasize continuities."[21] To begin,

says Peirce:

> You have a sense of resistance and at the same time a sense of effort.
> There can be no resistance without effort; there can be no effort without
> resistance. They are only two ways of describing the same experience. It
> is a double consciousness. *We become aware of ourself in becoming
> aware of the not-self* … The idea of other, of *not* becomes the very pivot
> of thought.[22]

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19. *MS* 905, quoted in Brent, *Charles Sanders Peirce: A Life*, 341.
20. Quoted in Brent, *Charles Sanders Peirce: A Life*, 340-1.
21. Thomas L. Short, *Peirce's Theory of Signs* (Cambridge: Cambridge University Press, 2007), 311.
22. *CP* 1.324.

The two-sidedness of unmediated experience, bonded as effort and resistance, is the element of Secondness. Self-consciousness, then, arises in the experience of opposition, from the double-barreled nature of brute experience. Recall the trope of consciousness in Peirce's letter to James on the nature of Secondness, how thought moves across the mind as a wave moves through the sea, that:

> This is not a conception, nor is it a peculiar quality. It is an experience. It comes out most fully in the shock of reaction between ego and non-ego. It is there the double consciousness of effort and resistance. That is something which cannot properly be conceived. For to conceive it is to generalize it; and to generalize it is to miss altogether the *here*ness and *now*ness which is its essence … All the *actual* character of consciousness is merely the sense of shock of the non-ego upon us. Just as a calm sea sleeps except where its rollers dash upon the land.[23]

Nathan Houser explains that, "It is clear from this metaphor that the wave of consciousness is distinct from the mind through which it moves, but it is doubtful that we would say that either the mind possesses the wave or that the wave possesses the mind."[24] So far, all we have referenced is the immediate sense of effort and resistance through which we first become aware of self by becoming aware of non-self.

While self-consciousness arises from brute experience, from the shock between ego and non-ego, it develops in the interplay of Secondness and Thirdness, in an "interfering process between 'I' and the 'Other,' or, between the individual mind and the community mind."[25] From this process the concept of self is formed negatively:

> Thus, he becomes aware of ignorance, and it is necessary to suppose a *self* in which this ignorance can inhere.[26]

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23. *CP* 8.266.
24. Quoted in Mladenov, *Conceptualizing Metaphors*, 107.
25. Ibid., 106.
26. *CP* 5.233.

> In short, *error* appears, and it can be explained only by supposing a *self* which is fallible.[27]

> The individual man, since his separate existence is manifested only by ignorance and error, so far as he is anything apart from his fellows, and from what he and they are to be, is only a negation.[28]

Self-awareness, then, arises as a hypothesis to account for error. Here the emphasis is upon growth and development.

> It is first to be observed that there is no known self-consciousness to be accounted for in extremely young children. It has already been pointed out by Kant that the late use of the very common word "I" with children indicates an imperfect self-consciousness in them, and that, therefore, so far as it is admissible for us to draw any conclusion in regard to the mental state of those who are still younger, it must be against the existence of any self-consciousness in them.[29]

Use of the personal pronoun "I" develops slowly and only after "children manifest powers of thought … the complicated trigonometry of vision and the delicate adjustments of coordinated movement."[30] The concept of "I" is a much more sophisticated and abstract notion than "me." Short notes that "we use the word 'I' ambiguously, sometimes denoting oneself as physical ('I went down to the Peiraeus yesterday') and sometimes denoting an entity distinct from the body ('I moved my arm')."[31] Before the proper understanding and use of "I" the child has, according to Peirce, fixated on his or her own body in contact with and relation to the immediate surrounding world and given meaning to the feelings generated by what it touches.

> No one questions that, when a sound is heard by a child, he thinks, not of himself as hearing, but of the bell or other object as sounding. How

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27. *CP* 5.234.
28. *CP* 5.317.
29. *CP* 5.227.
30. *CP* 5.228.
31. Short, *Peirce's Theory of Signs*, 315.

when he wills to move a table? Does he think of himself as desiring, or only of the table as fit to be moved? That he has the latter thought is beyond question; that he has the former, must, until the existence of an intuitive self-consciousness is proved, remain an arbitrary and baseless supposition … The child … must soon discover by observation that things which are thus fit to be changed are apt actually to undergo this change, after a contact with that peculiarly important body called Willy or Johnny.[32]

From this stage of development the child progresses to the mastery of language.

The child learns to understand the language; that is to say, a connection between certain sounds and certain facts becomes established in his mind. He has previously noticed the connection between these sounds and the motions of the lips of bodies somewhat similar to the central one, and has tried the experiment of putting his hand on those lips and has found the sound in that case to be smothered. He thus connects that language with bodies somewhat similar to the central one. By efforts, so unenergetic that they should be called rather instinctive, perhaps, than tentative, he learns to produce those sounds. So he begins to converse.[33]

Thus the child acquires a rudimentary knowledge of other beings and learns that he or she

may trust them in order to gain deeper understanding of the world.

A child hears it said that the stove is hot. But it is not, he says; and, indeed, that central body is not touching it, and only what that touches is hot or cold. But he touches it, and finds the testimony confirmed in a striking way. Thus, he 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.[34]

Such a trust of testimony, however, is borne of a sophistication of understanding that

"reveals the child's grasp of the fact that it is but one of many selves, equivalent in

selfhood, each of whom refers to itself by the word 'I.'"[35]

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32. *CP* 5.230-1.
33. *CP* 5.232.
34. *CP* 5.233.
35. Thomas L. Short, "Hypostatic Abstraction in Self-Consciousness," in *Rule of Reason,* eds. Jacqueline Brunning and Paul Forster (Toronto: University of Toronto Press, 1997), 297.

In this account of child development, overlaying the interplay of Secondness with Thirdness, a sense of abstracted personal identity clearly begins to emerge. Yet, apart from the acquirement of language, Peirce has not yet posited anything uniquely human about the notion of self. In fact, there is very little about a child associating sounds with certain facts that cannot be claimed for the behavior of other social animals via habitual association of signals with purposeful activity. There certainly is nothing uniquely human about the ability to discover error and learn from it. Finally, the capacity to distinguish self from non-self is basic to all protoplasm, evident in the simplest one-celled organisms. Only the capacity to abstract a self in which error may inhere seems to belong to humans alone. Such a view may be in keeping with Peirce's synechism, that selfhood, like consciousness, is a matter of degree. However, Bernstein rightfully objects that there is nothing in this view of self that warrants a claim of positive Secondness bearing the marks of radical individuality which characterizes the individual. "If my separate existence is manifested only by ignorance and error, if I differ from my fellow man only by being a negation, then 'where' and 'what' is the 'I' that controls and adopts ultimate ideals?"[36] In the next section we will begin to uncover just what a self is and how it is achieved apart from ignorance and error.

B. Consciousness, Self and Self-Control

In chapter three we explored Peirce's theory of consciousness in relation to his notion of mind and discovered that mind, as Peirce generally presented it, is a much

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36. Richard J. Bernstein, *Praxis and Action* (Philadelphia: University of Pennsylvania Press, 1971), 198.

broader concept, external to but containing anything that might be described as individual

consciousness. Thomas Short explains that:

> When Peirce wrote of the physical world as having mental
> characteristics or exhibiting the workings of mind, he was not referring
> to an individual mind. His point, rather, was to emphasize the continuity
> of human mentality with nature, and especially that the mind's way of
> working is a genus not uniquely human nor unique even to individual
> creatures. In the way words have, his usage is as likely to mislead the
> reader as to convey the meaning intended. The same point can be made
> differently; by asserting commonalities between mind narrowly
> construed and the (in that sense) mindless physical world.[37]

In this case, Peirce's commitment to continuity moved him to assert, as part of what he

came to call his doctrine of objective idealism, "that matter is effete mind, inveterate

habits becoming physical laws."[38]

Consciousness itself, as we saw, is no less troublesome a term in Peirce's hands.

It is, as he pointed out, marked by ambiguity and vagueness.

> What do we mean by consciousness, for it is rather an ambiguous term.
> There is that emotion which accompanies the reflection that we have
> animal life. A consciousness which is dimmed when animal life is at its
> ebb, in age or sleep, but which is not dimmed when spiritual life is at its
> ebb; which is more lively the better animal a man is, but is not so the
> better man he is … In the second place, consciousness is used to mean
> the knowledge which we have of what is in our minds; the fact that our
> thought is an index for itself on the ground of a complete identity with
> itself … Consciousness is, also, used to denote what I call *feeling*; as by
> Mr. [Alexander] Bain whom I mention in order to say that he recognizes
> the unity of sensation and emotion under this term …[39]

In another instance Peirce showed that consciousness is sometimes used to signify the

unity in thought, the *I think* of apperception.[40] Given its wide range of usage it should

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37. Short, *Peirce's Theory of Signs*, 290.
38. *CP* 6.25, cf. 6.605.
39. *CP* 7.585-6.
40. *CP* 5.313.

come as no surprise that in stressing synechism, Peirce began around 1900 to describe a

continuum of consciousness. This continuum is grounded in the three pseudo-scientific

designations that he varying referred to as the departments of mental action, states of

mind or parts of mind, commonly accepted in the nineteenth century: Feeling,

Knowledge, and Will.[41] For Peirce there is no sharp delineation between any of the three,

each being made to represent three different elements common to all consciousness.

> No sharp line of demarcation can be drawn between different integral
> states of mind; certainly not between such states as feeling, knowing,
> and willing. It is plain that we are actively knowing in all our waking
> minutes, and actually feeling, too. If we are not always willing, we are,
> at least, at all times consciously reacting against the outer world.[42]

In 1902 he wrote "Synechism amounts to the principle that … continuity is the absence

of ultimate parts in that which is divisible; and that the form under which alone anything

can be understood is the form of generality, which is the same thing as continuity."[43] The

reference to ultimate parts forms the kernel of Peirce's attack on nominalism. As Rorty

once put it, "For Peirce, it is the nominalist and the reductionist who succumb to belief in

metaphysical figments – namely the belief that beneath all the evident fuzziness,

vagueness, and generality which we encounter in language (and, therefore in all thought)

there are non-fuzzy, particular, clearly intuitable reals."[44] It is the nominalists who

multiply entities by postulating simples, who harbor the belief that language can be

transcended, in clinging to the "Ockhamistic prejudice … that in thought, in being, and in

development the indefinite is due to a degeneration from a primary state of perfect

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41. *CP* 7.39.
42. *CP* 7.541n9.
43. *CP* 6.173.
44. Richard Rorty, "Pragmatism, Categories, and Language," *The Philosophical Review* 70 (April 1961): 209.

definiteness … The truth is rather on the side of the scholastic realists that the unsettled is the primal state, and that definiteness and determinateness … are, in the large, approximations, developmentally, epistemologically, and metaphysically."[45] Consciousness is just such an unsettled, vague and indeterminate notion.

Peirce wrote, in 1905, that "to be conscious is nothing else than to feel."[46] As early as 1892, in a series of essays for the *Monist*, Peirce began asserting that even the slime-mould has the capacity to feel.

> Consider a gob of protoplasm, say an amoeba or a slime-mould. It does not differ in any radical way from the contents of a nerve cell, though its functions may be less specialized. There is no doubt that this slime-mould, or this amoeba, or at any rate some similar mass of protoplasm feels. That is to say, it feels when it is in its excited condition.[47]

In the same series, in an essay that his former student, Christine Ladd-Franklin, took as evidence he was losing his mind,[48] Peirce asserted that even the slime-mould has not only a capacity for feeling but also bears marks of consciousness, "*feeling*, but plainly no *personality*."[49] Peirce's purpose in this essay was, in part, to explain what he meant by continuity and establish why synechism "is of prime importance in philosophy."[50] This effort involved his formula that "there is but one law of mind, namely, that ideas tend to spread continuously and to affect certain others which stand to them in a peculiar relation of affectability. In this spreading they lose intensity, and especially the power of affecting others, but gain generality and become welded with other ideas."[51] The linking of

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45. *CP* 6.348.
46. *CP* 1.318.
47. *CP* 6.133.
48. Brent, *Charles Sanders Peirce: A Life*, 211.
49. *CP* 6.133.
50. *CP* 6.103.
51. *CP* 6.104.

consciousness with feeling is an essential ingredient of this philosophical doctrine. "The synechist will not believe that some things are conscious and some unconscious unless by consciousness be meant a certain grade of feeling."[52]

Peirce was intent on showing that there is a continuum of feelings, consciousness and ideas. In an attempt at clarification, he considered continuity from the standpoint of Cantor's mathematics and from the standpoint of both Aristotle and Kant, concluding that:

> The precise definition is still in doubt; but Kant's definition, that a continuum is that of which every part has itself parts of the same kind, seems to be correct. This must not be confounded (as Kant himself confounded it) with infinite divisibility, but implies that a line, for example, contains no points until the continuity is broken by marking the points. In accordance with this it seems necessary to say that a continuum, where it *is* continuous and unbroken, contains no definite parts, contains no points until the continuity is broken by marking the points … In the calculus and theory of functions it is assumed that between any two rational points (or points at distances along the line expressed by rational fractions) there are rational points and that further for every convergent series of such fractions (such as 3.1, 3.14, 3.141, 3.1415, 3.14159, etc.) there is just one limiting point; and such a collection of points is called *continuous*. But this does not seem to be the common sense idea of continuity. It is only a collection of independent points. Breaking grains of sand more and more will only make the sand more broken. It will not weld the grains into unbroken continuity.[53]

His analysis concluded that feeling, and thus consciousness involves time,[54] and has spatial extension,[55] and that this continuum in space and time is, accordingly, the medium through which ideas are generated and pass from one person to another. Summarizing his thoughts he argued that "without this … it would have been impossible for minds

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52. *CP* 6.173.
53. *CP* 6.168.
54. *CP* 6.164.
55. Ibid.

external to one another ever to become coordinated, and equally impossible for any coordination to be established in the action of the nerve-matter of one brain."[56] Along this continuum the general idea emerges as a "living feeling" whose duration is infinitesimal, still embracing innumerable parts, and entirely unlimited but, nevertheless, immediately present.[57]

Later in the same essay, Peirce turned his attention "to the consideration of a particular phenomenon which is remarkably prominent in our own consciousnesses, that of personality."[58] So close are our ideas of personality and self that they appear to be nearly identical, to the extent that they can be apprehended in a given moment.[59] Personality, in its fullness, is to be understood as "some kind of cöordination or connection of ideas," and "a connection between ideas is itself a general idea," and "a general idea is a living feeling."[60] Notwithstanding the sense of self-consciousness that is present in any given moment:

> Personality, like any other general idea, is not a thing to be apprehended in an instant. It has to be lived in time; nor can any finite time embrace it in all its fullness. Yet in each infinitesimal interval it is present and living, though specially colored by the immediate feeling of that moment. Personality, so far as it is apprehended in a moment, is immediate self-consciousness. But the word cöordination implies somewhat more than this; it implies a teleological harmony in ideas, and in the case of personality this teleology is more than a mere purposive pursuit of a predeterminate end; it is a developmental teleology. This is personal character. A general idea, living and conscious now, it is already determinative of acts in the future to an extent to which it is not now conscious.[61]

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56. *CP* 6.134.
57. *CP* 6.138.
58. *CP* 6.155.
59. Short, "Hypostatic Abstraction in Self-Consciousness," 304.
60. *CP* 6.155.
61. *CP* 6.155-6.

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Clearly, what Peirce has in mind is not a static end toward which we strive according to nature but a dynamic cluster of ends that we elect for ourselves and which we retain, alter or reject according to our needs at different stages in the process of maturation. "Were the ends of a person already explicit, there would be no room for development, for growth, for life; and consequently there would be no personality."[62] Rather, what Peirce had in mind was a notion of the self that was future oriented, experienced in any given moment but comprehended only in the fullness of time. It is the idea that personality is a process of self-discovery, "the consequences of choices made within this ambit of partial understanding and partial ignorance."[63] Not only is the self constantly evolving and emerging it is not absolutely an individual. Conversely, as we will closely examine in chapter seven, the communities to which a self belongs themselves bear some of the stripes of an individual. In the 1905 Monist series, Peirce put it is way:

> Two things here are all-important to assure oneself of and to remember. The first is that a person is not absolutely an individual. His thoughts are what he is "saying to himself," that is, is saying to the other self that is just coming into life in the flow of time. When one reasons, it is that critical self that one is trying to persuade; and all thought whatsoever is a sign, and is mostly of the nature of language. The second thing to remember is that a man's circle of society (however widely or narrowly this phrase may be understood), is a sort of loosely compacted person, in some respects of higher rank than the person of an individual organism.[64]

It is in this context that Peirce began in 1907 to link consciousness qua feeling to self-control.[65]

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62. *CP* 6.157.
63. Short, "Hypostatic Abstraction in Self-Consciousness," 304.
64. *CP* 5.421.
65. Short, *Peirce's Theory of Signs*, 311.

Peirce's theory of self-control was slow and meandering in its development over a span of fifty years. Edward S. Petry, Jr. outlined four very distinct, largely incompatible, stages of development.[66] Among the sundry and disparate influences that Petry believes tinge this history in its various stages are works of Friedrich Schiller, Emmanuel Swedenborg and Henry James, Sr.; Peirce's student, the psychologist, Joseph Jastrow; the British Moralists, Johann Friedrich Herbart and William James. The fourth stage was, according to Petry, an attempt at integration of the fully developed concept of self-control with the rest of Peirce's philosophy, a process commencing with preparation of the 1903 Harvard Lectures on pragmatism and continuing with the development of his doctrine of critical common-sensism around 1905 and culminating in the unpublished writings of 1907. Evident in the works of this latter period are trace elements of his thinking from the earlier stages. It is in this fourth stage that we find self-control and self-consciousness inseparably linked. For this reason, we will focus on this stage in the development of the concept.

To understand Peirce's fully developed notion of self-control and the role it plays in understanding the developing self, we must start with his understanding of the use of language. We recall that Peirce believed that learning a language preceded the acquirement of self-consciousness which, itself, follows from consciousness of other selves. Thomas Short says that, "the acquired capacity to signal our needs or

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66. Edward S. Petry, Jr., "The Origin and Development of Peirce's Concept of Self-Control," *Transactions of the Charles S. Peirce Society* 28 (Fall 1992): 667-690.

circumstances to others becomes, as well, a capacity to represent them to ourselves."[67] In

1905, Peirce had written:

> All thinking is by signs; and the brutes use signs. But they perhaps rarely
> think of them as signs … Brutes use language and they seem to exercise
> some little control over it. But they certainly do not carry this control to
> anything like the same grade that we do. … One extremely important
> grade of thinking about thought … is performed when something, that
> one has thought about any subject, is itself made a subject of thought.[68]

This process of making what one has thought about a subject into a subject of thought is

an adaptation of the mathematical process of hypostatic abstraction, which Peirce

remarked "may be called the principal engine of mathematical thought."[69]

> *Number* is [a] product of abstraction; and how useful number is in
> demonstration, I need not say. That which abstraction does is take a
> circumstance and regard it as a subject acting, suffering, and being … A
> particle is somewhere quite definitely. It is by abstraction that the
> mathematician conceives the particle as occupying a *point*. The mere
> place is now made a subject of thought. The particle moves; and it is by
> abstraction that the geometer conceives it as describing a line. This line
> … is merely a fact turned into a substantive, is regarded as so substantial
> that we talk of the line as moving, and as generating a *surface*, which is
> a new abstraction; and even the surface is made to move.[70]

Hypostatic abstraction is to be differentiated from the process of precision, which we

explored in the last chapter.

> *Abstraction* names two wholly different operations. One of them
> consists in supposing some feature of the fact to be absent, or at least
> leaving it out of account. I call that *precissive abstraction.* The other
> changes 'This man is shy' to 'This man is affected with shyness.' It may
> be called clipping the wings of words provided we call those words in a
> sentence which show us upon what our attention is to rest because
> something is about to [be] said of that, the επεα απτεροεντα and those
> words which say something of those subjects the επεα πτεροεντα. In

67. Short, "Hypostatic Abstraction in Self-Consciousness," 301.
68. *CP* 5.534.
69. *CP* 2.364.
70. *NEM* 4:11.

more prosaic language it changes a predicate into a subject (extending the term subject beyond the subject nominative to the subject accusative and subject dative, in short, to what are called the direct and indirect *objects* of the verb.) "The rose smells very sweetly" is by hypostatic abstraction converted into "The rose possesses a delightful perfume." So "Cain killed Abel" is changed to "Cain caused the death of Abel." Perfume and death are *hypostatic abstractions.* They denote *entia rationis*, whatever that may mean.[71]

In the Monist series of 1906 Peirce explained how "that wonderful operation of hypostatic abstraction by which we seem to create *entia rationis* that are, nevertheless, sometimes real, furnishes us the means of turning predicates from being signs that we think or think *through*, into being subjects thought of.[72] The resulting *entia rationis* are direct inferences whose conclusions refer to a subject not referred to by the premisses. Working on his system of existential graphs in 1903, Peirce returned to his favorite example to illustrate such immediate inferences.

> Opium causes people to sleep;
> [*Ergo,*] Opium possesses a power of causing sleep.[73]

Here a dormative power, not referred to in the premises, is inferred by hypostatic abstraction. Such is the way thought progresses. "We think of the thought-sign itself, making it the object of another thought-sign. Thereupon, we can repeat the operation of hypostatic abstraction, and from these second intentions derive third intentions."[74]

We are not yet at the point of inferring self-consciousness. "In this case, the entities introduced by hypostatic abstraction are not selves but, rather, thoughts, whether

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71. *NEM* 3:762-3.
72. *CP* 4.549.
73. *CP* 4.463.
74. *CP* 4.549.

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attributed to selves or not."[75] Here enters the notion of self-control. It should come as no

surprise that as there are grades of consciousness there are corresponding grades of self-

control. Nor should it be seen as coincidental that the manuscript in which Peirce details

the grades of self-control contains a long passage on hypostatic abstraction.[76] The reason

for this linkage was repeatedly stated by Peirce.

> Inference is essentially deliberate and self-controlled … Reasoning
> essentially involves self-control …[77]

> In my opinion, it is self-control which makes any other than the normal
> course of *thought* possible, just as nothing else makes any other than the
> normal course of *action* possible; and just as it is precisely what that that
> gives room for an ought-to-be of conduct, I mean Morality, so it equally
> gives room for an ought-to-be of thought, which is Right Reason; and
> where there is no self-control, nothing but the normal is possible.[78]

> Reasoning is thought subjected to self-control, and that the whole
> operation of logical self-control takes precisely the same quite
> complicated course which everybody ought to acknowledge is that of
> effective ethical self-control.[79]

Thought, for Peirce, is, simply stated, a species of behavior and, as such, is controllable.

The complicated scale of self-control is one that he outlined later in the same

manuscript.

> Of course there are inhibitions and coördinations that entirely escape
> consciousness. There are, in the next place, modes of self-control which
> seem quite instinctive. Next, there is a kind of self-control which results
> from training. Next, a man can be his own training-master and thus
> control his self-control. When this point is reached much or all of the
> training may be conducted in imagination. When a man controls himself,
> thus controlling control, he must have some moral rule in view, however
> special and irrational it may be. But next he may undertake to improve

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75. Short, "Hypostatic Abstraction in Self-Consciousness," 302.
76. *CP* 5.533-34.
77. *CP* 5.108.
78. *CP* 4.540 (italics mine).
79. *CP* 5.533.

this rule; that is, to exercise a control over his control of control. To do this he must have something higher than an irrational rule. He must have some sort of moral principle. This, in turn, may be controlled by reference to an esthetic ideal of what is fine. There are certainly more grades than I have enumerated. Perhaps their number is indefinite. The brutes are certainly capable of more than one grade of control; but it seems to me that our superiority over them is more due to our greater number of grades of self-control than it is to our versatility.[80]

The inhibitions and coördinations that escape consciousness are assumed to be automatic reflexes and responses of the body such as respiration, heartbeat, and the complex mechanism and processes of sight.[81] Instinctive self-control, as we will detail in chapter six, is tied to Peirce's notion of hypothesis or abduction, itself an instinctive mode of behavior that is evidenced in a propensity for right reasoning.[82] Peirce closely linked instinct, a general tendency to act in a certain manner, i.e., a habit or disposition,[83] that may or may not be hereditary,[84] to sentiment, which he viewed as acquired habit.[85] He viewed instinct as a "half conscious inference"[86] and viewed reason and instinct as continuous,[87] shading into one another by imperceptible degrees[88] with reason, particularly abductive reasoning, being a species of instinct.[89] It is at the higher grades of self-control that the faculty of abstraction is in evidence. Short explains:

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80. *CP* 5.533.

81. Short, *Peirce's Theory of Signs*, 311.

82. *CP* 2.86.

83. *CP* 2.170.

84. *CP* 2.160.

85. *CP* 1.634, 1.637, 1.648, 1.661.

86. *CP* 6.570.

87. *CP* 2.3.

88. *MS* 1101, 831. Portions are quoted in Don Nesher, "The Pragmatist Theory of Human Cognition and Common-Sense," in *The Peirce Seminar Papers*, ed. Michael Shapiro (Providence and Oxford: Berghahn Books, 1994), 2:103-164.

89. *CP* 6.475, *MS* 668, *MS* 652, *MS* 1343. Portions of the unpublished manuscripts are quoted in Maryann Ayim, *Peirce's View of the Roles of Reason and Instinct in Scientific Inquiry* (Meerut, India: Anu Prakashan, 1982), 15-18, 28-9, 35ff.

At the highest levels of self-control, however, it becomes necessary to bring diverse thoughts, sensations, emotions, decisions, resolutions, actions, and bodily parts into an integrated whole, spanning past and future, connecting decision to decision in a single plan, and making many plans into a single life. This is achieved by attributing these various entities to a single underlying entity – the self that is introduced by hypostatic abstraction as *that which* thinks those thoughts, suffers those emotions, makes those decisions, commits those actions, forms and breaks those habits, and possesses that body and its parts. The diagram through which we explore alternative courses of action and their predictable consequences (see 1.529), and thereby gain control over the principles of our conduct, include, conspicuously, a sign – often the word 'I' – designating this supposed entity. The highest grades of self-control and consciousness therefore entail self-consciousness.[90]

Thus, for Peirce, self-control paradoxically precedes self-awareness.

At the highest level of self-control the individual becomes his or her own training-master.[91] This, as we have seen, involves commitment to a moral rule which, in turn, may be refined by a moral principle which, in turn, may be guided by an aesthetic notion of the fine or the beautiful. This grounding of ethics in aesthetics had, after 1903, far reaching implications for inquiry as well as action, resulting in the reformulation of his pragmatism. It is, however, as one's own training master, that one carries out in imagination the representation of actions and their possible consequences. In a 1906 letter to F.C.S. Schiller, Peirce suggested that self-control proceeds from the interplay of several components.

The power of self-control is certainly not a power over what one is doing at the very instant the operation of self-control is commenced. It consists (to mention only the leading constituents) first, in comparing one's past deeds with standards, second, in rational deliberation concerning how one will act in the future, in itself a highly complicated operation, third, in the formation of a resolve, fourth, in the creation, on the basis of the resolve, of a strong determination, or modification of

90. Short, "Hypostatic Abstraction and Self-Consciousness," 302-3.
91. *CP* 5.533.

habit. This operation of self-control is a process in which logical sequence is converted into mechanical sequences or something of the sort. How this happens, we are in my opinion as yet entirely ignorant. There is a class of signs in which the logical sequence *is* at the same time a mechanical sequence and very likely this fact enters into the explanation.[92]

The representation of actions and their possible consequences involves, as Short notes, the production of signs and their manipulation.

> Such signs are diagrams and replicas of legisigns. These are the medium, as well, of higher levels of self-control, as we trace logical consequences of principles and react emotionally to detailed pictures and complex narratives of what might be. As felt, such signs are the stuff of consciousness in these grades … Representation of one's possible actions includes self-designation: 'Were I to do this, then what would happen?'[93]

Thus, it is through sign activity that a positive theory of self is possible. The personality, however, as Peirce noted, is "not a thing to be apprehended in an instant. It has to be lived in time; nor can any finite time embrace it in all its fullness. Yet in each infinitesimal interval it is present and living, though specially colored by the immediate feelings of that moment."[94] "Personality lies in the unity of the *I think* – which is the unity of symbolization – the unity of consistency – and belongs to every symbol."[95] Thus understood, personality is a coordination of ideas that is constantly emerging.

> The word coördination implies … a teleological harmony in ideas, and, in the case of personality this teleology is more than a mere purposive pursuit of a predeterminate end; it is a developmental teleology. This is personal character. A general idea living and conscious now, is already determinative of acts in the future to an extent to which it is not now conscious. This reference to the future is an essential element of personality.[96]

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92. *CP* 8.320.
93. Short, *Peirce's Theory of Signs*, 312.
94. *CP* 6.155.
95. *CP* 7.593.
96. *CP* 6.156.

Peirce's notion of self, as Colapietro points out, is consistently oriented to the future, and is reflected as a living reality, in "a pursuit of purposes in which genuinely novel purposes emerge; during any moment of its life, the self is first and foremost a process in which some species of meaning is evolving."[97]

Character unfolds in the process of the personality's development. "A person is not absolutely an individual. His thoughts are what he is 'saying to himself,' that is, is saying to that other self that is just coming into life in the flow of time."[98] Those thoughts are signs, language itself being a species, through which the individual comes to represent herself. "Word" and "sign" are used interchangeably by Peirce in the *Monist* series.

> …the mind is a sign developing according to the laws of inference. What distinguishes a man from a word? There is a distinction doubtless. The material qualities, the forces which constitute the pure denotative application, and the meaning of the human sign, are all exceedingly complicated in comparison with those of the word. But these differences are only relative. What other is there? ... [I]t is sufficient to say that there is no element whatever of a man's consciousness which has not something corresponding to it in the word; and the reason is obvious. It is that the word and or sign which man uses *is* the man himself. For, as the fact that every thought is a sign, taken in conjunction with the fact that life is a train of thought, proves that man is a sign; so that every thought is an *external* sign. That is to say, the man and the external sign are identical, in the same sense in which the words *homo* and *man* are identical. Thus my language is the sum total of myself; for the man is the thought.[99]

Language, as Short summarizes, thus plays three essential, though separate, roles in self-consciousness.

97. Vincent Colapietro, *"Peirce's Approach to the Self"* (Albany: State University of New York Press, 1989), 92.
98. *CP* 5.421.
99. *CP* 5.313-314.

First, all conception is linguistic in form: the criterion of an individual's having a concept of anything, including himself, is his correct use of certain words. Second, the content of the concept of selfhood is derived, directly or indirectly, from speech acts: we think of selves as those beings that can express themselves in words or as those beings that can think, and thinking we think of as that which can be expressed in words. But, third, we now discover that certain uses of words actually create and sustain the self: there would be no self if it were not for the linguistic legerdemain known as hypostatic abstraction. This, by positing a self, brings diverse feelings, habits, and actions into a single, organized whole, and this unification actually constitutes the self that is posited.[100]

It is from confluence of these three functions of language that Peirce is able to assert one of his most puzzling and controversial beliefs about both the self and signs, namely, that man himself is a sign.[101]

C. <u>Self as a Sign</u>

In order to bring coherence to the many seemingly disparate things Peirce had to say about the self and, in turn, as a means to understanding his unusual claim that "man is a sign," it is important that we come to terms with his vital distinction between power and force. Understanding this distinction will allow us to better see how self-control, the use of language, and the developmental teleology of ideas, habits, and feelings converge in a reasonably cohesive doctrine of self. Peirce identified the issue as early as 1868. In the sentence following his claim that "my language is the sum total of myself; for man is the thought,"[102] Peirce explains:

It is hard for man to understand this, because he persists in identifying himself with his will, his power over the animal organism, with brute force. Now the organism is only an instrument of thought. But the identity of a man consists in the *consistency* of what he does and thinks,

100. Short, "Hypostatic Abstraction in Self-Consciousness," 306.
101. *CP* 5.314.
102. Ibid.

and consistency is the intellectual character of a thing; that is, is its expressing something.[103]

In 1905, while attempting to refine his understanding of pragmatism and critical common-sensism, Peirce wrote, "What he adores, if he is a good pragmaticist, is *power*; not the sham power of brute force, which, even in its own specialty of spoiling things, secures such slight results; but the creative power of reasonableness, which subdues all other powers, and rules over them with its scepter, knowledge, and its globe, love."[104] The distinction is between blind will as a species of force and self-control as a species of power.[105] The consistency of what the individual does and thinks is the measure of her character, a teleological harmony, a coordination of feelings, ideas, and possible actions directed by self-control toward attractive and away from repulsive ideas.[106] In this context Colapietro notes:

> Power is unintelligible apart from an ideal that exerts an attraction.
> Indeed, the exertion of an attraction by an ideal is perhaps the best way
> of defining what Peirce meant by 'power.' Our capacity to exert control
> over ourselves *ultimately* rests upon our ability to open ourselves to the
> very real exertions of truly attractive ideals.[107]

Whereas, Peirce had written that "there is nothing which distinguishes my personal identity except my faults and my limitations – or if you please, my blind will, which it is my highest endeavor to annihilate,"[108] he now postulated the power of self-control in tandem with the purposes of a developmental teleology.

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103. *CP* 5.315.
104. *CP* 5.520.
105. Colapietro, *Peirce's Approach to Self*, 92.
106. *CP* 5.551.
107. Colapietro, *Peirce's Approach to Self,* 92.
108. *CP* 1.673.

The means through which we open ourselves to the attractive ideals is dialogue, both with ourselves and with others.[109] Here we recall his words, "that a person is not absolutely an individual, [that] his thoughts are what he is 'saying to himself,' that is … to the other self that is just coming into life in the flow of time [and] that a man's circle of society … is a sort of loosely compacted person, in some respects of higher rank that the person of an individual organism."[110] Conversation, the intrapersonal dialogue one has with himself, and the interpersonal dialogue one carries on with others, is the means through which the personality emerges as a coordination of feelings, ideas, and habits. In early drafts of the Cognition Series Peirce had observed that thinking is dialogic in form: "Thought, says Plato, is a silent speech of the soul with itself."[111] Thus, again, it follows that for Peirce all thinking is in signs. Language is the vehicle of thought. As Short noted above, "all conception is linguistic in form: the criterion of an individual's having a concept of anything, including himself, is his correct use of certain words."[112]

Having asserted both that all thought is in signs and that conception is linguistic in form, it was, as we have seen, natural for Peirce to use "word" and "sign" interchangeably.[113] His further claim that the "the word or sign man uses, is the man himself,"[114] set him off on an analysis to discover what differences between the two might exist. In a fascinating argument that we haven't space to fully investigate, Peirce developed the analogy between a man and a word.[115] There are, he noted, significant

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109. Ibid.
110. *CP* 5.421.
111. *W* 2.172.
112. Short, "Hypostatic Abstraction and Self-Consciousness," 306.
113. *CP* 5.313.
114. Ibid.
115. *CP* 7.583-596.

differences but concluded that the differences are offset by the similarities. Some of the

properties possessed by both are communication, conformity to law (morality in humans

and grammar in words), procreation (sentences are symbols that produce other symbols

or thoughts), the power of effort or attention (nothing dissimilar to the denotative power

of words), and the power to be in two places at one time (just as 'six' can be written twice

a man, as essentially more than his corpus –"the organism is only an instrument of

thought"[116] – can exist in the mind of another man through the communication of his

feelings, intentions, and thoughts to the other).

> When I communicate my thought and my sentiments to a friend with
> whom I am in full sympathy, so that my feelings pass into him and I am
> conscious of what he feels, do I not live in his brain as well as my own –
> most literally? True, my animal life is not there but my soul, my feeling
> [,] thought [,] attention are. If this be not so, a man is not a word, it is
> true, but is something much poorer. There is a miserable material and
> barbarian notion that a man cannot be in two places at once; as though
> he were a *thing* ... Each man has an identity which far transcends the
> mere animal; an essence, a *meaning* subtile (sic) as it may be.[117]

Not only are a man and a word analogous, they affect one another through mutual

participation at the level of meaning.

> The man-sign acquires information, and comes to mean more than he
> did before. But so do words. Does not electricity mean more now than it
> did in the days of Franklin? Man makes the word, and the word means
> nothing which the man has not made it mean, and that only to some
> man. But since man can think only by means of words or other external
> symbols, these might turn round and say: "You mean nothing which we
> have not taught you, and then only so far as you address some word as
> the interpretant of your thought." In fact, therefore, men and words
> reciprocally educate each other; each increase of a man's information
> involves and is involved by, a corresponding increase of a word's
> information.[118]

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116. *CP* 5.315.
117. *CP* 7.591.
118. *CP* 5.313.

As Konstantin Kolenda has observed, "this metaphor might blossom into Heidegger's claim that it is language, not man, that speaks. 'In its essence, language is neither expression nor an activity of man. Language speaks.'"[119] Kolenda goes on to note that in their respective analyses of meaning, both Heidegger and Peirce emphasized the importance of the future. "Heidegger said that meaning 'gets its structure from a fore-having, a fore-sight, and a fore-conception.'"[120] Peirce, for his part, emphasized the future-oriented nature of meaning *vis à vis* the idealized community of inquirers.

> As what anything really is, is what it may finally come to be known in the ideal state of complete information, so that reality depends on the ultimate decision of the community; so thought is what it is, only by virtue of its addressing a future thought which is in its value as thought identical with it, though more developed. In this way, the existence of thought now depends … on the future thought of the community.[121]

Peirce came to the conclusion that "man is a sign" as early as 1868 and one might be tempted to gloss over it as merely incoherent metaphor, a weak analogy or perhaps the product of a subconscious indwelling of New England transcendentalism. Peirce acknowledged his proximity to Emerson's far-reaching influence and the bard of Concord was, in fact, a frequent visitor in Peirce's boyhood home.[122] While he was not aware of any such stimulus in his work, he left open the possibility of its presence as late as 1892.

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119. Konstantin Kolenda, "'Man is a Sign': Peirce and Heidegger," in *Proceedings of the C.S. Peirce Bicentennial International Congress*, eds. Kenneth L. Ketner, Joseph M. Ransdell, Carolyn Eisele, Max H. Fisch and Charles S. Hardwick (Lubbock: Texas Tech University Press, 1981), 228. Quote of Heidegger is from Martin Heidegger, *Poetry, Language, Thought,* trans. Albert Hofstadter (New York: Harper & Row, Publishers, 1971), 197.

120. Ibid., 227. Quote of Heidegger is from Martin Heidegger, *Being and Time*, trans. John Macquarrie and E. Robinson (New York: Harper & Row, Publishers, 1962), 193.

121. *CP* 5.316.

122. Brent, *Charles Sanders Peirce: A Life*, 45.

I was born and reared in the neighborhood of Concord – I mean
Cambridge – at a time when Emerson [F.H., son of Harvard logician
Levi], Hedge, and their friends were disseminating the ideas that they
had caught from Schelling, and Schelling from Plotinus, from Boehm, or
from God knows what minds stricken with the monstrous mysticism of
the East. But the atmosphere of Cambridge held many an antiseptic
against Concord transcendentalism; and I am not conscious of having
contracted any of that virus. Nevertheless, it is probable that some
cultured bacilli, some benignant form of the disease was implanted in
my soul, unawares, and that now, after long incubation, it comes to the
surface, modified by mathematical conceptions and by training in
physical investigations.[123]

Arthur Burks, the editor of volumes seven and eight of the *Collected Papers*, claimed that

it is precisely the tincture of Emersonian transcendentalism that renders Peirce's claim

that "man is a sign" incoherent. Only when the Emerson-like rhetorical veneer is stripped

away from this notion and its interpretation will we find "an intelligible and interesting

doctrine that fits well with the clear parts of Peirce's semiotic."[124] In doing so, Burks

discovers three standard rhetorical devices employed by Peirce that, when explained, lend

clarity to Peirce's declaration that "man is a sign."

The first of these devices, consisting of a number of steps, is a variety of weak

analogy termed a "stretched analogy" through which likeness is treated as transitive.

Burks explains how the device works.

Suppose A is like B, which is like C, which is like D. A may
nevertheless be unlike D, because the grounds of each of the likenesses
may be quite different. Without realizing it, Peirce stretched the analogy
between man and the word by employing a succession of analogies and
dropping the middle ones.[125]

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123. *CP* 6.102.
124. Arthur W. Burks, "Man: Sign or Algorithm? A Rhetorical Analysis of Peirce's Semiotics," in
Transactions of the Charles S. Peirce Society 16 (Fall 1980): 281.
125. Ibid., 284.

Thus, by employing a string of such transitions, Burks claims that Peirce is able to

conclude that a man and a sign are analogous. There is a problem with this interpretation,

however. In *CP* 7.590, Peirce makes it clear that "man is a sign" is metaphoric and no

mere simile. Commenting on Cuvier's claim that "metaphysics is nothing but metaphor,"

Peirce states that:

> If metaphor be taken literally to mean an expression of similitude when
> the sign of predication is employed instead of the sign of likeness – as
> when we say this man *is* a fox instead of this man is like a fox, I deny
> entirely that metaphysicians are given to metaphor; on the contrary, no
> writers can compare with them for precision of language; but if Cuvier
> was only using metaphor himself, and meant by metaphor broad
> comparison on the ground of characters of a formal and highly abstract
> kind, then, indeed, metaphysics professes to be metaphor – that is just its
> merit – as it was Cuvier's own merit in Zoölogy.[126]

Peirce clearly differentiated a certain kind of metaphor from simile and analogy. While

he had no formal theory of metaphor and provided few remarks on the subject, some of

those remarks are highly suggestive of a modern view of metaphor developed by I.A.

Richards and Max Black known as interactionism that attributes a dimension of creativity

generally lacking in similes and analogies, which tend to be purely isomorphic and

static.[127] Peirce scholar Carl Hausman summarizes Black's view of metaphor.

> (1) A metaphor is an expression that links two or more normally
> dissociated subject terms, or, generally, linguistic units, each with its
> own implied complex of meanings. (2) The subject terms interact so that
> their meanings make differences to one another. (3) The outcome of the
> interaction is a creation in that it presents new meaning, or a meaning-
> complex, that may offer insight.[128]

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126. *CP* 7.590.

127. I.A. Richards, *The Philosophy of Rhetoric* (Oxford: Oxford University Press, 1936); and Max Black, *Models and Metaphors* (Ithaca: Cornell University Press, 1962).

128. Carl R. Hausman, "Peirce and the Interaction View of Metaphor" in *Peirce's Doctrine of Signs*, eds. Vincent M. Colapietro and Thomas M. Olshewsky (Berlin and New York: Mouton De Gruyter, 1996), 194.

In his "Syllabus" of 1902, Peirce included the following footnote.

> If a logician had to construct a language *de novo* – which he actually has almost to do – he would naturally say, I shall need prepositions to express the temporal relations of *before, after,* and *at the same time with*, I shall need prepositions to express the spatial relations of *adjoining, containing, touching,* of *near to, far from, above, below, before, behind,* and I shall need prepositions to express motions into and out of these situations. For the rest, I can manage with metaphors.[129]

Prepositions are required to fulfill the Kantian requirement of placing objects in space, time, and motion while metaphors are the principle means of semantic innovation.[130] Judging from what he has said about the nature of signs, I do not believe that Peirce's claim that man is a sign is a mere analogy or elliptical simile. Such an interpretation would overlook the dynamic nature of signs, an understanding that is vital to Peirce's notion of self as well as signs. Selves and signs have the mode of being Thirds and, as such, are general.

> The very being of the general … is such that its being never can have been perfected. It always must be in a state of incipiency, of growth. It is like the character of man which consists in the ideas that he will conceive and in the efforts that he will make, and which only develops as the occasions actually arise. Yet, in all his life long no son of Adam has fully manifested what there was in him … This development … consists in embodiment, that is, in manifestation.[131]

As Peirce noted in *CP* 5.313, humans and words acquire information and come to mean more than they did. In the instance of the metaphor, "man is a sign," two subjects, "man" and "sign," interact to produce something novel to each. The metaphor itself is a sign of the creative process that is semiosis.

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129. *CP* 2.290n1.
130. R. Lance Factor, "Peirce's Definition of Metaphor and its Consequences," in Colapietro and Olshewsky, *Peirce's Doctrine of Signs*, 229.
131. *CP* 1.615.

The second rhetorical device Burks finds in Peirce's claim that "man is a sign" he terms "romanticized descriptions," by which he means "the use of descriptions with positive emotive effect." "Man is a sign" is, then, a romanticized description of "men use signs" or "man is an information processor."[132] Again, however, there is a problem with such an interpretation. There is, as we have witnessed, a school of interpretation that has sought to account for the incongruent elements in Peirce's thought by postulating "two Peirces," One Peirce is exemplified by writings of an empirical, naturalistic, and mathematical stripe and the other Peirce by a body of work bearing the marks of metaphysical, transcendentalist, and idealistic interests. These interpreters have tended to place the aphoristic "man is a sign" under the latter heading. While dismissive of the theory of the philosophical schizophrenic,[133] Burks accuses Peirce with being intentionally obscure as a way to amp up the emotional impact of the philosophical concept. In fact, Peirce had a well earned reputation as an accomplished lexicographer. He was responsible for hundreds of contributions to such publications as *Baldwin's Dictionary* and *The Century Dictionary and Cyclopedia*. He possessed a translator's knowledge of Greek, Latin, French, and German; demonstrated a genius for etymology and famously developed new terms from ancient roots as he indulged his passion for classification. His occasional turn of a phrase notwithstanding, Peirce was not given to the excessive use of emotive language, particularly at the cost of precision.

The third rhetorical device Burks calls "reality labels." "This is the rhetorical attribution of value to a mode of being by calling it "real," "substance," or "necessary,"

132. Burks, "Man: Sign or Algorithm?" 286.
133. Ibid., 279-80.

and calling less important modes of being by lesser names, such as "fact," "existence," "actual," "property," or "possible."[134] Burks charges Peirce with what we might call philosophical gerrymandering in the naming of his three categories.

> Thirdness is the highest, and it is called the "real." Secondness is second best, and it is called "existence" or "actuality." Firstness is mere "possibility." Signs and meanings are, of course, Thirdness, and semiotic is the highest of the sciences.[135]

What Burks is overlooking, however, is the way in which the categories originate and function.

Peirce's categories are, like Kant's, universal and necessary. Therefore, as in the case of Kant, they originate not only through observation -- for they are conditions by which inductive inference is made intelligible – but also through logic. They are, however, described phenomenologically by the means of "precision."[136] They serve as conditions of intelligibility for the purpose of reducing the manifold of sensuous impressions to unity and, in earliest iterations of the theory, are framed by the "it" in general, i.e., substance, and by the "is" in general, i.e., being, the condition for predication. The categories are ordered according to function, "for one such conception may unite the manifold of sense and yet another may be required to unite the conception and the manifold to which it is applied; and so on."[137] The emerging gradation is thus hierarchical, according to function. However, the categories cannot function

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134. Ibid., 287.
135. Ibid.
136. Carl R. Hausman, *Charles S. Peirce's Evolutionary Philosophy* (Cambridge, Cambridge University Press, 1997), 95ff.
137. *CP* 1.546.

independently of one another. The hierarchy is one of mutual dependence. If genuine, categories cannot be reduced to a lower-order category.[138] Thus, in the case of Thirdness:

> the first, the second, and the third are all three of the nature of thirds, or thought, while in respect to one another they are first, second, and third. The first is thought in its capacity as mere possibility; that is, mere *mind* capable of thinking, or a mere vague idea. The *second* is thought playing the role of Secondness, or event. That is, it is of the general nature of *experience* or *information.* The third is thought in its role as governing Secondness. It brings the information into the mind, or determines the idea and gives it body.[139]

To claim that "man is a sign" is merely to draw attention to his or her mode of being a general or a Third which does not cause the man to cease being an instance or a Second.

As we have seen, sensations and emotions, as signs, are representative responses to an object for Peirce. So, too, do aesthetic and moral feelings function primarily as interpretations of objects.

> Good and bad are feelings which first arise as predicates, and therefore are either predicates of the not-I, or are determined by the previous cognitions (there being no intuitive power of distinguishing subjective elements of consciousness) … That a sensation is not necessarily an intuition, or first impression of sense, is very evident in the case of the sense of beauty … When the sensation beautiful is determined by previous cognitions, it always arises as a predicate; that is, we think that something is beautiful. Whenever a sensation thus arises in consequence of others, induction shows that those others are more or less complicated.[140]

In this manner all thinking is in signs.

> Whenever we think, we have present to the consciousness some feeling, image, conception, or other representation, which serves as a sign. But it follows from our own existence … that everything which is present to us is a phenomenal manifestation of ourselves. This does not prevent its

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138. Hausman, *Charles S. Peirce's Evolutionary Philosophy*, 135.
139. *CP* 1.537.
140. *CP* 5.247, 291.

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being a phenomenon of something without us, just as a rainbow is at
once a manifestation both of the sun and of the rain.[141]

Thus, it is the case that "as the conscious life of man consists in the flux or rapid transition of mental states, each one a sign, Peirce made the appropriate move and affirmed that 'when we think … we ourselves, as we are at that moment, appear as a sign.'"[142]

In fact, however, it is as a particular type of sign that man appears; man is a symbol.[143] As we have learned, a symbol is a sign whose meaning is established by convention rather than by nature. Words are symbols whose essential meaning is ever changing and growing. The self, as a sign, is general. Man, as a symbol, is a sign whose meaning is continuously unfolding in the course of its interaction with others, a sign whose true meaning always lies in the future and can never be understood in the present. As a symbol, "a general idea, living and conscious now, [the self] is already determinative of acts in the future to an extent it is not now conscious."[144] As such, "[an individual] cannot know his own essential significance; of his eye it is eyebeam."[145] To do so, according to Harrison, would amount to pure self-consciousness which is what cannot be achieved.

This is so because thought "cannot happen in an instant" (*CP* 5.253) but
takes time (albeit an infinitesimal amount of time), which is but to say

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141. *CP* 5.283.
142. Peirce's words are from *CP* 5.283; Stanley M. Harrison, "Peirce on Persons," in *Proceedings of the Peirce Bicentennial Congress,* eds. Kenneth L. Ketner, Joseph M. Ransdell, Carolyn Eisele, Max H. Fisch and Charles S. Hardwick (Lubbock: Texas Tech University Press, 1981), 218.
143. *CP* 7.583.
144. *CP* 6.156.
145. *CP* 7.591, reference is to lines from Emerson's "Riddle of the Sphinx":
    "The old Sphinx bit her thick lip, / Said, "Who taught thee me to name? /
    I am thy spirit, yoke-fellow, / Of thine eye I am eyebeam."
    See also *CP* 1.310, 2.302, 7.425

that all cognition is by means of signs. In the case of pure self-consciousness, this means that to represent the sign I am at each moment as a sign, I must make it the object for a subsequent sign or thought. No object can be a sign and, at the same time, represent itself as a sign. Had Descartes understood this, there could have been no question about the possibility of immediately apprehending himself as substance or as anything else.[146]

To illustrate this very point, Harrison reminds us that Peirce had employed the analogy of a country upon which a map is placed. The map represents the topography of the country in every minute detail, down to the location of the map itself. "Thus there will be within the map, a map of the map, and within that, a map of the map of the map, and so on *ad infinitum*."[147] At no instant, then, are we able to be a sign and be present to ourselves as the sign that we are, anymore than the map can be a map and represent itself as a map. Thus are we consigned to ignorance regarding our essential self and remind ourselves, as Peirce reminded his readers, of Shakespeare's words from *Measure For Measure*:

> … proud man,
> Most ignorant of what he's most assured,
> His glassy essence.[148]

146. Harrison, "Peirce on Persons," 219.
147. *CP* 5.71.
148. *CP* 5.317; see also *CP* 7.585.

Chapter Five

Ineluctable Dualisms and the Limits of Synechism

Logic depends on a mere struggle to escape doubt, which,
as it terminates in action, must begin in emotion…
--Peirce, *Collected Papers*

A. <u>Pragmatisms: Peirce and James</u>

In the autumn of 1902, while James was actively negotiating with the Harvard

Corporation for a series of paid lectures for his impoverished and, by that time, suicidal

friend, Peirce penned a long letter to his benefactor in which he proclaimed a recent

breakthrough in his thinking on pragmatism. In part, he wrote:

> I seem myself to be the sole depository at present of the completely
> developed system [of pragmatism], which all hangs together and cannot
> receive any proper presentation in fragments. My own view in 1877 [in
> the essay "The Fixation of Belief" for *Popular Science Monthly*] was
> crude. Even when I gave my Cambridge lectures [in 1898] I had not
> really got to the bottom of it or seen the unity of the whole thing. It was
> not until after that that I obtained the proof that logic must be founded
> on ethics, of which it is a higher development. Even then, I was for some
> time so stupid as not to see that ethics rests in the same manner on a
> foundation of esthetics … These three normative sciences correspond to
> my three categories, which in their psychological aspect, appear as
> Feeling, Reaction, Thought … The true nature of pragmatism cannot be
> understood without them. It does not, as I seem to have thought at first,
> take Reaction as the be-all, but it takes the end-all as the be-all, and the
> End is something that gives its sanction to action. It is of the third
> category. Only one must not take a nominalistic view of Thought as if it
> were something that a man had in his consciousness. Consciousness may

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Epigraph. CP 2.655.

mean any one of the three categories. But if it is to mean Thought it is more without us than within. It is we that are in it, rather than it in any of us … This then leads to synechism, which is the keystone of the arch.[1]

In the same letter Peirce wrote, "I think I could satisfy you that your view of pragmatism requires some modification, that it is the logical basis and proof of it (and it can receive no sound support from psychology) and its relation to the categories that have first to be made clear before it can be accurately applied except in very simple ways."[2] The richness of this letter is evidenced by the inclusion of several important themes from Peirce's later thinking that were then taking shape and that he clearly saw differentiating his own brand of pragmatism from that of James's more popular version of the same name. In this way, Peirce was giving an account of his own philosophical development that had recently undergone tremendous ferment, in his endeavor to ground logic as a science and thereby establish pragmatism as a logical maxim.[3] This lead to the notion that logic was dependent upon ethics and ethics, in turn, was dependent upon aesthetics. During this same period, Peirce had been developing the notion of synechism, first suggested in 1892,[4] as the synthesis of tychism - the notion that chance is operative in the world-- and pragmatism.[5] "The word *synechism* is the English form of the Greek

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1. Ignas K. Skrupskelis and Elizabeth M. Berkeley, eds., *Correspondence of William James* (Charlottesville and London: University Press of Virginia, 2002), 10:157-158.

2. Charles Sanders Peirce, *Pragmatism as a Principle and Method of Right Thinking: The 1903 Harvard Lectures on Pragmatism,* ed. Patricia Ann Turrisi (Albany: The State University of New York Press, 1997), 28. This portion of the letter of November 25, 1902 is not included in Skrupskelis and Berkeley.

3. Patricia Ann Turrisi, "Commentary," in Charles Sanders Peirce, *Pragmatism as a Principle and Method of Right Thinking*, 26.

4. *CP* 6.103.

5. *CP* 4.584.

συνεχισμός , [synechismos], from συνεχής , [synechés] continuous," the Greek word

meaning continuity of parts brought about by surgery.[6]

In the first of a series of five essays written for the *Monist* during the early 1890s,

Peirce attempted to explain the propriety of the architectonical approach to philosophical

systems commended by Kant.

> That systems ought to be constructed architectonically has been
> preached since Kant, but I do not think the full import of the maxim has
> by any means been apprehended. 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.[7]

In 1896, in another essay for the *Monist,* Peirce exposited the structure formed by the

sciences and the corollary assumption that there is an order to human knowledge.

> This double assertion, first, that logic ought to draw upon mathematics
> for control of disputed principles, and second that ontological
> philosophy ought in like manner to draw upon logic, is a case under a
> general assertion which was made by Auguste Comte, namely, that the
> sciences may be arranged in a series with reference to the abstractness of
> their objects; and that each science draws regulating principles from
> those superior to it in abstractness, while drawing data for its inductions
> from the sciences inferior to it in abstractness.[8]

The place of logic was at this time, for Peirce, central. "Logic seeks to show how truth

might be attained; all other sciences comprise the various divisions of the attempt to

reach the truth. Peirce thus thought that a systematic study of logic would result from an

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6. *CP* 5.565, 5.565n28.
7. *CP* 6.9.
8. *CP* 3.427.

examination of its relation to these other sciences, of their relations to one another, and of the assistance they render to one another."[9] According to Murphey, it was around this time, in a lengthy paper entitled the "Logic of Mathematics,"[10] that Peirce began to work on a more detailed schema of the sciences that resulted in the intricate classification of 1902 in which, as we can see from the letter to James, pragmatism, the categories and the normative sciences are integral to one another.[11]

The problem was that pragmatism, as a maxim of logic, originated as a means of escaping the irritation of doubt and obtaining satisfaction through the settlement of belief as the clarification of ideas, thus enabling us to establish habit and "predict what sensible experiences we will receive from an object as a consequence of actions of our own."[12] As Peirce expressed in the letter to James and often acknowledged in his later writings, the expression of pragmatism in the 1877-78 *Illustrations of the Logic of Science* series of essays for *Popular Science Monthly* was crude. In the first of the Harvard Lectures of 1903, he wrote:

> My original article ["How to Make Our Ideas Clear"] carried this back
> to a psychological principle. The conception of truth, according to me,
> was developed out of an original impulse to act consistently, to have a
> definite intention. But in the first place, this was not very clearly made
> out, and in the second place, I do not think it satisfactory to reduce such
> fundamental things to facts of psychology. For man could alter his
> nature, or his environment would alter it if he did not voluntarily do so,
> if the impulse were not what was advantageous or fitting. Why has
> evolution made man's mind to be so constructed? That is the question

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9. Beverly Kent, *Charles S. Peirce: Logic and the Classification of the Sciences* (Kingston and Montreal: McGill-Queen's University Press, 1980), 54-5.
10. *CP* 1.417-520.
11. Murphey, *The Development of Peirce's Pragmatism,* 356.
12. Ibid., 159.

we must nowadays ask, and all attempts to ground the fundamentals of logic on psychology are seen to be essentially shallow.[13]

That is to say, the early expression of pragmatism, as one aspect of the doubt-belief theory of inquiry, smacked of psychologism, a term that Peirce never used but clearly understood as "any attempt to ground philosophical explanation in psychological phenomena"[14] and, as such, not only shallow but threatening to his attempt to establish logic as an autonomous science of inquiry and as *the* classifying science.

Thus, as Murphey and others have demonstrated, there is to be found within Peirce's work a tension, if not a gulf, between the architectonic attempt to establish logic on a non-sensational foundation and the doubt-belief theory of inquiry, a tension that he expended considerable effort attempting to resolve during his final years. If pragmatism is a regulative principle of logic, it cannot be derived from psychology or physiology.[15] This chapter will examine this incongruity as it is manifested in ostensibly opposed and seemingly irreconcilable statements on matters of theory and practice, reason and sentiment, and conscious and unconscious inference that are prevalent and often contemporaneous in Peirce's work. Our capacity to understand the proper function of the passional within the cognitive process rests, in part, on our ability to reconcile these apparent antinomies within Peirce's writings.

Peirce's ongoing effort to overcome these internal problems brought his differences with James into sharper relief, as can be seen in the letter quoted above. Not

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13. *CP* 5.28.

14. Dale Jacquette, Introduction, *Philosophy, Psychology, and Psychologism,* ed. Dale Jacquette (Dordrecht: Kluwer Academic Publishers, 2003), 2.

15. Max Fisch, "The 'Proof' of Pragmatism," in *Peirce, Semeiotic, and Pragmatism: Essays by Max H. Fisch*, eds. Kenneth Laine Ketner and Christian J. W. Kloesel (Bloomington: Indiana University Press, 1986), 365.

only does Peirce declare he has "proof" of the dependence of logic upon ethics for regulative principles of good and bad and ethics, in turn, upon aesthetics for its notion of the *summum bonum*, he affirms the correspondence of these three "normative sciences" to his three categories, without which pragmatism cannot be "truly" understood. It is through the normative sciences that Peirce can speak of the ends of reason as regulated thought, as thought brought under self-control, while James, having understood pragmatism as authorizing action as an end in itself, finds Peirce insisting that only thought, as general, can sanction action. Action is Second, thought is Third; he claimed we are closer to the truth to say that we are in Thought rather than Thought in us. James's pragmatism had been weighed in the balance by Peirce and found wanting. It was paltry, individualistic, psychologistic, and materialistic. Synechism, for Peirce, was the linchpin of pragmatism, a doctrine that allowed him to understand reason as self-controlled thought and thus as a type of purposive action. Synechism was the path to unity that could, to Peirce's mind, explain the seemingly contrary streams in his thought and harmonize the dissonance of the architectonic classification of the sciences and the doubt-belief theory of inquiry. Whether he succeeded in achieving this has long been debated. Murphey believes, as I do, that ultimately the principle of continuity failed him. Peirce, for his part, always seemed to understand what was at stake: "[Synechism] is a damned easy way of explaining things, my critics will say … Good, I applaud this objection; and if I do not answer it satisfactorily set me down as a failure if not a humbug."[16]

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16. "Logic of Events. Continuity the Master Key," *MS* 949. Quoted in Murphey, *The Development of Peirce's Pragmatism*, 406.

The balance of this chapter will examine the means by which Peirce and his

interpreters have attempted to overcome the incongruence of component themes within

his philosophy resulting from, as Murphey has argued, the incompatibility of his

commitment to both the architectonic structure of philosophy and the doubt-belief theory

of inquiry. It is in some measure, as Murphey has suggested, the story of the refinement

of one pragmatism (Peirce's) through the suggestions provided by the formulations of

another (James's). This enrichment was aided by the maturing of Peirce's doctrine of

self-control, which will be examined in the last section.

B. The Bane of Pragmatism

As has often been recounted, the origin of pragmatism can be traced to Peirce's

1877-8 *Illustrations of the Logic of Science* series of essays for *Popular Science Monthly*.

In the second of those articles, "How to Make Our Ideas Clear," he issued the first

iteration of the pragmatic maxim.

> 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.[17]

In a long footnote to this statement, written in 1903, Peirce drew attention to the fact that

"in these three lines one finds, 'conceivably, 'conceive,' 'conception,' 'conception,'

'conception,'" and argued that since he was not stylistically inclined to the repetition of

terms:

> This employment fives times over of derivates of *concipere* must then
> have had a purpose. In point of fact, it had two. 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

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17. *CP* 5.402.

attempting to explain a concept by percepts, images, schemata, or by anything but concepts. I did not, therefore, mean to say that acts, which are more strictly singular than anything, could constitute the purport, or adequate proper interpretation, of any symbol. I compared action to the finale of the symphony of thought, belief being a demi-cadence. Nobody conceives that the few bars at the end of a musical movement are the *purpose* of the movement. They may be called its upshot. But the figure would not bear detailed application. I only mention it to show that the suspicion I myself expressed (Baldwin's *Dictionary* Article, *Pragmatism*) after a too hasty rereading of the forgotten magazine paper ["How to Make Our Ideas Clear"], that it expressed a stoic, that is, a nominalistic, materialistic, and utterly philistine state of thought, was quite mistaken.[18]

The point in fact, however, is that Peirce, as we have noted, had sensed that the original enouncement of this regulative principle had come very near resting logic upon perception and many commentators have detected some evidence of psychologism in the two essays of the *Illustrations of the Logic of Science* that serve as pragmatism's "birth certificate." Later iterations of the maxim and subsequent attempts to explain the original formulation did not entirely remove the whiff of psychologism.

First, there was Peirce's account of the Metaphysical Club meetings of the early 1870s and the admission that pragmatism was "scarce more than a corollary"[19] to Bain's definition of belief that Nicholas St. John Green had brought to the attention of the group. In an unpublished letter to the editor of *The Sun* Peirce remembered:

> Green was especially impressed with the doctrines of Bain and impressed the rest of us with them; and finally the writer of this brought forward what we called the principle of pragmatism …The particular point that had been made by Bain and that had most struck Green and through him the rest of us, was the insistence that what a man really believes is what he would be ready to act upon and to risk much upon. *The writer endeavored to weave that truth in with others which he had*

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18. *CP* 5.402n3.
19. *CP* 5.12.

made out for himself, so as to make a consistent doctrine of cognition
[emphasis in Peirce].[20]

Secondly, there was Peirce's linkage of pragmatism with the logic of abduction. In the 1903 Harvard Lectures, Peirce laid out three cotary propositions of pragmatism.[21] The first was the Aristotelian doctrine, *Nihil est in intellectu quod non prius fuerit in sensu.*[22] The second was "that perceptual judgments contain general elements, so that universal propositions are deducible from them in the manner in which the logic of relations shows that particular propositions usually, not to say invariably, allow universal propositions to be necessarily inferred from them."[23] And the third of these propositions was that:

> [A]bductive inference shades into perceptual judgment without any sharp line of demarcation between them; or, in other words, our first premises, the perceptual judgments, are to be regarded as an extreme case of abductive inferences, from which they differ in being absolutely beyond criticism. The abductive suggestion comes to us in a flash. It is an act of *insight*, although of extremely fallible insight. It is true that different elements of the hypothesis were in our minds before; but it is the idea of putting together what we had never before dreamed of putting together which flashes the new suggestion before our contemplation.[24]

Complicating the delineation of abductive inference and perceptual judgment is Peirce's distinction of perceptual judgment and percepts which are considered to be as unlike "as the printed letters in a book, where a Madonna of Murillo is described, are unlike the picture itself."[25] There are general elements in perceptual

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20. *MS*, 325. Quoted in Fisch, *Peirce, Semeiotic, and Pragmatism, Essays by Max H. Fisch,* 95.
21. In *CP* 5.180 Peirce wrote: "*Cos, cotis,* is a whetstone. [Cotary propositions] appear to me to put the edge on the maxim of pragmatism."
22. *CP* 5.181.
23. Ibid.
24. Ibid.
25. *CP* 5.54.

judgments which as "the first premises of all our reasonings,"[26] "the first judgment of a person as to what is before his senses"[27] are unlike the percepts from which they are formed. The percept, as the sense-image reacting upon the mind, is singular and indexical,[28] though in some places, e.g. *CP* 6.542, Peirce seems to suggest that even the percept contains a general element.[29] In the final analysis, the only significant difference between perceptual judgments and hypotheses are that the former are "not controllable [thus beyond criticism] and therefore not fully conscious."[30]

Later in the 1903 lectures, Peirce proclaimed that "If you carefully consider the question of pragmatism you will see that it is nothing else than the question of the logic of abduction. That is, pragmatism proposes a certain maxim which, if sound, must render needless any further rule as to the admissibility of hypotheses to rank as hypotheses, that is to say, as explanations of phenomena held as hopeful suggestions; and, furthermore, 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."[31] The problem for Peirce, as we shall investigate in the next chapter, was that abduction (alternately termed retroduction or hypothesis), the third of three types of reasoning employed by humans, was sometimes defined by Peirce as guessing and described as an instinct we share with animals.[32] As Thomas Sebeok points out, Peirce's "abduction is an instinct

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26. *CP* 5.116.
27. *CP* 5.115.
28. *CP* 5.151-2, 7.633.
29. For a thorough discussion of Peirce's somewhat convoluted theory of perception see Sandra Rosenthal, "Peirce's Pragmatic Account of Perception: Issues and Implications," in *The Cambridge Companion to Peirce*, ed. Cheryl Misak (Cambridge: Cambridge University Press, 2004), 193-213.
30. *CP* 5.181.
31. *CP* 5.196.
32. Charles Sanders Peirce, "Guessing," *The Hound & Horn* 2 (Spring 1929): 267-285.

which relies on unconscious perception of connections between aspects of the world …

[or] subliminal communication of messages."[33] Abduction also produces emotion and,

Peirce asserts, hypothetic inference is essentially an emotion.

> Hypothesis substitutes, for a complicated tangle of predicates attached to one subject, a single conception. Now, there is a peculiar sensation belonging to the act of thinking that each of these predicates inheres in the subject. In hypothetic inference this complicated feeling so produced is replaced by a single feeling of greater intensity, that belonging to the act of thinking the hypothetic conclusion. Now, when our nervous system is excited in a complicated way, there being a relation between the elements of the excitation, the result is a single harmonious disturbance which I call an emotion. Thus, the various sounds made by the instruments of an orchestra strike upon the ear, and the result is a peculiar musical emotion, quite distinct from the sounds themselves. This emotion is essentially the same thing as an hypothetic inference, and every hypothetic inference involves the formation of such an emotion. We may say, therefore, that hypothesis produces the *sensuous* element of thought, and induction the *habitual* element.[34]

Here the relationship between a hypothesis and an emotion is one of identity rather than

the one of analogy which we saw in *CP* 5.292. Both are the substitution of a simple

predicate for a more complex predicate by an operation of the mind. As we also noted in

chapter three, music is a sign and often served Peirce as an example of an immediate or

emotional interpretant. Finally, instinct is sometimes equated with sentiment in Peirce's

writings.[35] Thus in the logic of abduction we find a blurring of the distinctions Peirce

makes elsewhere between theory and practice, reason and sentiment, and conscious and

unconscious inference so that for Peirce even reason and instinct are continuous – they

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33. Thomas Sebeok, *The Play of Musement* (Bloomington: Indiana University Press, 1981), 27.
34. *CP* 2.643.
35. For example, *CP* 1.63, 1.634, 1.637, 1.648,

"shade into one another by imperceptible graduations."[36] Moreover, he notes, "how fine

are the gradations between subconscious, or instinctive, mind and our more conscious

and more controlled reason."[37]

Pragmatism began life not only as a regulative principle of logic but, as Murphey

points out, simply a single aspect of a theory of inquiry in which the sole purpose of

inquiry is the establishment of belief as a means to overcoming doubt. This duality of

purpose seems to undercut the unity of Peirce's philosophy and his resistance to the

"disposition to make psychology the key to philosophy."[38] Moreover, in retrospect,

Peirce felt the whole premise of "The Fixation of Belief" seemed precariously close to a

petitio principii.

> My original essay, having been written for a popular monthly, assumes,
> for no better reason than that real inquiry cannot begin until a state of
> real doubt arises and ends as soon as Belief is attained, that "a settlement
> of Belief," or, in other words, a state of *satisfaction,* is all that Truth, or
> the aim of inquiry, consists in. The reason I gave for this was so flimsy,
> while the inference was so nearly the gist of Pragmaticism, that I must
> confess the argument of that essay might with some justice be said to
> beg the question.[39]

As a corrective, Peirce was moved to establish a place within the sciences wherein logic

would not be subsumed under any other science, especially psychology, and thus be

treated, as had Aristotle, as an organon.[40] Before examining the contrary positions

created by the dual purpose of pragmatism, we should briefly examine Peirce's

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36. *MS* 1101:2, quoted by Maryann Ayim in "Theory, Practice and Peircean Pragmatism" in *Proceedings of the C.S. Peirce Bicentennial International* Congress, eds. Kenneth L. Ketner, Joseph M. Ransdell, Carolyn Eisele, Max H. Fisch and Charles S. Hardwick (Lubbock: Texas Tech University Press, 1981), 51.
37. *MS* 831:2, quoted by Maryann Ayim in "Theory, Practice and Peircean Pragmatism."
38. *CN* 3:128.
39. *CP* 6.485.
40. *CP* 2.547.

opposition to psychologism as the impetus for development of his classification of the sciences as well as refinement of his theory of signs.

As clearly as any of his critics, Peirce saw the doubt-belief theory of inquiry, with its unavoidable reference to mental states, as jeopardizing logic. Having publicly declared in 1903 that pragmatism is "scarce more than a corollary to Bain's definition of belief"[41] and that "*belief* consists mainly in being deliberately prepared to adopt the formula believed in as a guide to action,[42] Peirce was serving notice that the passage of thirty years since the *Popular Science Monthly* series had done little to alter the core of his original formulation as a means to ending the irritation of doubt by obtaining a state of belief,[43] the essence of which is the establishment of a habit.[44] In 1906, he wrote:

> It is ... no doubt true that men act, especially in the action of inquiry, *as if* their sole purpose were to produce a certain kind of feeling, in the sense that when that state of feeling is attained, there is no further effort. It was upon that proposition that I originally based pragmaticism, laying it down in the article that in November 1877 [The Fixation of Belief] prepared the ground for my argument for the pragmaticistic doctrine (*Pop. Sci. Monthly* for January, 1878) [How to Make Our Ideas Clear]. In the case of inquiry, I called that state of feeling "firm belief," and said, "As soon as a firm belief is reached we are entirely satisfied, whether the belief be true or false," and went on to show how the action of experience consequently was to create the conception of real truth… 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 … 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

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41. *CP* 5.12.
42. *CP* 5.27.
43. *CP* 5.374.
44. *CP* 5.398.

overwhelmingly forced upon the mind in experience as the effect of an
independent reality.[45]

In the original essays of 1877-8, Peirce had defined inquiry in terms of a struggle,

declaring "The irritation of doubt causes a struggle to attain a state of belief. I shall term

this struggle *Inquiry*."[46] This struggle, as he labored to explain, was quite visceral in

nature.

> Belief does not make us act at once, but puts us into such a condition
> that we shall behave in a certain way, when the occasion arises. Doubt
> has not the least effect of this sort, but stimulates us to action until it is
> destroyed. This reminds us of a nerve and the reflex action produced
> thereby; while for the analogue of belief, in the nervous system, we must
> look to what are called nervous associations – for example, to that habit
> of the nerves in consequence of which the smell of a peach will make
> the mouth water.[47]

Repeatedly, he established the settlement of belief as the sole end of inquiry and the sole

means of overcoming the irritation of an undecided state of mind. Only then do we obtain

the satisfaction of established habits of action. Peirce's doubt-belief theory of inquiry can

be roughly summed up in a few short passages. In each instance, the date of publication is

given to further show that the doubt-belief theory was a position he held throughout his

long career.

> The irritation of doubt is the only immediate motive for the struggle to
> attain belief … With the doubt, therefore, the struggle begins, and with
> the cessation of doubt it ends. Hence, the sole object of inquiry is the
> settlement of opinion.[48]

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45. *CP* 5.563-564.
46. *CP* 5.374.
47. *CP* 5.373.
48. *CP* 5.375 (1877).

… the action of thought is excited by the irritation of doubt, and ceases when belief is attained; so that the production of belief is the sole function of thought.[49]

And what, then, is belief? It is the demi-cadence which closes a musical phrase in the symphony of our intellectual life. We have seen that it has just three properties: First, it is something that we are aware of; second, it appeases the irritation of doubt; and, third, it involves the establishment in our nature of a rule of action, or, say for short, a *habit*.[50]

The essence of belief is the establishment of a habit, and different beliefs are distinguished by the different modes of action to which they give rise. If beliefs do not differ in this respect, if they appease the same doubt by producing the same rule of action, then no mere differences in the manner of consciousness of them can make them different beliefs, any more than playing a tune in different keys is playing different tunes.[51]

[Readiness] to act in a certain way under given circumstances and when actuated by a given motive is a habit; and a deliberate, or self-controlled, habit is precisely a belief.[52]

Belief is not a momentary mode of consciousness; it is a habit of mind essentially enduring for some time, and mostly (at least) unconscious; and like other habits, it is (until it meets with some surprise that begins its dissolution) perfectly self-satisfied. Doubt is of an altogether contrary genus. It is not a habit, but the privation of a habit. Now a privation of a habit, in order to be anything at all, must be a condition of erratic activity that in some way must get superseded by a habit.[53]

Of course, as David Savan reminds us, "some beliefs are unsettling, and some doubts relax. Think, for example, of the belief that danger or pain lie ahead, and the calming effect of doubt upon that belief."[54] The point Peirce is making, however, is that both

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49. *CP* 5.394 (1878).
50. *CP* 5.398 (1878).
51. Ibid.
52. *CP* 5.480 (1907).
53. *CP* 5.417 (1905).
54. David Savan, "Decision and Knowledge in Peirce," in *Transactions of the Charles S. Peirce Society* 1 (1965): 37-8.

belief and doubt are sensational in nature and that they constitute modes of action and

actions that tend toward regularity under prescribed conditions are habits.

What had changed for Peirce was that James' address "Philosophical Conceptions

and Practical Results," delivered to the Philosophical Union at Berkeley in during the

summer of 1898, had introduced the world to the term 'pragmatism' and to Peirce, as its

inventor, though he had never used the word in print, even in 1878. "For Peirce,

'pragmatism' was simply one aspect of the doubt-belief theory of inquiry, and it was not

a sufficiently important aspect to justify the use of a separate name."[55] But James gave

him the credit and now Peirce was in a bind.

> He was in desperate financial straits. The ever loyal James had once
> again come to the rescue in an hour of dire need, and had given him a
> chance not just for fame but for money which that fame could bring
> through articles and lectures. For personal and financial reasons,
> therefore, Peirce could not disown the doctrine; nor could he honestly
> embrace it without qualification. And as controversy – and therefore
> interest – gathered about the doctrine, and as James, and subsequently
> Dewey and Schiller, made their interpretation of it more explicit, Peirce
> was more and more compelled to dissociate himself from the school, to
> stress the differences between his doctrines and theirs – even going so
> far as to invent a new name, "pragmaticism," for his own doctrine – and
> yet to use the notoriety which he had acquired as the inventor of
> pragmatism to publicize the aspects of his work which he considered
> important and to try to make enough money to keep the wolf a little
> longer from the door.[56]

The subsequent and dramatic reformulation of Peirce's thoughts, especially in regard to

the classification of the sciences, the theory of signs and the deliberate subsuming of

logic under semeiotic was, in no small part, due to his strong distaste for what he felt to

be the narrow, popular doctrines of James, Schiller and Dewey that he believed himself to

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55. Murphey, *The Development of Peirce's Pragmatism,* 358.
56. Ibid., 358-9.

have unintentionally inspired. The apostasy common to all three was, for Pierce, rooted in

psychologism.

James' 1907 collection of popular lectures entitled *Pragmatism* was dedicated

> TO THE MEMORY OF JOHN STUART MILL
> FROM WHOM I FIRST LEARNED THE
> PRAGMATIC OPENNESS OF MIND
> AND WHOM MY FANCY LIKES TO PICTURE AS
> OUR LEADER
> WERE HE ALIVE TO-DAY

For Peirce, Mill's work was the culmination of a movement with a long history, namely

> [T]he disposition to make psychology the key to philosophy –
> categories, aesthetics, ethics, logic, and metaphysics. Something of it has
> existed since Descartes; but since about 1863 every student of
> philosophy, even though he be one of those who consider the present
> psychological tendency excessive, has placed a new and higher estimate
> than before upon the scientific value of psychology. Here was seen one
> science, than which no branch of philosophy, in the days when men
> disputed about the *primum cognitum*, was more enveloped in
> metaphysical fog, which yet suddenly, that mist lifting, had come out
> bright and clear as a June forenoon. How could that but happen, as it
> certainly did, that men should think that the best way to resolve any
> problem of philosophy would be to reduce it to a question of
> psychology?[57]

Mill's polemical *Examination of Sir William Hamilton's Philosophy* appeared in 1865.[58]

There Mill had written that:

> Logic is not a science distinct from and coordinate with, Psychology. So
> far as it is a science at all, it is a part, or branch of Psychology; differing
> from it, on the one hand as a part differs from the whole, and on the
> other, as an Art differs from a Science. Its theoretical grounds are wholly
> borrowed from Psychology, and include as much of that science as is
> required to justify the rules of the art. Logic has no need to know more
> than of the Science of Thinking, than the difference between good
> thinking and bad. A consequence of this is, that the Necessary Laws of

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57. *CP* 8.167.
58. J.S. Mill, *Examination of Sir William Hamilton's Philosophy* (London: Longmans, Green, & Company, 1865).

Thought … are precisely those with which Logic has least to do, and which belong the most exclusively to Psychology.[59]

For Peirce, no less than for his contemporaries Frege and Husserl, Mill was seen as "part of a tradition and, in crucial respects, as the distillation of the principal methodological commitments of the British empiricist tradition and, closely allied with this, British associationist psychology (e.g., David Hartley, Thomas Brown, and of course James Mill as well as his son John Stuart)."[60] Peirce's antipathy toward this treatment of logic as psychology ran deep. Such treatments "draw no line between an association of ideas which leads to truth, from some recondite cause, and that which does so upon a principle which we are aware of."[61]

It is arguable that Peirce's anti-psychologism is traceable to his earliest published writings of the mid-1860s[62] and, thus, that the psychologism of the *Illustrations* is apparent only, the result of writing for an audience of philosophical laity represented by the readership of *Popular Science Monthly,* and the attempt to root inquiry in the psychological states of belief and doubt.[63] The theory of signs, as well as the system of categories, so central to the discussion of psychological states in the 1868-9 Cognition Series in the *Journal of Speculative Philosophy*, is entirely missing from the six essays of the *Illustrations of the Logic of Science.* An obvious explanation might be that Peirce viewed his semiotic as beyond the grasp of such an audience. In a revealing letter to Lady

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59. J.S. Mill, *Examination of Sir William Hamilton's Philosophy*, 6th ed. (London: Longmans, Green, and Company., 1889), 461-2.

60. Vincent Colapietro, "C.S. Peirce's Critique of Psychologism," in *Philosophy, Psychology and Psychologism,* ed. Dale Jacquette (Dordrecht: Kluwer Academic Publishers, 2003), 161.

61. *W* 1:410.

62. See Jeff Kasser, "Peirce's Supposed Psychologism," see Arisbe website: http://www.cspeirce.com/menu/library/aboutcsp/kasser/psychol.htm (accessed August 2008).

63. Max H. Fisch, "An Unpsychological View of Logic," Peirce, *Writings of Charles S. Peirce*, eds. Peirce Edition Project (Bloomington: Indiana University Press, 1982), 1:305-322.

Welby in 1908, Peirce owned that his definition of a sign had lately and necessarily been popularized but only at the risk of introducing psychological factors.

> I define a Sign as anything which is so determined by something else, called its Object, and so determines an effect *upon a person*, which effect I call its Interpretant, that the latter is thereby mediately determined by the former. My insertion of "upon a person" is a sop to Cerberus, because I despair of making my own broader conception understood.[64]

Being abstruse to the masses, however, was only a measure of Peirce's discouragement; he despaired of ever being comprehensible to his peers. There was, as Max Fisch suggests, another possible motive. "If we recall that the original motive of subsuming logic under semeiotic in 1865 was to avoid basing it on psychology, we can give a tentative and at least partial answer: The sop to Cerberus was lapsing from sign-talk into psych-talk – from semeiotic into psychology."[65] Thus, it may be suggested, the notion of an "effect upon a person" in this definition of a sign is the analogue to the practical effects of the original pragmatic formula.

As we've noted, James, like J.S. Mill and Alexander Bain before him, was profoundly influenced by Thomas Brown. The effect of Brown's thoroughgoing naturalism can be clearly seen not only in James' psychology but in his pragmatism with its emphasis on the individual's flow of experience and its activity. "Self-identity [for Brown] becomes essentially a set of *my* memories having coherence in change, in just the

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64. Charles S. Hardwick, ed., *Semiotic and Significs: The Correspondence between Charles S. Peirce and Victoria Lady Welby* (Bloomington: Indiana University Press, 1977), 80-1 (italics mine).

65. Max H. Fisch, *Peirce, Semeiotic, and Pragmatism: Essays by Max H. Fisch,* eds. Kenneth Laine Ketner and Christian J.W. Kloesel (Bloomington: Indiana University Press, 1986), 343.

way objects have a kind of permanence even when they are altering through time."[66] For Peirce, such individualism cannot help but be psychologistic from the standpoint that according to this view, generality is merely the regularity of experience that extends over feelings as well as cognitions of experiencing individuals. Any meaningful notion of law as governing thought is hostage not only to possible differences in how two or more individuals experience the same phenomenon but how a single individual experiences a given phenomenon at different times. The laws of logic, therefore, can be nothing more than regularities in experience ascertained in contiguity, cause and effect, and resemblance, and thereby contrived and contingent.

Peirce's assertion that apart from whatever else anything may be, it is also a sign and that 'sign' is the ultimate and irreducible category presages his gradual movement away from the language of psychology and physiology and increasing focus on the classification of sciences that began around 1880.[67] He came at last to a clearly articulated position that logic and psychology have little common interest. In his 1902 grant application to the Carnegie Institution he wrote:

> If the logician is to talk of the operations of the mind at all … he must mean by "mind" something quite different from the object of study of the psychologist … Logic will here be defined as *formal semiotic.* A definition of a sign will be given which no more refers to human thought than does the definition of a line as the place which a particle occupies, part by part, during a lapse of time.[68]

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66. Elizabeth Flower, "Some Interesting Connections between the Common Sense Realists and the Pragmatists, especially James," in *Two Centuries of Philosophy in America*, ed. Peter Caws (Totowa, New Jersey: Rowman & Littlefield, 1980), 102.

67. Fisch, *Peirce, Semeiotic and Pragmatism: Essays of Max H. Fisch,* 369.

68. *NEM* 4:20.

Yet, little of real essence had changed for Peirce since 1865 when he had declared "Logic

has nothing at all to do with operations of the understanding, acts of the mind, or facts of

the intellect."[69] What Peirce was actually attempting to discriminate in both of these

instances is *thinking* from *thought,* a distinction he made elsewhere where thinking is the

domain of psychology and thought that of logic, i.e., semiotic. In a later manuscript

Peirce elaborated on the distinction.

> 'Thinking' is a fabled 'operation of the mind' by which an imaginary
> object is brought before one's gaze. If that object is a Sign upon which
> an argument may turn, we call it a Thought. All that we know of the
> 'Thinking' is that we afterwards remember that our attention was
> actively on the stretch, and that we seemed to be creating Objects of
> Transformations of Objects which noting their analogy to something
> supposed to be real, we choose to call an 'operation of the mind'; and we
> are, of course, quite justified in doing so … The 'operation of the mind'
> is an *ens rationalis*. This is my insufficient excuse for speaking of it as
> 'fabled.'[70]

We do not directly observe ourselves thinking. Peirce was adamant; we have no power of

introspection. All we know of the mental processes of thinking is what we remember of

the objects of its production. "It is a guess," says Colapietro, "put forth as a way of

explaining the conjuring and transformation of objects in our imaginations."[71] Thought,

conceived in general terms, applies to the treatment of the imaginary objects produced by

our thinking, i.e. semiosis. This basic distinction gave rise to the thesis that semiotic is

normative while psychology is descriptive, a notion found at the heart of the taxonomy of

sciences.

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69. *W* 1:165.

70. *MS* 293, 5-6, circa 1906. Quoted in Colapietro, "C.S. Peirce's Critique of Psychologism," 166.

71. Colapietro, "Peirce's Critique of Psychologism," 166.

C. Peirce's Classification of the Sciences

As a working scientist, Peirce had a long standing interest in classification. As early as his first series of Lowell lectures, delivered in 1866, Peirce had produced an inchoate classification of the sciences.[72] At least one other attempt followed in 1878.[73] Beginning in 1892, Peirce produced a succession of classifications over the next eleven years, continuing to refine the perennial version of 1903 until his death.[74] As Beverly Kent indicates, there were several motivations for this work evidenced in his writings.

First, "philosophy ought to be deliberate and planned out."[75] Peirce believed this was inherent in the architectonic approach commended by Kant[76] which he acknowledged as an inspiration to his own musings.[77] Another reason for classifying the sciences was Peirce's desire to provide an architectonic within which he could test his categories and vindicate them against critics who found them too speculative.[78] By far, however, the overarching concern in the classification of the sciences was logic. As Kent points out, Peirce affirmed classification to be the business of science, especially the science of logic, that science closest to his heart.[79] Related to this, Peirce exhibited, especially during the last decade of his life, a desire to situate logic within other theoretical pursuits and thus make clearer what exactly he meant by it and how his views on the subject differed from popular notions.

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72. *W* 1:487-8.
73. Kent, *Charles S. Peirce: Logic and the Classification of the Sciences*, 91ff.
74. Ibid.
75. *CP* 1.179.
76. *CP* 6.9.
77. *CP* 1.176-179, 5.5, 6.33.
78. Kent, *Peirce: Logic and the Classification of the Sciences,* 17.
79. Ibid.

Peirce thought that recognition of the relation [logic] holds to other sciences would rescue it from attenuation of, worse, from absorption into some other discipline. He was particularly anxious to quash prevalent tendencies to collapse logic into mathematics, or to found it on psychology or on metaphysics or on one of the other disciplines that he identified as underlying the logical studies of his contemporaries. The classification would guard against the hazards of attempting to resolve problems of metaphysics and special sciences without thoroughly considering the nature of the reasoning to be used and the basis of its validity.[80]

Peirce believed that a plausible classification, in which logic was thus rescued, would ultimately serve to clarify his pragmatism "[By permitting him] to display a given science in relation to other sciences in order to exhibit its conceivable effects."[81]

Since the classification of the sciences was yet one more unfinished piece of the Peircean corpus, our task in this section will be limited to a few general observations concerning the arrangement of the most definitive version, the classification of 1903. Greater attention will be paid to the identification of logic as a normative science within this schema, and its relation, especially, to psychology.

Peirce's mature classification, like many earlier versions, recognized two branches of science: theoretical and practical.[82] Theoretical sciences, "whose purpose is simply and solely to recognize God's truth,"[83] were subdivided into two subbranches which, with the practical sciences, predictably formed a triadic schema. Under theoretical sciences, heuretic, or sciences of discovery, are those sciences concerned with discovery for its own sake, irrespective of anything else. Sciences of discovery, corresponding to the category of Firstness, include mathematics, philosophy, and what Peirce referred to as

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80. Ibid.
81. Ibid., 54.
82. *CP* 1.239.
83. Ibid.

the special sciences. Each of these sciences of discovery is, likewise, subdivided into groups of three. Mathematics is separated into finite collections, infinite collections, and continua. The three species of philosophy, alternately termed cenoscopy, are phenomenology, normative sciences, and metaphysics. The special sciences, often called idioscopy, are bifurcated into physical sciences (chemistry, physiology, anatomy, astronomy, geology, etc.) and psychical sciences (psychology, anthropology, linguistics, history, etc.). Hierarchically arranged, the class of special sciences is a subaltern of philosophy, i.e., idioscopy is subordinate to cenoscopy.

By utilizing his classification of the sciences, postulating two distinct spheres of observation and according philosophy a precise position in the hierarchy of sciences, Peirce buttressed his argument against psychologism. In so doing he distinguished psychical truths from psychological truths.

> We must distinguish between results which depend upon the validity of the scientific method of psychology – scientific discoveries – and those rough [psychical] facts about the mind which are open to everybody's observation, and which no sane man dreams of calling into question. As a matter of fact, it is upon these latter facts, and upon a series of similar facts about the outer world, that every man actually really bases, first, his general metaphysics, and then his metaphysics of the soul.[84]

Psychical observation regarding mind in general antecedes scientific inquiry into the mind as uniquely human. An example of such an observation is that there is such a state of mind as doubt.[85] Psychology, under the pretense of scientific method, is inevitably

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84. *CN* 3:49.
85. *CP* 2.210.

tied to "clandestine" metaphysics "lying in ambush" that skew its findings.[86] One of

Peirce's issues with James' *Principles of Psychology* involved this very point.

> Every natural science assumes certain data uncritically, and declines to
> challenge the elements between which its own 'laws' obtain, and from
> which its deductions are carried on. Psychology, the science of finite
> individual minds, assumes as its data (1) *thoughts and feelings*, and (2) a
> *physical world* in time and space with which they coexist and which (3)
> *they know*. Of course these data themselves are discussable; but the
> discussion of them (as of other elements) is called metaphysics.[87]

Commenting on James' fallacy in 1901, Peirce remarked that "nobody would now

propose, as James then did, to write a psychology altogether uninfluenced by any

metaphysics. The point is that it has been made manifest that positive psychology cannot

escape taking for granted a metaphysics of one kind or another in no inconsiderable

measure."[88] Thus, the special science of psychology is subordinate to the science of

(physical) metaphysics which, in turn, relies upon the normative science of logic for a set

of rules concerning our experience of the physical world. By 1904, Peirce would

conclude that "Psychology of all sciences stands most in need of the discoveries of the

logician."[89] In 1906, he wrote:

> Logic, to be sure is a positive, not a mathematical science; but it makes
> no special observations, contenting itself with the ordinary experience of
> just about everybody. By psychology is meant the special science so-
> called, the fruit of psychological research. Logic studies the laws under
> which signs function as such. Since all cognition consists of signs,
> psychology is in part a special application of logic [i.e. of semiotics],
> supplemented by additional facts."[90]

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86. *CN* 3:49.
87. *CP* 8.59.
88. *CN* 3:49.
89. *CP* 8.297.
90. *MS* 283, variant 60-1, quoted in Colapietro, *Peirce's Approach to the Self*, 59.

The second branch of theoretical science was comprised of the sciences of review, of which little is ever said,[91] but by which Peirce "meant the business of those who occupy themselves with arranging the results of discovery, beginning with digests, and going on to form a philosophy of science."[92]

> It is a department perfectly well recognized. It belongs by virtue of its purpose to the branch of Theory; yet varies enough in its purpose from the active science to be erected into a subbranch [*sic*] … Its design is to sum up the results of all the theoretical sciences and to study them as forming one system.[93]

Kent points that "Peirce appeared to be ambivalent as to whether the process of classifying the sciences is the business of logic or the sciences of review."[94] Nevertheless, it is the science of review that "systematizes conclusions arrived at by the sciences of discovery, supplements these with its own investigations, and uses them 'for its own purpose' [*MS* 693a.78]."[95] Beyond these few statements, Peirce did not elaborate on the sciences of review and never enumerated or further specified them by name but apparently saw them roughly corresponding to the category of Thirdness in mediating somehow between theory and practice.[96]

The other general division of the sciences in 1903 was the practical sciences, comprising a third major grouping. Where the theoretical sciences were, in fact, viewed

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91. *CP* 1.202, 1.243.
92. *CP* 1.182.
93. *CP* 1.256.
94. Kent, *Peirce: Logic and the Classification of the Sciences*, 48.
95. Maryann Ayim, "Theory, Practice, and Peircean Pragmatism" in *Proceedings of the C.S. Peirce Bicentennial International Congress*, eds. Kenneth L. Ketner, Joseph M. Ransdell, Carolyn Eisele, Max H. Fisch and Charles S. Hardwick (Lubbock: Texas Tech University Press, 1981), 51.
96. It is Ayim's well documented conjecture that the sciences of review mediated between theory and practice in Peirce's architectonic though Peirce himself apparently never articulated this view.

as pure science, the practical sciences were often viewed as synonymous with the arts.[97]

Where the purpose of theoretical science was understood as discovery of God's truth, the

practical sciences are for the "uses of life"[98] or to satisfy our desires. Peirce claimed to

have identified over three hundred of these[99] and included such examples as pedagogy,

etiquette, horology, surveying, navigation, telegraphy, printing, engraving and

deciphering.[100]   Productive in nature, this class of sciences (arts) relates to action and,

thus, to Secondness.

What was novel in the 1903 classification and what is of special interest here, was

the tripartition of philosophy.

> Philosophy has three grand divisions. The first is Phenomenology, which
> simply contemplates the Universal Phenomenon and discerns its
> ubiquitous elements, Firstness, Secondness, and Thirdness, together
> perhaps with other series of categories. The second grand division is
> Normative Science, which investigates the universal and necessary laws
> of the relation of Phenomena to *ends*, that is, perhaps, to Truth, Right,
> and Beauty. The third grand division is Metaphysics, which endeavors to
> comprehend the Reality of the Phenomena.[101]

The second grand division, normative science, was comprised of aesthetics, ethics, and

logic. Together treating phenomena as seconds, each normative science relates, in turn, to

one of the categories.

> Supposing … that normative science divides into esthetics, ethics, and
> logic, then it is easily perceived, from my standpoint, that this division is
> governed by the three categories. For Normative Science in general
> being the science of the laws of conformity of things to ends, esthetics
> considers those things whose ends are to embody *qualities of feelings*,

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97. *CP* 2.281.
98. Ibid.
99. Kent, *Peirce: Logic and the Classification of the Sciences*, 234n66.
100. *CP* 1.243. See appendix A for diagram of 1903 classification.
101. *CP* 5.121.

ethics those things whose ends lie in *action*, and logic those things whose end is to *represent something*.[102]

As he noted in the letter to James, Peirce's belief that logic was dependent upon ethics for the regulative principle governing right reasoning was a long time coming and yet fundamental to any comprehensive understanding of pragmatism. Likewise, he had come to understand the dependence of ethics upon aesthetics for the regulative principle of the good. Aesthetics provided ethics with the regulative principle of the *summum bonum* or the beautiful. This move marked a fundamental change in Peirce's view of ethics and, as we shall see, his understanding of self-control.

Until this time Peirce's interest in ethics had been negligible and his views rather dismissive. Negotiating with James for the series of lectures that were to be delivered in Cambridge in 1898 under the proposed title "On the Logic of Events," Peirce was strongly advised by his dear friend to put aside his penchant for logic and speak on "matters of vital importance." James wrote:

> I am sorry you are sticking to formal logic. I know our graduate school here, and so does Royce, and we both agree that there are only 3 men who could possibly follow your [existential] graphs and [logic of] relatives. Now be a good boy and think a more popular plan out. I don't want the audience to dwindle to 3 or 4 …You are teaming with ideas – and the lectures need not by any means form a continuous whole. *Separate topics of a vitally important character* would do perfectly well.[103]

Peirce responded with more than a hint of sarcasm when he wrote, "It is against my deep principles to represent that [tychism and synechism] or any philosophy as a matter of

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102. *CP* 5.129.
103. Charles Sanders Peirce, *Reasoning and the Logic of Things: The Cambridge Conferences Lectures of 1898,* ed. Kenneth Laine Ketner (Cambridge: Harvard University Press, 1992), introduction, 18ff.

'vital importance,'"[104] and in the fourth lecture of the series that had come to be called

"Reasoning and the Logic of Things," he planned to deliver the following revealing

disclaimer.

> Since I myself am in no sense a teacher, but only a learner, and at the very foot of my class at that, for the reproach made against me is a just one that I am all the time modifying my doctrines, it is only to please you and not by any means myself that I have elected to address you on topics of vital importance. To me no subject could possibly be more distasteful. For I know nothing about matters of vital importance. All I *think* I know concerns things which I hope may prove of subsidiary importance. As to topics of vital importance I have nothing to inculcate but sentiments. True, I am a sentimentalist in theory. I believe sentiment is far more deeply important than science. But by my training I am nothing [but] a scientific man myself and am quite out of my element in talking about things vitally important. My only excuse for attempting it is my desire to conform to your wishes. But I find that struggle as I may and do, I cannot keep dry details altogether out of my lectures. For if I did I should have nothing to say.[105]

Matters of vital importance, paradoxically of a very low order of importance in the total

scheme of things,[106] included ethics, a topic Peirce associated with practical matters.

Ethical concerns seemed to Peirce most private.

> Among vitally important truths there is one which I verily believe – and which men of infinitely deeper insight than mine have believed – to be solely important. It is that vitally important facts are of all truths the veriest trifles. For the only vitally important matter is *my* concern, business – or yours. Now you and I – what are we? Mere cells of the social organism. Our deepest sentiment pronounces the verdict of our own insignificance.[107]

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104. Ibid., 31-32.
105. Ibid., 283n4.
106. *CP* 1.647.
107. *CP* 1.673.

In this arena, reason is of little use. Sentiment and instinct are all we have to guide us. The inner conflict of moral issues often arise as crises that must be resolved in an instant and do not afford one the luxury of reasoned deliberation.

Moreover, Peirce was inclined to think that moral reasoning is dogmatic, impeding investigation, thus violating his great maxim: "Do not block the way of inquiry."[108]

> It may very easily happen that the over-development of a man's moral conception should interfere with his progress in philosophy. The protoplasm of philosophy has to be in a liquid state in order that the operations of metabolism may go on. Now morality is a hardening agent. It is astonishing how many abominable scoundrels there are among sincerely moral people. The difficulty is that morality chokes its own stream. … morality, doctrinaire conservatist that it is, destroys its own vitality by resisting change, and positively insisting, This is eternally right: That is eternally wrong. The tendency of philosophers has always been to make their assertions too absolute. Nothing stands more in the way of a comprehension of the universe and of the mind. But in morals this tendency acquires triple strength.[109]

Murphey suggests that it may have been Peirce's study of James' pragmatism and the suggestion he found there that the truth is a species of the good, that provided the impetus for Peirce's reevaluation of the science of ethics and the further development of his theory of self-control.[110]

Whether this is so, it is clear that Peirce's view of ethics began to change after 1898, ethics eventually being shifted from the realm of applied or practical sciences to the realm of theoretical science.[111] Ironically, it was James' indifference to the reasons

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108. *CP* 1.135.
109. CP 2.198.
110. Murphey, *The Development of Peirce's Philosophy,* 361.
111. See Kent, *Charles S. Peirce: Logic and the Classification of the Sciences*, 107ff.

for classifying the sciences that Peirce found especially irksome. In a 1904 letter to his friend he wrote:

> I know that you are not inclined to see much value in distinguishing one science from another. But my opinion is that it is absolutely necessary to any progress. The standards of certainty must be different in different sciences, the principles to which one science appeals altogether different from those of the other. From the point of view of logic and methodical development the distinctions are of the greatest concern."[112]

Even more ironic, however, is the fact that Peirce's expressed purposes in classifying the sciences, namely the ordering of his philosophical system and establishing the independence of logic from psychology within that system, also resulted in a number of mutually incompatible positions that impeded his progress. In the next section we will examine several examples that arise from Peirce's concurrent commitment to both the doubt-belief theory of inquiry and his architectonic construction while exploring the limits of continuity in overcoming these seeming contradictions.

D. Intractable Dichotomies

The first instance of a contradictory position arising from Peirce's commitment to both the doubt-belief theory of inquiry and the architectonic attempt to establish the independence of logic from psychological phenomena that we will look at involves the distinction between and relationship of theory and practice. In the later taxonomy of the sciences, the normative sciences – esthetics, ethics, and logic – are classified under the theoretical sciences, forming the heart of coenoscopy.[113] Notwithstanding Peirce's evolutionary view of the sciences as having produced one another and the sciences as

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112. *CP* 8.297.
113. *CP* 1.573.

having grown out of the useful arts,[114] elsewhere he drew a sharp distinction between the

theoretical and the practical sciences. Maryann Ayim articulates the problem as follows.

> Two mutually incompatible positions regarding the relationship between theoretical and practical sciences emerge from Peirce's writing: (i) Theory and practice are mutually hostile and irreconcilably distinct; (ii) they are mutually dependent and associated in an important respect. Position (i) implies that the ends of theoretical as well as practical science are better served if a clear distinction is made between them. Position (ii) suggests that the ends of theoretical and practical sciences may sometimes be best served through an affiliation between the two realms.[115]

Supporting position (i) we find such statements as the following. In each case the date of

authorship is given in order to demonstrate that this was a view Peirce held

contemporaneous to position (ii).

> The two masters, *theory* and *practice,* you cannot serve.[116]

> Unfortunately practice generally precedes theory, and it is the usual fate of mankind to get things done in some boggling way first, and find out afterward how they could have been done much more easily and perfectly.[117]

> I stand before you an Aristotelian and a scientific man, condemning with the whole strength of conviction the Hellenistic tendency to mingle Philosophy and Practice.[118]

> Pure theoretical knowledge, or science, has nothing directly to say concerning practical matters.[119]

> Reason blunders so very frequently that in practical matters we must rely on instinct and subconscious operations of the mind, as much as possible, in order to succeed. Thus, in my logic there is a great gulf between the methods proper to practical and to theoretical questions, in

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114. *CP* 1.226.
115. Ayim, "Theory, Practice, and Peircean Pragmatism," 45.
116. *CP* 1.642 (1898).
117. CP 7.63 (1882).
118. *EP* 2:29 (1898).
119. *CP* 1.637 (1898).

which latter I will not allow instinct, "natural" reason, etc. to have any voice at all.[120]

Drawing such a rigid distinction, as here between theory and practice, goes very much against the grain of the rest of Peirce's philosophy in which synechism is chief among the leading principles. Certainly this stands in stark contrast to any number of statements we might quote supporting position (ii) where theory and practice are essentially compatible, if not continuous.

> The phenomena of reasoning are, in their general features, parallel to those of moral conduct. For reasoning is essentially thought that is under self-control, just as moral conduct is conduct under self-control. Indeed, reasoning *is* a species of controlled conduct and as such necessarily partakes of the essential features of controlled conduct.[121]

> … the whole function of thought is to produce habits of action.[122]

By its very nature pragmatism inexorably links theory and practice.

> All pragmatists … agree that their method of ascertaining the meanings of words and concepts is no other than that experimental method by which all the successful sciences (in which number nobody in his senses would include metaphysics) have reached the degrees of certainty that are severally proper to them today; this experimental method being itself nothing but a particular application of an older logical rule, "By their fruits ye shall know them."[123]

The method of science, i.e. inquiry, within which the pragmatic maxim was operative, was, for Peirce, a "mode of life."[124] As a means of establishing belief both as a settled mental state and as a disposition to act, pragmatism is, in effect, a denial of the dichotomy between theory and practice. However, in what Christopher Hookway calls

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120. Hardwick, *Semiotics and Significs: The Correspondence Between Charles S. Peirce and Victoria Lady Welby*, 19, 05/07/1904.
121. *CP* 1.606 (1903).
122. *CP* 5.400 (1878).
123. *CP* 5.465 (1907).
124. *CP* 7.55.

the "no belief thesis," Peirce declares in 1898 that "there is … no proposition at all in science which answers to the conception of belief."[125] Peirce's post-1900 writings on the normative sciences clearly indicate a connection between right feeling (aesthetics), right conduct (ethics) and right thinking (logic).[126] Yet in the selected passages, some of them from the same period, we find Peirce establishing the "great gulf" between theory and practice.

> In an attempt at explanation, Rulon Wells observed:
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> To admit [this gulf], as to admit any gulf, is to go against the maxim of synechism. But sometimes this must be done. And if we look for the reasons for admitting this gulf, we will find one which is ineluctable. Theory is concerned with the long run; practice, with the short run. The gulf between them rests on the gulf between the long run and the short run, that is, between the whole infinite future and what will happen some finite time from now. But no gulf is more unbridgeable than the gulf between the infinite and the finite.[127]

The difference between the short and long term is reflected in the distinction between "matters of vital importance" and "useless things." As we have noted, the former is associated with the critical and the immediate where sentiment and instinct are surer guides than reason. "True science is distinctively the study of useless things. For the useful things will get studied without the aid of scientific Men."[128] Truth, as the end of science, is, for Peirce, idealized and, thus, associated with both the long run and, as we will see in chapter seven, the community of inquirers. In 1911, Peirce declared "I call 'truth' the predestinate opinion, by which I ought to have meant that which *would*

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125. *CP* 1.635.
126. *CP* 1.573 (1906).
127. Rulon Wells, "Peirce as an American," in *Perspectives on Peirce,* ed. Richard Bernstein (New Haven: Yale University Press, 1965), 30.
128. *CP* 1.76.

ultimately prevail if investigation were carried sufficiently far in that particular direction."[129] This merely echoed his proclamation of 1878 that "The opinion which is fated to be ultimately agreed to by all who investigate, is what we mean by the truth."[130]

The mutually opposed statements within Peirce's work that arise from contradictory commitments to the doubt/belief theory of inquiry and the architectonic treatment of the sciences are not easily overcome. Locating a mediating principle between theory and practice within the architectonic is more easily achieved. We will briefly examine four that have been suggested.

Maryann Ayim finds herself incredulous, noting that "All the underlying tenets of Peirce's philosophy cry out against the type of rigid distinction [Peirce] tried to draw between theory and practice."[131] Chief among those underlying tenets is continuity, "the leading conception of science"[132] and "the master key which … unlocks the arcana of philosophy."[133] As we noted above, it is Ayim's conjecture that Peirce viewed the sciences of review as an intermediary classification that would interrelate the conclusions of the theoretical and practical sciences, and provide what she calls a "buffer zone" between theory and practice. "This threefold division of sciences into purely theoretical, purely practical, and intermediate is perfectly accommodated by Peirce's broad classification of the sciences; it is in fact perfectly consistent with every other major theme of Peirce's philosophy, such as his pragmatism, his evolutionary metaphysics, and

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129. *EP* 2:457.
130. *CP* 5.407.
131. Ayim, "Theory, Practice, and Peircean Pragmatism," 51.
132. *CP* 1.62.
133. *CP* 1.163.

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his categories."[134] The problem, as we have seen, is that Peirce did not elaborate on the sciences of review, never enumerated them and remained ambivalent as to what he wished them to do; he called for, but predictably never finished, a complete appraisal of the sciences of review.[135]

David Savan locates the mediating principle in sentiment. He reminds us that, for Peirce, scientific method evolved from a context of instinct, feeling, belief and action, that theoretical inquiry developed from our basic needs and feelings associated with feeding, breeding and security and that its hypotheses can be, and often are, drawn from sentiment and instinct.[136] Scientific findings, while removed from matters of vital importance, must be justified by sentiments which embody moral and social objectives that transcend independent private feeling and personal practical imperatives.[137] For Peirce, scientific inquiry is communal in nature, guided and measured by sentiments, which are social as well as logical. Peirce proclaimed in 1868, "He who would not sacrifice his own soul to save the whole world, is, as it seems to me, illogical in all his inferences, collectively. Logic is rooted in the social principle."[138] Thus the guiding principles of the scientist are three logical sentiments Peirce loosely associates with Christian principles, and which are used, as we will see in the last chapter, to fix emotion.

> It may seem strange that I should put forward three sentiments, 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, as indispensable requirements of logic. Yet, when

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134. Ayim, "Theory, Practice, and Peircean Pragmatism," 51.
135. *CP* 1.202.
136. David Savan, "The Unity of Peirce's Thought," in *Pragmatism and Purpose,* eds. L.W. Sumner, John G. Slater, Fred Wilson (Toronto: The University of Toronto Press, 1981), 5-7.
137. Ibid.
138. *CP* 2.655.

we consider that logic depends on a mere struggle to escape doubt, which, as it terminates in action, must begin in emotion, and that furthermore, the only cause of our planting ourselves on reason is that other methods of escaping doubt fail on account of the social impulse, why should we wonder to find social sentiment presupposed in reasoning? As for the other two sentiments which I find necessary, they are so only as supports and accessories of that. It interests me to notice that these three sentiments seem pretty much the same as that famous trio of Charity, Faith, and Hope, which, in the estimation of St. Paul, are the finest and greatest of spiritual gifts.[139]

Savan accepts that Peirce clearly opposed theory and practice. However, he holds that "theory and practice may be interdependent and inseparable, like two close friends, without being intrinsically connected."[140] While "theoretical thinking requires the subordination of short-term personal and social goals to a succession which is potentially infinite,"[141] theory is subordinated, at least in the short run, to emotional signs that are viewed as distinct from the objectives of vital personal importance associated with practice. Thus, for Savan, theory, practice and emotion form a triadic relationship in Peirce's writings. We will return to this notion in chapter seven.

Larry Hickman sees Peirce (and, especially, Dewey) subordinating both theory and practice to the idea of production.[142] "Habits are associated with control and control is linked with products and production."[143] "The whole function of thought is to produce habits of action."[144] Viewed on the spectrum of what Hickman terms the cognitivist-praxicalist struggle where, on the one hand, theory is dominant and on the other hand, practice is dominant, Peirce and Dewey argued that both positions are defective because

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139. *CP* 2.655.
140. Savan, "The Unity of Peirce's Thought," 5.
141. Ibid., 7.
142. Larry Hickman, "The Products of Pragmatism," in *Living Doubt*, eds. Guy Debrock and Menno Hulswit (Dordrecht: Kluwer Academic Publishers, 1994), 13-24.
143. Ibid., 15.
144. *CP* 5.400.

both are incomplete. Hickman traces their respective (though by no means congruent)

positions to an understanding of production or making derived from the Greek *poietike.*

He links this notion in Peirce to the continuum grades of self-control[145] and the

associated acquirement of habit,[146] whether it be at the lower ends of the spectrum, in the

unconscious behavior of a crystal's formation or, at higher levels, in the instinctive social

behavior of bees and ants, the trained behavior and elementary sign usage of certain

mammals, or at the level of human animals where control becomes truly self-control and

habits are the products of sign manipulation, i.e., control over signs in their role as signs,

as in the case of language.[147] The problem with Hickman's thesis is that Peirce, unlike

Dewey, doesn't seem to have made much of a distinction between production and action

and there are only three references to *poietai* in the *Collected Papers*, one in reference to

category production, another to the production of mathematical hypotheses, and the third

to hallucinations.

The notion of self-control that both Savan and Hickman incorporate into their

arguments provides another synechistic strategy. Bernstein affirms that "The concept of

self-controlled conduct provides the mediating link between the traditional dichotomies

of theory and practice, thought and action."[148] We might add that Peirce's development

of the theory of self-control suggests a role in mediating other dichotomies that we will

shortly explore.

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145. *CP* 5.533.
146. *CP* 5.538.
147. *CP* 5.534.
148. Richard J. Bernstein, *Praxis and Action* (Philadelphia: University of Pennsylvania Press, 1971), 189.

The next instance of a contradictory position arising from Peirce's competing allegiances to the doubt/belief theory of inquiry and the architectonic structure of his classification of the sciences is that which we find between reason and sentiment. Savan briefly touched on this dichotomy in reference to the logical sentiments and the genesis of the scientific method. Much of this matter will be treated in depth in the next chapter. It is, however, important to remember that Peirce often used the terms 'sentiment' and 'instinct' interchangeably, especially when making reference to the social instincts of humans. Ayim notes, "Peirce divided instincts into two major types (*CP* 7.378): (a) social – which have evolved into reason and have been instrumental in the development of the theoretical sciences (*CP* 7.384); and (b) selfish – which have retained the characteristics popularly associated with instinct and have been instrumental in the development of the practical sciences (*CP* 7.383, 1.75)."[149] This synonymy will be explored in the next chapter. Peirce was also inclined to equate habit and instinct.

> If I may be allowed to use the word "habit" without any implication as to the time or manner in which it took birth, so as to be equivalent to the corrected phrase "habit or disposition," that is, as some general principle working in a man's nature to determine how he will act, then an instinct, in the proper sense of the word, is 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.[150]

Peirce often saw sentiment and reason as continuous, his fairly consistent association of reason with theory and instinct with practice, notwithstanding. Just six months before his death, Peirce expressed his views.

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149. Ayim, "Theory, Practice, and Peircean Pragmatism," 50.
150. *CP* 2.170.

> I use the word instinct in the precise sense of an animal's faculty of acting (whether physically or psychically) in a reasonable (or better "an adaptive") manner when the animal (human or other) would be unable by reasoning to reach the requisite conclusion. It follows that, adopting this definition, I must admit that all reasoning ultimately reposes on "instinct." That is to say, it rests on a rule of logic which could not be reached by reasoning without a *petitio principii,* or its equivalent.[151]

This professed continuity is, however, complicated by Peirce's insistence that reason and sentiment are quite distinct faculties with vastly different purposes.

> I would not allow to sentiment or instinct any weight whatsoever in theoretical matters, not the slightest. Right sentiment does not demand any such weight; and right reason would emphatically repudiate the claim if it were made. True, we are driven oftentimes in science to try the suggestions of instinct; but we only *try* them, we compare them with experience, we hold ourselves ready to throw them overboard at a moment's notice from experience. If I allow the supremacy of sentiment in human affairs, I do so at the dictation of reason itself; and equally at the dictation of sentiment, in theoretical matters I refuse to allow sentiment any weight whatever.[152]

When it comes to practical affairs, however, we find that "instinct seldom errs, while reason goes wrong nearly half the time, if not more frequently."[153] He used the example of incest to demonstrate our heavier reliance on instinct in matters of morality.

> Biology will doubtless testify that the practice [of incest] is inadvisable; but surely nothing that it has to say could warrant the intensity of our sentiment about it. When, however, we consider the thrill of horror which the idea excites in us, we find reason in that to consider it to be an instinct; and from that we may infer that if some rationalistic brother and sister were to marry, they would find that the conviction of horrible guilt could not be shaken off.[154]

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151. *MS* L477. Letter to Frederick Adams Woods, 10/14/1913, quoted by Kenneth L. Ketner, *His Glassy Essence*: *An Autobiography of Charles Sanders Peirce* (Nashville: Vanderbilt University Press, 1998), 104.
152. *CP* 1.634.
153. *CP* 5.445.
154. Ibid.

In the end, instinct is viewed as essential to both theory and practice. In a collection of manuscript pages from 1902-05, Peirce concluded that "we cannot even reason except at the suggestion of instinct."[155]

The segregation of theory and practice might be enough to explain, at least in part, the distinct purposes of reason and sentiment were it not for the fact that by 1903 Peirce had come to firmly ensconce the normative sciences within the realm of theoretical science and to recognize the dependence of right thinking upon right conduct and right conduct upon right feeling.

> If we judge our norm of right reason to be satisfied, we get a feeling of approval, and the inference now not only appears as irresistible as it did before, but it will prove far more unshakable by any doubt. You see at once that we have here all the main elements of moral conduct; the general standard mentally conceived beforehand, the efficient agency in the inward nature, the act, the subsequent comparison of the act with the standard. Examining the phenomena more closely we shall find that not a single element of moral conduct is unrepresented in reasoning.[156]

Further abetting the ambiguity is the introduction of what Peirce termed *il lume naturale,* the faculty that makes possible abductive inference,[157] is akin to common sense,[158] and is instinctive in nature.[159] According to this notion, "science is nothing but a development of our natural instincts."[160] The idea of *lumen naturale* – or, to adopt Peirce's usage, *il lume naturale* – is premised on the assumed reasonableness of nature and that mind, as both part and product of nature, enjoys an affinity with the logic of the natural order. "Unless man have [sic] a natural bent in accordance with nature's, he has

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155. *MS* 1343:41; quoted by Larry Holmes, "Peirce on Self-Control," in *Transactions of the Charles S. Peirce Society* 2 (Fall 1966): 115.
156. *CP* 1.606-7.
157. *CP* 1.80.
158. *CP* 6.10.
159. *CP* 1.630.
160. *CP* 6.604.

no chance of understanding nature at all."[161] This natural insight is observable in the

propensity of the scientist to arrive at the correct hypothesis from the nearly infinite realm

of possibilities.

> Thus it is that, our minds having been formed under the influence of
> phenomena governed by the laws of mechanics, certain conceptions
> entering into those laws become implanted in our minds, so that we
> readily guess at what the laws are. Without such a natural prompting,
> having to search blindfold [sic] for a law which would suit the
> phenomena, our chance of finding it would be as one to infinity.[162]

Finally, this capacity to guess correctly is not only observable but testable. This is

because *il lume naturale* is a rational instinct, as distinguished from both *animal* instincts

such as the migration of birds or the hive building of bees and *vegetative* instincts such as

the habit of plants to grow toward sunlight.[163] "Abductive inference is an act of *insight*"

[i.e. *il lume naturale*].[164] "[It] is the *provisional* adoption of a hypothesis, because every

possible consequence of it is capable of experimental verification, so that the persevering

application of the same method may be expected to reveal its disagreement with facts, if

it does so disagree."[165] Clearly, Peirce has not abandoned the scientific method by

referencing the capacity humans have for guessing correctly. "The tendency to guess

nearly right is itself the result of a similar experimental procedure."[166] There is a rational

aspect of *il lume naturale.* Reason and sentiment complement each other however this

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161. *CP* 6.477.
162. *CP* 6.10.
163. *CP* 1.266.
164. *CP* 5.181.
165. *CP* 1.68.
166. *CP* 2.86.

may conflict with Peirce's position that sentiment and instinct have no weight in theoretical matters.[167]

Peirce continually reminded us that "instinct and sentiment are formed by unconscious mental processes which parallel their more voluntary and disciplined counterparts."[168] Thus we come to the third of the dichotomies we will examine in this section, that which stands between conscious and unconscious inference. Two claims, both from after 1902, illustrate the conflict.

> So the synechist will not believe that some things are conscious and some unconscious, unless by consciousness be meant a certain grade of feeling.[169]

> The term "reasoning" ought to be confined to such fixation of one belief by another as is reasonable, deliberate, self-controlled. A reasoning must be conscious; and this consciousness is not mere "immediate consciousness," which (as I argued in 1868) is simple Feeling viewed from another side, but is in its ultimate nature (meaning in that characteristic element of it that is not reducible to anything simpler), a taking of a habit, or disposition to respond to a given stimulus in a given kind of way."[170]

As we've seen, Peirce sometimes spoke of instinct as "half-conscious inference"[171] and of "a natural instinct for right reasoning,"[172] an innate theory of logic that he sometimes referred to as *logica utens*.[173] Peirce also spoke of uncontrolled inference.

> All inferences are really performed under the influence of the law of association. But all psychical actions divide into two great classes, those

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167. *CP* 1.634.
168. Ilona Kemp-Pritchard, "Peirce on Philosophical Hope and Logical Sentiment," *Philosophy and Phenomenological Research* 42 (Sept. 1981): 88.
169. *CP* 1.173.
170. *CP* 5.440.
171. *CP* 6.570.
172. *CP* 2.3.
173. *CP* 2.186.

which are performed under the *uncontrolled* governance of association and those in which by the "agency" of consciousness, whatever that may mean, the actions come under self-criticism and self-control. The latter class of actions may be pronounced *good* or *bad*; the former could not be otherwise than they were. Uncontrolled inference from contiguity, or experiential connection, is the most rudimentary of all reasoning.[174]

As in the case of the dichotomous distinction between theory and practice, Peirce appears in the second passage to be establishing an unbridgeable gap between controlled and uncontrolled inferences that again, like any gulf, stands in opposition to the principle of synechism. As we've also seen, there is considerable vagueness in Peirce's understanding of consciousness as linked to a certain grade of feeling.[175] As he indicated in *CP* 6.133, all protoplasm, even an amoeba or slime-mould, is capable of feeling and can thus be spoken of as possessing consciousness, if not personality. Yet there are passages where Peirce claims that there are "inhibitions and coördinations that entirely escape consciousness.[176]

Peirce is guilty of having set up yet one more dualism in opposition to his synechism. If, as Peirce claims, reasoning is a species of deliberate, controlled action, then it follows that any conduct, including mental action that is not distinctly conscious, such as instincts and percepts, is beyond control. If it is beyond control, then it is beyond criticism.

Reasoning is deliberate, voluntary, critical, controlled, all of which it can only be if it is done consciously. An unconscious act is involuntary: an involuntary act is not deliberate nor subject to criticism in the sense of approval or blame. A performance which cannot be called good or bad differs most essentially from reasoning.[177]

174. *CP* 7.444-445.
175. *CP* 6.173.
176. *CP* 5.533.
177. *CP* 2.182.

As Wells observed, "Behavior that is unconscious, and largely innate [i.e. instinct], thus falls outside the scope of normative science."[178] As such, it would fall outside the bounds of pragmatism. Before declaring Peirce hopelessly self-conflicted, we will briefly return to his theory of self-controlled conduct as a possible strategy for mediating these dichotomies.

E. <u>Self-Control as a Synechistic Strategy</u>

Given the gulf that Peirce allows to stand between theory and practice and between the conscious and the unconscious in opposition to the theory of continuity, one is naturally directed to seek out a seamless, mediating principle. Self-control presents itself as a candidate, inasmuch as it is, for Peirce, the woof and warp of pragmatism.

> Now the theory of Pragmaticism was originally based, as anybody will see who examines the papers of November 1877 and January 1878, upon a study of that experience of the phenomena of self-control which is common to all grown men and women; and it seems evident that to some extent, at least, it must always be so based. For it is to conceptions of deliberate conduct that Pragmaticism would trace the intellectual purport of symbols; and deliberate conduct is self-controlled conduct. Now control may itself be controlled, criticism itself subjected to criticism; and ideally there is no obvious definite limit to the sequence. But if one seriously inquires whether it is possible that a completed series of actual efforts should have been endless or beginningless … I think he can only conclude that … this must be impossible. It will be found to follow that there are, besides perceptual judgments, original (i.e. indubitable because uncriticized) beliefs of a general and recurrent kind, as well as indubitable acritical inferences.[179]

At one end of the spectrum of self-control stands the fully developed human being.

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178. Rulon S. Wells, "Thirdness and Linguistics," in *The Signifying Animal,* eds. Imenegard Rausch and Gerald F. Carr (Bloomington: Indiana University Press, 1980), 197.

179. *CP* 5.442.

> Man comes from the womb in actuality an animal little higher than a
> fish; by no means as high as a serpent. His humanity consists in his
> *destination*. He becomes not actual man until he acquires self-control
> and then he is so in the measure of his self-control … Man's existence
> *qua* man … consists solely in his growing to act from rational self-
> control.[180]

Besides defining human existence, the assumption of rational self-control is what

explains the continuity between our thoughts and our action*s*. Pragmatism rests on a

series of hypothetical propositions, what Peirce referred to as "would-bes," which as

Petry explains rest upon another assumption.

> On the antecedent side [of the conditional proposition] there are rules for
> behavior including rules pertaining to our thoughts and conduct in
> relation to an object. On the consequent side there are hypotheses about
> the laws governing the behavior of objects under the conditions resulting
> from our behavior. This method suggests that reasoning is subject to
> self-control. It only makes sense to propose conditional propositions if it
> is in our power to either make changes or to hold to a course of thought
> and action which will bear fruit in the future. Some habit of personal
> development and continuity is necessary if future thoughts and conduct
> are to be either similar to those of the present or, more importantly for
> Peirce, the product of a deliberate, conscious and teleological growth.[181]

At the other end of the scale we begin, as Peirce suggested, fish-like, with "the inhibitions

and coördinations that entirely escape consciousness."[182]

While at Johns Hopkins in the early 1880s, Peirce joined his student, the

psychologist Joseph Jastrow, in a series of experiments in which they hoped to show that

very slight, imperceptible differences in sensation might influence judgment. Peirce

recorded their results in a paper for the National Academy of Sciences entitled, "Small

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180. *MS* 330. Quoted by Larry Holmes, "Peirce on Self-control, *Transactions of the Charles S. Peirce Society* 2 (Fall 1966): 113.
181. Edward S. Petry, Jr., "Peirce's Concept of Self-Control," *Transactions of the Charles S. Peirce Society* 28 (Fall 1992): 683.
182. *CP* 5.533.

Differences in Sensations."[183] The experiments were deemed successful and one result

was that Peirce ever after was convinced of the importance of unconscious mental

processes.[184] This conclusion was supported in Peirce's review of James' *Principles of*

Psychology, written for *The Nation*.[185] Murphey summarizes the lengthy argument of

that article.

> In 1891 Peirce wrote a review of James' work in which he considered
> particularly the question, "Is Perception Unconscious Inference?," and
> vigorously defended the thesis that it is. The distinction between
> "conscious" and "unconscious" inference, Peirce argues, is that between
> inferences recognized as being inferences and inferences not so
> recognized. He then seeks to show how perception, and association in
> general, are inferential and do conform to the forms of valid ampliative
> reasoning. Thus Peirce holds that all unconscious mental processes
> conform to the patterns of logic.[186]

While such inferences are beyond control and thus criticism, it was Peirce's firm belief

that they do, in fact, affect our judgments.

We haven't time to closely examine Peirce's views of perception. His views of

perception are, to say the least, obscure. Bernstein acknowledged that "If we collected all

of Peirce's statements concerning percepts, we would find not only conflicting

approaches but explicit contradictions."[187] He then goes on juxtapose two sets of remarks

Peirce made on the subject during the years 1902-05 that are contradictory, some of

which are included below. Sandra Rosenthal concurs with Bernstein, that "a cursory

reading of Peirce seems to indicate that what he says about perception is both incomplete

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183. *CP* 7.21-35.

184. Murray G. Murphey, *The Development of Peirce's Philosophy* (Cambridge: Harvard University Press, 1961), 360.

185. *CP* 8.64f.

186. Murphey, *The Development of Peirce's Philosophy*, 360

187. Richard J. Bernstein, "Peirce's Theory of Perception," in *Studies of the Philosophy of Charles Sanders Peirce,* 2nd Series, eds. Edward C. Moore and Richard S. Robin (Amherst: The University of Massachusetts Press, 1964), 174.

and inconsistent."[188] What are of interest to us, however, are a few remarks that Peirce

made that indicate, as Murphey suggests, that percepts and perceptual judgments have,

like other unconscious mental processes, some common features.

While there is a record of Peirce maintaining the position that "a percept contains

only two kinds of elements, those of firstness and those of secondness,"[189] and that "the

percept is a single event happening *hic et nunc* [that] it cannot be generalized without

losing its essential character,"[190] there are also indications that he saw percepts and, more

precisely, perceptual judgments as not only the products of mental processes but

containing elements of generality.

> Notwithstanding its apparent primitiveness, every percept is the product
> of mental processes, or at all events of processes for all intents and
> purposes mental.[191]

> The science of psychology assures me that the very percepts were
> mental constructions, not the first impressions of sense.[192]

> No cognition and no Sign is absolutely precise, not even a Percept.[193]

While percepts or perceptual judgments – all we know of the percept apart from the blow

of it, the first judgment of a person as to what is before his senses[194] – are not, strictly

speaking, part of the controlled, cognitive process, they are, more broadly, involved in

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188. Sandra Rosenthal, "Peirce's Pragmatic Account of Perception," in *The Cambridge Companion to Peirce*, ed. Cheryl Misak (Cambridge: Cambridge University Press, 2004), 193.
189. *CP* 7.630.
190. *CP* 2.146.
191. *CP* 7.624.
192. *CP* 2.141.
193. *CP* 4.542.
194. *CP* 7.643, 5.115.

mental processes and nevertheless contribute to the process of rational, self-controlled thought.[195]

Peirce made much of the distinction between uncontrolled mental processes and inferences that come under self-criticism and self-control, the distinction resting on the question of consciousness.

> Such [unconscious] inferences are beyond the jurisdiction of criticism. It is the part of psychology to explain as it can, as long as they are out of the focal plane of consciousness, they are out of our control; and to call them good or bad were idle. The ordinary business of life is, however, best conducted without too much self-criticism.
>   Quite otherwise is it with the actions which carry out our grander purposes. Here all must be voluntary, thoroughly conscious, based on critical reflection. Logic is wanted here, to pull inferences to pieces, to show whether they be sound or not, to advise how they may be strengthened, to consider by what methods they ought to proceed.[196]

While perception is itself unconscious, beyond criticism, and thus does not fall under the scrutiny of normative behavior, nevertheless inquiry begins when percepts are forced upon us and is continuous with perceptual judgment through minutely incremental grades of increasing self-control.[197] Percepts or perceptual judgment is the data of all knowledge.[198]

As we've seen, Peirce believed the general elements of perceptual judgments to be the second cotary proposition of pragmatism. To demonstrate, Peirce pointed to a drawing that he borrowed from his father.[199] It can be experienced as a serpentine line or

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195. For Peirce's understanding of the complex relationship between the percept, the perceptual judgment and what he terms the "percipuum", i.e., that which the percept and the perceptual judgment form together, see *CP* 5.444 and 7.642.
196. *CP* 7.448f.
197. *CP* 5.553.
198. *CP* 8.300.
199. *CP* 5.183. See appendix.

a wall but not as a dog or a seascape.[200] This drawing demonstrates the phenomenon of

similar well known figures. Larry Hickman agrees with Peirce's interpretation.

> Looking at a "duck-rabbit" or "face-vase," it is as if the perceiver gets
> "tired" or "bored" with seeing it one way, then switches ground and
> figure or sees the figure as rotated. Once this is done, such switching
> may be a matter of control … We can literally choose one percept over
> another.[201]

Peirce concluded that

> In all such visual illusions of which two or three dozen are well known,
> the most striking thing is that a certain theory of interpretation of the
> figure has all the appearance of being given in perception. The first time
> it is shown to us, it seems as completely beyond the control of rational
> criticism as any percept is; but after many repetitions of the now familiar
> experiment, the illusion wears off, becoming first less decided, and
> ultimately ceasing completely. This shows that these phenomena are
> connecting links between abductions and perceptions. If the percept or
> perceptual judgment were of a nature entirely unrelated to abduction,
> one would expect that the percept would be entirely free from any
> characters that are proper to *interpretations*.[202]

 In fact, "unless generality is given in perception it can never be known at all."[203]

Without the continuity of perception and conception, uncontrolled mental processes and

self-regulated inferences, Peirce cannot argue, as he does, that Generality, Thirdness,

pours in upon us in our very perceptual judgments, and that all reasoning … turns upon

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200. Patricia Ann Turrisi, "Commentary," in Charles Sanders Peirce, *Pragmatism as a Principle and Method of Right Thinking: The 1903 Harvard Lectures on Pragmatism* (Albany, SUNY Press, 1997), 93.

201. Hickman, "The Products of Pragmatism," 20. Incidentally, Peirce's student, Joseph Jastrow was the first to draw attention to the duck-rabbit figure. See John F. Kihlstrom, "Joseph Jastrow and his Duck –or is it a Rabbit?" see http://socrates.berkeley.edu/ ~kihstrm/JastrowDuck.htm (accessed August 2008).

202. *CP* 5.184.

203. Murphey, *The Development of Peirce's Philosophy*, 377.

the perception of generality and continuity at every step[204] He cannot hold to his claim

that there is Thirdness in experience,[205] and that the universe is perfused with signs.[206]

Peirce's line between operations of the mind that can be controlled and those that

cannot is not, as Bernstein points out, particularly sharp, no sharper for instance than the

line marking off the conscious from the unconscious. Peirce, for instance, contended that

stimulating the nerves in the hind leg of a decapitated frog produces something very close

to, if not in fact actual, reasoning.

> A decapitated frog *almost* reasons. The habit that is in his cerebellum
> serves as a major premiss. The excitation of a drop of acid is his minor
> premiss. And his conclusion is the act of wiping it away. All that is of
> any value in the operation of ratiocination is there, except only one
> thing. What he lacks is the power of preparatory mediation.[207]

Nevertheless, those mental operations that do not rise to the level of consciousness

(including percepts and perceptual judgments) and are generally beyond control and

criticism, lie outside the bounds of normativity and that, for Peirce, is the critical

distinction.

> Man … cannot really *infer* without having a notion of a class of possible
> inferences, all of which are logically *good.* That distinction of *good* and
> *bad* he always has in mind when he infers. Logic proper is the *critic* of
> arguments, the pronouncing them to be good or bad. There are, as I am
> prepared to maintain, operations of the mind which are logically exactly
> analogous to inferences excepting only that they are unconscious and
> therefore uncontrollable and therefore not subject to criticism. But that
> makes all the difference in the world; for *inference* is essentially
> deliberate, and self-controlled.[208]

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204. *CP* 5.160.
205. Ibid.
206. *CP* 4.539.
207. *CP* 6.286 (emphasis added).
208. *CP* 5.108.

This leads back to Wells' concern regarding behavior outside the bounds of normative science. Self-controlled thought is a species of purposive action that is directed toward ends provided by the normative sciences. If, as Peirce claimed in 1903, the original wording of the pragmatic maxim, while admittedly awkward, was carefully crafted to show that he was "speaking of meaning in no other sense than that of *intellectual purport*" and to "avoid all danger of being understood as attempting to explain a concept by percepts, images, schemata, or by anything but concepts,"[209] then we are forced to conclude that the notion of unconscious inference is without real meaning. What follows is the serious question of whether Peirce's theory of signs can be considered truly general. One is reminded of Peirce's ongoing struggle to establish the reality of Thirdness. "Among the linguistic devices used by Peirce to carry his readers with him to the higher reaches of generality, and perhaps to assist his own ascent, were 'almost,' 'all but,' 'virtual,' and above all, 'quasi-,' as in 'quasi-sign' [*CP* 5.473], 'quasi-mind' [*CP* 7.669], 'quasi-utterer' [*CP* 4.551], 'quasi-interpreter' [*CP* 4.551]," and we might add, 'quasi-inference' from percepts [*CP* 8.149]."[210]

Wells suggests that Peirce's system might easily be emended in a way that would remove the restriction of inference to deliberate self-controlled conduct and "enlarge its scope, but that would hardly support claims of adequacy and fruitfulness."[211] Such an emendation would, however, put aside the question Peirce struggled to answer: "Where … in the process of cognition does the possibility of controlling it begin?"[212] It is this

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209. *CP* 5.402n3.
210. Fisch, *Peirce, Semeiotic, and Pragmatism*, 360.
211. Wells, "Thirdness and Linguistics," 197.
212. *CP* 5.115.

broader notion of cognition that Colapietro holds is key and extends self-control beyond the strictures of consciousness and deliberation.

> Reasoning in the strict sense is the essential, though not exclusive operation of the rational mind. Now, the rational mind is a species of the cognitive mind, its specific difference being … the capacity to exert self-control over some of its inferences … We might say that the decapitated frog that responds to external stimuli thereby manifests a cognitive, but not a rational, mind. Recall that, for Peirce, inference is essentially an interpretation of signs. Any agent capable of engaging in acts of interpretation (be these instinctual or learned, automatic or autonomous) possesses by virtue of this capacity, a *cognitive* mind. As we have seen, a *rational* mind is simply a cognitive mind that is capable of controlling *some* of its acts of inference and, as a result of this capacity, capable of controlling the formation of some of its habits.[213]

Certainly such a view is hinted at by Peirce's grades of self-control that range from those that "entirely escape consciousness" to the controlling of control by human agents, a capacity requiring the disposition toward moral rule that alone is provided by normative science.[214] After declaring categorically that "reasoning must be conscious," Peirce concluded that "the secret of rational consciousness is not so much to be sought in the study of this one peculiar nucleolus, as in the review of the process of self-control in its entirety."[215] Unfortunately, as in so many other instances, he never completed this review.

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213. Colapietro, *Peirce's Approach to the Self,* 110.
214. *CP* 5.533.
215. *CP* 5.440.

Chapter Six

Instinct, Emotion and Sentiment as Indispensable to Reason

All human knowledge, up to the highest flights of science,
is but the development of our inborn animal instincts.
--Peirce, *Collected Papers*

A. The Evolution of a Philosophical Role for Instinct

The effect of Darwinism on the development of American philosophy in the

second half of the nineteenth century was, to state the obvious, revolutionary. Charles

Darwin's theory suggested that the mind and its contents, no less than the living things it

perceived, was integral to nature and a product of the process of natural selection. This

idea profoundly affected Peirce and the pragmatists, as Max Fisch points out.

> The crux of the theory of biological evolution was of course man, and
> the difficulty was not so much that of finding the links between the
> human organism and those of lower animals, as it was that of finding the
> links between animal instinct and human reason. Darwin made a
> beginning in those chapters of his *Descent of Man* devoted to
> comparison of the mental powers of man with those of lower animals,
> and to the development of the intellectual and moral faculties during
> primeval and civilized times. The naturalization of the human mind there
> begun was continued by the pragmatists.[1]

Writing in 1873, following a trip to England, where he had visited Darwin,

Chauncey Wright, an original member of the Metaphysical Club, suggested that

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Epigraph. CP 2.754.
1. Max H. Fisch, "Evolution in American Philosophy," first printed in *Philosophical Review* 56 (1947): 357-373, included in Kenneth Laine Ketner and Christian J.W. Kloesel, eds., *Peirce, Semeiotic, and Pragmatism: Essays by Max H. Fisch* (Bloomington; Indiana University Press, 1986), 23.

evolutionary theory was buttressed because it demonstrated that the historical distinction

between instinct and intelligence was vague and artificial.

> For the distinction of instinct and intelligence, though not less real and
> important in the classification of actions in psycho-zoology, and as
> important even as that of animal and vegetable is in general zoölogy, or
> the distinctions of organic and inorganic, living and dead, in the general
> science of life, is yet, like these, in its applications a vague and ill-
> defined distinction … Under the naturalist's point of view, the contrasts
> of dead and living matters, inorganic and organic products, vegetable
> and animal forms and functions, automatic and sentient movements,
> instinctive and intelligent motives and actions, are severally rough
> divisions of *series*, which are clearly enough contrasted in their
> extremities, but ill defined at their points of division.[2]

Peirce was among the first to affirm this vagueness in appropriating a philosophical role

for instinct in his account of the development of mind and its continuity with nature. As

he was fond of reminding his readers, the capacity of reason in humans reflects the

mind's affinity with nature and its continuity with the instincts of so-called lower

animals.

> you cannot seriously think that every little chicken, that is hatched, has
> to rummage through all possible theories until it lights upon the good
> idea of picking up something and eating it. On the contrary, you think
> the chicken has an innate idea of doing this … The chicken you say
> pecks by instinct. But if you are going to think every poor chicken
> endowed with an innate tendency toward a positive truth, why should
> you think that to man alone this gift is denied? … It is somehow more
> than a mere figure of speech to say that nature fecundates the mind of
> man with ideas which, when those ideas grow up, will resemble their
> father, Nature.[3]

Peirce often distinguished reasoning from instinct by claiming that reasoning differs from

instinct only in being less reliable.

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2. Charles Eliot Norton, *Philosophical Discussions by Chauncey Wright with a Biographical Sketch of the Author* (1877, repr., New York: Burt Franklin, 1971), 219-220.
3. *CP* 5.591.

Every race of animals is provided with instincts well adapted to its needs, and especially to strengthening the stock. It is wonderful how unerring these instincts are. Man is no exception in this respect; but man is so continually getting himself into novel situations that he needs, and is supplied with, a subsidiary faculty of *reasoning* for bringing instinct to bear upon situations to which it does not directly apply. This faculty is a very imperfect one in respect to fallibility.[4]

Wright and Peirce were in agreement that the use of signs and symbols constitutes thought and explained the continuity of human intellectual evolution.[5] Peirce wrote in the late autumn of 1913, just months before his death, that "[t]he word instinct itself is but a generalization of abstractions, one of the brood of language or of thought: there is no great difference between the two …"[6] As we have seen, Peirce was convinced that the so-called lower animals were also capable of sign usage and believed that they use language and exercise some minimal level of control over it.[7] Evolution provided a framework for developing the continuity between instinct and intelligence. For Peirce, it is a force governing the machinations of mind, no less than organic species.[8] Natural selection extends to the habits of mind, the good or useful being approved and retained, the bad or errant being eliminated.[9] Thus the species adapts, becoming more reasonable.

Peirce, however, took this all even one step further like so many of his generation, extending it far beyond the scope of biological organisms, to which Darwin

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4. *CP* 6.497.
5. Philip Wiener, *Evolution and the Founders of Pragmatism* (Cambridge: Harvard University Press, 1949), 89.
6. *MS* 682, *EP* 2:473.
7. *CP* 5.534.
8. *CP* 2.86.
9. *CP* 2.189.

had confined it, and thus transmuting Darwinism into philosophy.[10] To Peirce's mind,

evolution also provided a means for solving the riddle of the universe, of bringing science

and cosmology together. His entry for "Pragmatic and Pragmatism" in Baldwin's

Dictionary of Philosophy and Psychology provided a snapshot of his vision.

> Almost everybody will now agree that the ultimate good lies in the
> evolutionary process in some way. If so, it is not in individual reactions
> in their segregation, but in something general or continuous. 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. This is first shown to be true with mathematical
> exactitude in the field of logic, and is thence inferred to hold good
> metaphysically. It is not opposed to pragmatism in the manner in which
> C.S. Peirce applied it, but includes that procedure as a step.[11]

The idea dazzled and consumed him and Peirce spent most of the balance of his life

employing it in an ultimately unfulfilled endeavor to erect a system of philosophy as

comprehensive as that of Aristotle.[12]

Darwin provided a muse. In 1884, in a lecture on how the laws of nature might

have evolved from pure chance, delivered to the Metaphysical Club at Johns Hopkins, he

proclaimed "Indeed, my opinion is only Darwinism analyzed, generalized, and brought

into the realm of Ontology."[13] He believed that he was able to statistically generalize

chance variation occurring in natural selection and account for the phenomenon of pure

chance throughout the universe.

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10. See Rulon S. Wells, "The True Nature of Peirce's Evolutionism," in *Studies in the Philosophy of Charles S. Peirce,* 2nd series (Amherst: University of Massachusetts Press, 1964), 304-322, where Wells charges Peirce with a methodological schizophrenia, in which he oscillates between the treatment of Darwinism as a testable scientific theory and as a philosophy.
11. *CP* 5.4.
12. *CP* 1.1.
13. *EP* 1:222.

Explicability has no determinate & absolute limit. Everything being explicable, everything has been brought about; and consequently everything is subject to change and subject to chance. Now everything that can happen by chance, sometime or other will happen by chance. Chance will sometime bring about a change in every condition … Chance is indeterminancy, is freedom. But the action of freedom issues in the strictest rule of law.[14]

Changes wrought by the operations of chance were, for Peirce, "founded upon the mathematical view of probabilities and the theory of the adaptation of the mind to the universe."[15] He often pointed to the example of the operations of chance at the gaming table.

Thus, if a million players sit down to bet at an even game, since one after another will get ruined, the average wealth of those who remain will perpetually increase. Here is indubitably a genuine formula of possible evolution, whether its operation accounts for much or little in the development of animal and vegetable species.[16]

Peirce saw three elements – chance, law and the tendency toward habit formation – as isomorphic with his three categories.[17] He enlarged Darwin's theory that the law of heredity is subject to chance variation to include the metaphysical assertion that it is the interplay of chance and law that produces habit-taking.

conformity to law exists only within a limited range of events and even there is not perfect, for an element of pure spontaneity or lawless originality mingles, or at least, must be supposed to mingle, with law everywhere. Moreover, conformity with law is a fact requiring to be explained; and since Law in general cannot be explained by any law in particular, the explanation must consist in showing how law is developed out of pure chance, irregularity, and indeterminancy …Tell us how the laws of nature came about, and we may distinguish in some

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14. *W* 4:549, 552.
15. Charles Sanders Peirce, *Johns Hopkins Circulars* 1 (May 1881), 150, quoted by Wiener in *Evolution and the Founders of Pragmatism*, 82.
16. *CP* 6.15; see also *CP* 1.396 where Peirce provides the actual calculations for this game of chance.
17. *CP* 1.409. See also Nathan Houser, *The Essential Peirce*, eds .Nathan Houser and Christian Kloesel (Bloomington: Indiana University Press, 1992), 1:245.

measure between laws that might and laws that could not have resulted from such a process of development. To find that out is our task. I will begin with this guess. Uniformities in the modes of action of things have come about by their taking habits. At present, the course of events is approximately determined by law. In the past that approximation was less perfect. The tendency to obey laws has always been and always will be growing.[18]

Spontaneity was a word Peirce used as a synonym for chance, particularly as it pertained to actuality rather than possibility.[19] For Peirce, spontaneity is life and it permeates the universe, manifesting itself in the evolutionary process. He claimed, "By … admitting pure spontaneity or life as a character of the universe, acting always and everywhere though restrained within narrow bounds by law, producing infinitesimal departures from law continually, and great ones with infinite infrequency, I account for all the variety and diversity of the universe, in the only sense in which the really *sui generis* and new can be said to be accounted for."[20]

Peircean evolution emerged in the instant of the universe's genesis. In his cosmogony, the laws of physics, the rules of logic, even Time, are antedated by the operation of pure chance "with its consequent thorough-going evolutionism."[21] "Tychism, the doctrine that absolute chance is a factor in the universe,"[22] was joined to his objective idealism, the "theory of the universe … that matter is effete mind, inveterate habits becoming physical laws,"[23] to forge his Synechism, "that tendency of philosophical thought which insists upon the idea of continuity as of prime importance in

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18. *CP* 1.407-8.
19. Douglas R. Anderson, *Creativity and the Philosophy of C.S. Peirce* (Dordrecht*:* Martinus Nijhoff Publishers, 1987), 103.
20. *CP* 6.59.
21. *CP* 6.163.
22. *CP* 6.201.
23. *CP* 6.25.

philosophy and, in particular, upon the necessity of hypotheses involving true

continuity."[24] In this way, Peirce believed he was able to demonstrate how the universe is

evolving toward concrete reasonableness, spawning orderliness out of chaos, and, at the

same time, attaining a higher grade of complexity.

> … all the evolution we know of proceeds from the vague to the definite.
> The indeterminate future becomes the irrevocable past. In Spencer's
> phrase the undifferentiated differentiates itself. The homogeneous puts
> on heterogeneity. However it may be in special cases, then, we must
> suppose that as a rule the continuum has been derived from a more
> general continuum, a continuum of higher generality … If this be
> correct, we cannot suppose that it began elsewhere than before logic, we
> cannot suppose that it began elsewhere than in the utter vagueness of
> completely undetermined and dimensionless potentiality. The
> evolutionary process is, therefore, not a mere evolution of the *existing*
> *universe*, but rather a process by which the very Platonic forms
> themselves have become or are becoming developed.[25]

Wells indicates that one of the reasons Darwin appealed to Peirce was his belief that the

operation of chance in natural selection resembles statistical mechanics in the growth of

order from chaos.[26] As we saw earlier, this process of becoming ordered, this tendency

to become continuous, to become governed by laws is the *summmum bonum*.

"Generalization, the spilling out of continuous systems, in thought, in sentiment, in deed,

is the true end of life."[27] In an 1891 letter to his former student, Christine Ladd-Franklin,

Peirce summarized his evolutionary cosmology.

> I may mention that my chief avocation in the last ten years has been to
> develop my cosmology. This theory is that the evolution of the world is
> *hyperbolic*, that is, proceeds from one state of things in the infinite past,

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24. *CP* 6.169.
25. Charles Sanders Peirce, *Reasoning and the Logic of Things,* ed. Kenneth Laine Ketner
(Cambridge: Harvard University Press, 1992), 258.
26. Rulon S. Wells, "The True Nature of Peirce's Evolutionism," Charles Sanders Peirce,
Reasoning and the Logic of Things, 316. See *CP* 5.364 where Peirce writes, "The Darwinian controversy is,
in large part, a question of logic. Mr. Darwin proposed to apply the statistical method to biology.
27. *NEM* 4:346.

to a different state of things in the infinite future. The state of things in the infinite past is chaos, tohu bohu, the nothingness of which consists in the total absence of regularity. The state of things in the infinite future is death, the nothingness of which consists in the complete triumph of law and absence of spontaneity. Between these, we have on *our* side a state of things in which there is some absolute spontaneity counter to all law, and some degree of conformity to law, which is constantly on the increase owing to the growth of *habit*.[28]

The wild cosmogonical speculation engaged in by Peirce notwithstanding, the only thing, he supposed, that we can ever hope to know of the universe and its development via the tendency toward habit-taking is by applying scientific method to an artifact of its creation, the human mind.

In doing this I am not much afraid of specializing too much and of assuming that the universe has characters which belong only to nervous protoplasm in a complicated organism. For we must remember that the organism has not made the mind, but is only adapted to it. It has become adapted to it by an evolutionary process so that it is not far from correct to say that the mind has made the organism.[29]

Another way Peirce had of stating this was his claim that the only thing we can know of the outer world is what is found in the inner world. In this, however, Peirce differentiated himself from his contemporaries. "I do not mean by the inner world that human consciousness which [James Mark] Baldwin and Royce have lately so forcibly reminded us is a social development and therefore very recent, only now in fact in process of taking a shape which has not yet been attained," he declared.[30] For him, the structure of the mind and the structure of the universe were continuous.

There are three categories of being; ideas of feelings, acts of reaction, and habits. Habits are either habits about ideas of feelings or habits about acts of reaction. The ensemble of all habits about ideas of feeling

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28. *CP* 8.317.
29. *NEM* 4:141.
30. Ibid.

constitutes one great habit which is a world; and the ensemble of all habits about acts of reaction constitutes a second great habit, which is another world. The former is the Inner World, the world of Plato's forms. The other is the Outer World, or universe of existence. The mind of man is adapted to the reality of being.[31]

"That is why," he declared, "I make strong to go to the human mind to learn the nature of a great cosmical element."[32] There, in a time before Time, lay the origin of the distinction between the inner and outer worlds.

The accidental reaction awoke [the inner world] into a consciousness of duality, of struggle and therefore of antagonism between an inner and an outer. Thus, the inner world was first, and its unity comes from that firstness. The outer world was second. The social world was logically developed out of those two and the physiological structure of man was brought to forms adapted to that development.[33]

Beyond such conjecture there is, however, little to be learned when it comes to the origin of habit.

Even from the human mind we can only collect external information about habit. Our knowledge of its inner nature must come to us from logic. For habit is generalization.[34]

Whether there was "a tendency to take habits in the chaotic, original nothingness,"[35] or whether it evolved in the antagonism of the two worlds, Peirce is, admittedly, at a loss.[36] He does, however, propose to understand the phenomenon in very human terms, in a passage written in 1902.

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31. *CP* 4.157.
32. *NEM* 4:141.
33. Ibid.
34. *NEM* 4:142.
35. Anderson, *Creativity and the Philosophy of C.S. Peirce*, 216.
36. Ibid., 102. W.B. Gallie rightly notes that such a conjecture, that the universe of pure chance was the source of the actual and of the tendency to take habits or the tendency toward generalization is fatal to his doctrine of the categories, each of which is universal. See W.B. Gaillie, *Peirce and Pragmatism* (New York: Dover Publications, 1966), 226ff.

> If I may be allowed to use the word "habit," without any implication as to the time or manner in which it took birth, so as to be equivalent to the corrected phrase "habit or disposition," that is, as some general principle working in a man's nature to determine how he will act, then an instinct, in the proper sense of the word, is 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.[37]

This definition gives rise to a very interesting theory of instinct that, as much as anything else, can be considered the heart of Peirce's philosophy, for it encompasses the sum of his thought on many of the wide range of topics we have been exploring.

Having thus assimilated instinct to habit, Peirce's theory owes much to his heavy reliance on Jean-Baptiste Lamarck's belief in the capacity for the genetic transmission of acquired characteristics.[38] "The Lamarckian theory … supposes that the development of species has taken place by a long series of insensible changes, but it supposes that those changes have taken place during the lives of the individuals, in consequence of effort and exercise, and that reproduction plays no part in the process except in preserving these modifications."[39] Even so, Peirce left open the question of whether habits are sexually transmitted from generation to generation.

> Nothing so characterizes instincts as their persistence when all the lights of reason are against them, and this whether they are true inherited instincts or merely traditional. Well-bred people, for example, are full of traditional habits – prejudices, we call them – about manners. They may be in situations in which reason warns them that these habits are distinctly injurious to them; and still they have a difficulty in overcoming them even with a serious effort.[40]

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37. *CP* 2.170.
38. Jean-Baptiste Lamarck, *Zoological Philosophy,* translation of *Philosophie zoologique,* trans. Hugh Elliott (Chicago: University of Chicago Press, 1984), part 1, chapter 7, 106-127.
39. *CP* 6.16.
40. *CP* 2.160.

At other times he distinguished non-inherited from inherited instincts by referring to the former as sentiments.[41] Sentiments were generally viewed by Peirce as being social in nature.[42] This is clearly reflected in his postulation of three logical sentiments in his 1878 *Illustration of the Logic of Science* series: "It may seem strange that I should put forth three sentiments, 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, as indispensable requirements of logic."[43] Nevertheless, the lack of a reliable nomenclature is the source of considerable difficulty for the interpreter, as Maryann Ayim is forced to admit.

> In some passages, Peirce limits the term "instinct" to inherited habits, and uses the term "sentiment" to refer to non-inherited habits. Often, however, Peirce neglects to distinguish between inherited and non-inherited habits, in which case the term "instinct" and "sentiment" are used interchangeably. Peirce's failure to consistently retain this distinction leads to some confusion in his writing.[44]

In the next section we will do our best to address this confusion and come to a clearer understanding of Peirce's theory of instinct and its role in inquiry and action, a theory that for William H. Davis binds together many of the doctrines we have been exploring. "The continuity of signs, of all mental life, as it flows and tends to organize itself under more general heads, the evolution of physical laws, biological laws, and the life of the mind – all this is tied together in a very provocative package."[45]

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41. *CP* 1.661.
42. Maryann Ayim, *Peirce's View of the Roles of Reason and Instinct in Scientific Inquiry* (Meerut, India: Anu Prakashan, 1982), 19.
43. *CP* 2.655.
44. Ayim, *Peirce's View of the Roles of Reason and Instinct in Scientific Inquiry*, 19.
45. William H. Davis, *Peirce's Epistemology* (The Hague: Martinus Nijhoff, 1972), 122.

B. Instinct, Habit and Inquiry

While instinct is more or less subsumed in habit in *CP* 2.170, such is not entirely

the case in every instance. While Peirce was generally unwilling to distinguish inherited

from acquired instinct, he occasionally did so.

> 'Instinctive' does not simply mean 'very much a matter of habit.' Other
> reasonings, although not exactly instinctive, have become so habitual as
> to resemble instinctive actions. In many cases, the habits have come to
> us from tradition.[46]

Peirce recalled an incident from his childhood by way of illustration.

> I well remember when I was a boy, and my brother Herbert, now our
> minister at Christiana, was scarce more than a child, one day, as the
> whole family were at table, some spirit from a "blazer," or "chafing-
> dish," dropped on the muslin dress of one of the ladies and was kindled;
> and how instantaneously he jumped up, and did the right thing, and how
> skillfully each motion was adapted to the purpose. I asked him afterward
> about it; and he told me that since Mrs. Longfellow's death [in 1861, in
> a similar accident], it was that he had often run over in imagination all
> the details of what ought to be done in such an emergency. It was a
> striking example of a real habit produced by exercises in the
> imagination.[47]

In this section we will briefly examine to what degree Peirce intended the identity of

instinct and habit. We will also investigate the relation of habit and belief and how both

relate to inquiry. This will entail some understanding of Peirce's theory of inquiry, some

of which we have studied in previous chapters but other parts of which are yet uncharted.

We will conclude with a fuller investigation of Peirce's classification of instincts in

which he demonstrates the evolution of instinct and its development into reason.

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46. *MS* 693a, 20, undated. Quoted in Ayim, *Peirce's View of the Roles of Reason and Instinct in Scientific Inquiry*, 109.
47. *CP* 5.487n1.

Very near the end of his life, Peirce identified the reasoning power of human beings with the instinctive nature of ants and wasps.[48] So far from being dissociated from instinct and sentiment, human reasoning is essentially the exercise of unconscious instinct.

> Reason is of its very essence egotistical. In many matters it acts the fly on the wheel. Do not doubt that the bee thinks it has a good reason for making the end of its cell as it does. But I should be very much surprised to learn that its reason had solved that problem of isoperimetry that its instinct has solved. 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*. The extent of this self-delusion is such as to render philosophical rationalism a farce. Reason, then, appeals to sentiment in the last resort.[49]

As we have noted, Peirce held a strong belief in the mind's inherent insight into the ways of nature by virtue of its evolved structure.

> …Man has a certain Insight, not strong enough to be oftener right than wrong, but strong enough not to be overwhelmingly more often wrong than right, into the Thirdnesses, the general elements, of Nature. An Insight, I call it, because it is to be referred to the same general class of operations to which Perceptive Judgments belong. This Faculty is at the same time of the general nature of Instinct, resembling the instincts of the animals in its so far surpassing the general powers of our reason and for its directing us as if we were in possession of facts that are entirely beyond the reach of our senses. It resembles instinct too in its small liability to error; for though it goes wrong oftener than right, yet the relative frequency with which it is right is on the whole the most wonderful thing in our constitution.[50]

Even the description of a theory or an idea as reasonable often seems to have less to do with the ratiocination involved in arriving at it than it does with the feeling or intuition of reasonableness that accompanies it.

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48. *EP* 2:464.
49. *CP* 1.631-2.
50. *CP* 5.173.

If you ask an investigator why he does not try this or that wild theory, he will say, "It does not seem *reasonable*." It is curious that we seldom use this word where the strict logic of our procedure is clearly seen. We do [not] say that a mathematical error is not reasonable. We call that opinion reasonable whose only support is instinct….[51]

We shall return to this interesting aspect of instinct in our treatment of abduction.

Instinct is acquired in the development of the human species.[52] It originates in the work of the categories.

…the categories suggest our looking for a synthetizing law; and this we find in the power of assimilation, incident to which is the habit-taking faculty. This is all the categories pretend to do. They suggest a way of thinking; and the possibility of science depends upon the fact that human thought necessarily partakes of whatever character is diffused through the whole universe, and that its natural modes have some tendency to be the modes of action of the universe.[53]

Like the rest of the universe, including its governing laws, "Instinct is capable of development and growth," though the process is quite slow.[54] "Our instinctive ways of thinking have become adapted to ordinary practical life, just as the rest of our physiology has become adapted to our environment."[55] As we have already seen, instinct and reason are continuous with reason being an evolutionary outgrowth of instinct, as much as the contrary could be argued from observation.[56]

Peirce associated instinct with pure feelings of sensation without identifying the two. Despite sometimes speaking of "instinctive feelings" (*CP* 1.107, 2.170), "instinctive desires" (*CP* 1.584), and "instinctive attraction" (*CP* 5.64), it is clear from the rest of his

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51. *CP* 5.174.
52. Davis, *Peirce's Epistemology*, 120.
53. *CP* 1.351.
54. *CP* 1.648.
55. *CP* 7.606.
56. *CP* 7.380.

writings that Peirce's preferred view was that instincts, like emotion, perception,

sensation, attention, action, habit and inquiry, are semiotic processes, that is, they are

representational.[57] In other instances instinct is to be understood in terms of original,

indubitable or natural beliefs (*CP* 5.445, 5.498, 5.603, respectively). David Savan

identifies the occurrence of the indubitable in Peirce's writings as a class of things

belonging to a paradisiacal, simple, naïve, pre-critical universe.[58] He lists three species of

indubitable, the second of which consists of those things which are entirely too vague to

be doubted. Here he includes instincts, moral sentiments, and common sense judgments.

Peirce demonstrated the indeterminacy of instinct by defining it "in that broad sense in

which it will include all habits of which we are not prepared to render an account, or in

one word, all that goes by the name of the rule of thumb."[59] As such, he says, instincts

are "habits of unknown parentage"[60] that are accepted uncritically. This fact, however,

should not deter us in our investigation. Because of the vagueness he attached to his

understanding of instinct and his apparent reticence to carve at the joint of instinct and

habit, following his lead in *CP* 2.170, we shall treat instinct as habit, without regard to its

origin, save where Peirce has made a distinction. As a rule of thumb, i.e., a practical rule,

based on neither science nor precision, and belonging to a pre-critical world, instinct is,

nevertheless, inferential, if not something of which we are even half-conscious.[61] At

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57. David Savan, "Peirce and Idealism," in Kenneth Laine Ketner, ed., *Peirce and Contemporary Thought* (New York: Fordham University Press, 1995), 322; and "Abduction and Semiotics," in *The Signifying Animal: The Grammar of Language and Experience,* eds. Irmengard Rauch, Gerald F. Carr (Bloomington: Indiana University Press, 1980), 255.

58. David Savan, "Decision and Knowledge in Peirce," *Transactions of the Charles S. Peirce Society* 1 (1965): 31-35.

59. *CP* 2.175.

60. Ibid.

61. *CP* 4.631, 6.570.

times, particularly in regard to abductive inference, Peirce appears to have come close to

blurring the line between logic and psychology. He referred to the instinct of abduction in

psychological language as an "insight" (*CP* 5.173, 5.604), a feeling (*CP* 5.643) and as a

"flash" (*CP* 5.181), and explained that it belongs to the same general class as perceptual

judgments (*CP* 5.173), that, in fact, abductive inference shades into perceptual judgment

without any line of sharp demarcation (*CP* 5.181). But as we have seen, perceptual

judgments contain general elements that allow universal propositions to be inferred from

them (*CP* 5.181) providing the means by which we divine the ways of nature (*CP* 5.173).

In 1902, he offered the following apology for the psychological content of his

descriptions.

> After the main conceptions of logic have been well settled, there can be
> no serious objection to relaxing the severity of our rule excluding
> psychological matter, observations of how we think and the like … But
> while the justice of this must be admitted, it is also to be borne in mind
> that there is a purely logical doctrine of how discovery must take place
> … In addition to this, there may be a psychological account of the
> matter, of the utmost importance and ever so extensive … I may here
> and there make such use of it as I can in aid of my doctrine.[62]

We shall explore this distinction further in the next section dealing with abduction.

As we have noted, Peirce linked human instinct to the flight and migration of

birds, the hive building of bees and the colonizing of social insects. In addition to animal

and human instinct, Peirce indicated a third variety that he called vegetable instinct but

said very little about.[63] Presumably, vegetable instinct indicates the habit of green plants

to grow toward sunlight and the adaptation of "carnivorous" plants such as the Venus

flytrap. Peirce commented parenthetically that "both [animal and vegetable instinct],

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62. *CP* 2.107.
63. *CP* 1.266.

especially the latter, throw much light on man's nature,"[64] but he never explicitly said

how. In an obscure passage from around 1902 entitled "Of the Practical Sciences," Peirce

wrote.

> An animal instinct is a natural disposition, or inborn determination of the
> individual's Nature (his 'nature' being that within him which causes his
> behaviour to be such as it is), manifested by a certain unity of quasi-
> purpose in his behaviour. 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 refexion; so much so that
> to the man himself his action appears to be entirely rational, so far is it
> from being merely sensori-motor. General analogy and many special
> phenomena warrant the presumption that the same thing is true of the
> lower animals, though they are undoubtedly far less reflective than men.
> Yet the adaptation of the behaviour to its quasi-purpose in some definite
> part overleaps all control … So then the three essential characters of
> instinctive conduct are that it is conscious, is determined to a quasi-
> purpose, and that in definite respects it escapes all control.[65]

He was convinced that animals do reason, though perhaps, very little.[66] In an undated

manuscript from around 1911, Peirce asserted, once again, that a false dichotomy exists

between reason and instinct, that animals do reason and presented illustrations with little

elaboration.[67] As we saw in chapter four, reasoning is related to the higher levels of self-

control and thus to self-consciousness. Animal instinct, as such, is in some manner

uncontrolled inference.

> Uncontrolled inference from contiguity, or experiential connection, is
> the most rudimentary of all reasoning. The lower animals so reason. A
> dog, when he hears his master's voice, runs expecting to see him; and if
> he does not find him, will manifest surprise, or, at any rate, perplexity.[68]

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64. Ibid.
65. *CP* 7.381n19.
66. *CP* 1.626.
67. *MS* 672. See Richard S. Robin, *An Annotated Catalogue of the Papers of Charles S. Peirce*
(Amherst: The University of Massachusetts Press, 1967), 85.
68. *CP* 7.445.

And yet, on other occasions, Peirce made it appear that there was much more to the

reason of "those whom we are so fond of referring to as the 'lower animals'"[69] than what

we might think of as conditioned response. Writing in 1902, Peirce noted that his dog

was capable of a level of reasoning as complex as to consist of a triplicity of relations.

> I tell my dog to go upstairs and fetch me my book, which he does. Here is a fact about three things, myself, the dog, and the book, which is no mere sum of facts relating to pairs, nor even a pairing of such pairs. I speak to the dog. I mention the book. I do those things together. The dog fetches the book. He does it in consequence of what I did. That is not the whole story. I not only simultaneously spoke to the dog and mentioned the book, but I mentioned the book to the dog; that is, I caused him to think of the book and to bring it. My relation to the book was that I uttered certain sounds which were understood by the dog to have reference to the book. What I did to the dog, beyond exciting his auditory nerve, was merely to induce him to fetch the book. The dog's relation to the book was more prominently dualistic; yet the whole significance and intention of his fetching it was to obey me. In all action governed by reason such genuine triplicity will be found.[70]

What appears to us as the occult nature of animal instinct seems to have more to do with

the differences in our modes of perception than with the kinds of feelings produced,

which, in the final analysis are communicable not only between members of the same

species but at times between human and non-human animals.

> As for the senses of my dog, I must confess that they seem very unlike my own, but when I reflect on how small a degree he thinks of visual images, and of how *smells* play a part in his thoughts and imaginations analogous to the part played by *sights* in mine, I cease to be surprised that the perfume of roses or of orange flowers does not attract his attention at all and that the effluvia that interest him so much, when at all perceptible to me, are simply unpleasant. He does not think of smells as sources of pleasure and disgust but as sources of information … I know very well that my dog's musical feelings are quite similar to mine though they agitate him more than they do me. He has the same

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69. *CP* 1.626.
70. *CP* 2.86.

emotions of affection as I, though they are far more moving in his case. You would never persuade me that my horse and I do not sympathize, or that the canary bird that takes such delight in joking with me does not feel with me and I with him; and this instinctive confidence of mine that it is so, is to my mind evidence that it really is so.[71]

This brings us to the question of the role of instinct. In one of the last of his writings on the subject, Peirce further refined his thinking about instinct.

I should define what I mean by an "instinct" as a way of voluntary acting prevalent almost universally among otherwise normal individuals of at least one sex or other unmistakable natural part of a race … which action conduces to the probable perpetuation of that race, and which, in the present state of science, is not at once satisfactorily and fully explicable as a result of any more general way of mental action.[72]

Peirce contended that there are essentially two kinds of instincts. One he referred to as selfish (*CP* 7.383) and the other as social (*CP* 7.378). Both types include inherited and non-inherited instincts. Both are aimed at preservation of the species whether "through preserving the individual in whom the instinct acts," on the one hand, or by preserving "some other individual or individuals than the agent," on the other hand.[73] While selfish instincts are geared to the interests and survival of the individual, "in many cases, the social instincts are expensive to the individual, even dangerous, sometimes fatal."[74] The useful arts (e.g., food gathering, tool-making, agriculture, and medicine) have developed from the selfish instincts.[75] The social instincts led to the development of reason.[76] We will return to this distinction later in the chapter. At all events, all instinct is acquired in the development of the race as an adaptation to nature and conditions in the environment.

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71. *CP* 1.314.
72. *EP* 2:464.
73. *CP* 7.378.
74. Ibid.
75. Ibid.
76. *CP* 7.384.

To the end of preserving the species, instincts, whether of the selfish or social variety,

guide and assist the reasoning process. As Davis points out, "It is a cornerstone of

Peirce's philosophy that human instincts, so far as they bear on judgment as well as on

action are far from pernicious in their influence, but positively helpful."[77] In our

treatment of abduction, we will see how instinct is applied to the reasoning process and

promotes the preservation and well-being of the human species.

To the extent that instinct is a mode of voluntary mental action aimed at the

perpetuation of the species (*EP* 2:464 above), it is purposive action and thus very closely

tied to pragmatism and the fixation of belief. In 1905, he wrote:

> [The pragmatist's] doctrine essentially insists upon the close affinity
> between thinking in particular and endeavour in general. Since,
> therefore, action in general is largely a matter of instinct, he will be
> pretty sure to ask himself whether it be not the same with belief.[78]

Three years later, in a piece entitled "A Neglected Argument for the Reality of

God" for the *Hibbert Journal*,[79] Peirce underscored his point in the context of his critical

common-sensism.

> …man, like any other animal, is gifted with power of understanding
> sufficient for the conduct of life. This brings him, for testing the
> hypothesis, to taking his stand upon Pragmaticism, which implies faith
> in common sense and in instinct, though only as they issue from the
> cupel-furnace of measured criticism.[80]

While Peirce often asserted that instinct is prone to error in theoretical matters

(*CP* 1.404, 1.634, 5.592), and made it clear that in practical affairs instinct was nearly

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77. Davis, *Peirce's Epistemology*, 63.
78. *CP* 5.499.
79. C. S. Pierce, "A Neglected Argument for the Reality of God," *Hibbert Journal* 7 (1908): 90-112.
80. *CP* 6.480.

infallible (*CP* 1.633, 1.661), the conduct of life is more than the sum of that which he

termed practical in nature. The production of belief, the amplification of meaning, and the

establishment of a habit which, for Peirce, are the essence of pragmatism, are as rooted in

theory as in practical effects. Beliefs are of the nature of habits (*CP* 2.643) that is, habits

of which we are conscious (*CP* 4.53) and, as such, are dispositions to certain kinds of

conduct.[81] The production of belief clearly has a psychological aspect. We have noted

that in his *Popular Science* series of 1877-8, Peirce articulated the position that he refined

over the years but from which he never essentially wavered.

> And what, then, is belief? It is the demi-cadence which closes a musical
> phrase in the symphony of our intellectual life. We have seen that it has
> just three properties: First, it is something that we are aware of; second,
> it appeases the irritation of doubt; and, third, it involves the
> establishment in our nature of a rule of action, or, say for short, a
> *habit.*[82]

Again, Peirce's retrospective essay on pragmatism traced the biological, as well as the

psychological aspects of inquiry.

> It is … no doubt true that men act, especially in the action of inquiry, *as
> if* their sole purpose were to produce a certain state of feeling, in the
> sense that when that state of feeling is attained, there is no further effort.
> It was upon that proposition that I originally based pragmaticism … In
> the case of inquiry, I called that state of feeling "firm belief" … Early in
> 1880, in the opening paragraphs of my memoir in Vol. III of the
> *American Journal of Mathematics*, § I referred the matter to the
> fundamental properties of protoplasm, showing that purposive action
> must be action *virtually* directed toward the removal of stimulation.[83]

> In that same issue of the *American Journal of Mathematics* he had written:

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81. Peirce appears to have changed his mind on this point. In *CP* 5.417 he says: "Belief is not a
momentary mode of consciousness; it is a habit of mind essentially enduring for some time, and mostly (at
least) unconscious" [1905].

82. *CP* 5.397.

83. *CP* 5.563.

Thinking, as cerebration, is no doubt subject to the general laws of nervous action. When a group of nerves are stimulated, the ganglions with which the group is most intimately connected on the whole are thrown into an active state, which in turn usually occasions movements of the body. The stimulation continuing, the irritation spreads from ganglion to ganglion (usually increasing meantime). When the stimulus is withdrawn, the excitement quickly subsides. Now, all vital processes tend to become easier on repetition. Along whatever path a nervous discharge has once taken place, in that path a new discharge is more likely to take place … Hence, a strong habit of responding to the given irritation in this particular way must quickly be established.[84]

Habits thus established are dispositions to action.

Belief does not make us act at once, but puts us into such a condition that we shall behave in some certain way, when the occasion arises. Doubt has not the least such active effect, but stimulates us to inquiry until it is destroyed.[85]

Thus purpose of inquiry is, then, to settle doubt by replacing it with belief which is conscious (or semi-conscious) habit. Carl Hausman correctly points out that with the understanding that belief is of the nature of habit, that for Peirce:

[t]he term *belief* can be understood in at least two senses: psychological and logical or ontological. According to the first sense, a belief is a subjective or behavioral process. According to the second, it is, or is interpretable as, a proposition, or as an ontological referent. In this latter sense, it is a regularity in thinking, a disposition to envisage regularities in consequences that follow from the thought and that are objective in relation to psychological acts. Thus, in this logical-ontological sense, belief is a type of process that is not reduced to actual mental states or events, but is an objective condition that mental, habitual acts exemplify.[86]

When we turn our attention to abduction we will see how the two senses of belief in Peirce have been a sticking point for his interpreters.

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84. *CP* 3.155-7.
85. *CP* 5.373.
86. Carl R. Hausman, *Charles S. Peirce's Evolutionary Philosophy* (Cambridge: Cambridge University Press, 1993), 25.

Generally speaking, inquiry is the methodology of the natural sciences and, as such, is a process that involves each of the three types of inference. Before inquiry can commence, however, three conceptions are necessary. "The first is a reference to a quality, the second to a subject, and the third to a mediator interpreting predicate quality and subject correlate to one another."[87] These, of course, are the three categories. According to Savan, three conditions (components really) are also necessary for inquiry.

> The first condition for inquiry is a precritical and unexamined world, environment or neighborhood. Second, some hard fact enters this innocent and artless world, raises a real doubt concerning some determinate part of it, and sets investigation in motion. Third, the movement of investigation is terminated by a critically evaluated and permanently affirmed belief.[88]

The actual process of inquiry unfolds in stages that parallel the three categories which, in turn, are for Peirce, omnipresent in the universe. Thus empirical logic mirrors the operation of the mind which, as a product of evolution, mirrors the operation of nature.

As K.T. Fann describes the actual process of inquiry, "The three types of inference now become three stages in a scientific inquiry. They are intimately connected as a *method*."[89] Peirce begins his account of this method by stating that every inquiry takes place in one of the three universes of experience (*CP* 6.469), by which he means any one of the three states of being: Potentiality, Brute Actuality, or Representation (*CP* 6.455)

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87. David Savan, "Decision and Knowledge in Peirce," in *Transactions of the Charles S. Peirce Society* 1 (1965): 36-7.
88. Ibid., 37.
89. K.T. Fann, *Peirce's Theory of Abduction* (The Hague: Martinus Nijhoff, 1970), 32.

The first stage of inquiry is conjecture or hypothesis.

> Every inquiry whatsoever takes its rise in the observation … of some surprising phenomenon, some experience which either disappoints an expectation, or breaks in upon some habit of expectation of the *inquisiturus* ... The inquiry begins with pondering these phenomena in all their aspects, in the search of some point of view whence the wonder shall be resolved … At length a conjecture arises that furnishes a possible Explanation … On account of this Explanation, the inquirer is led to regard his conjecture, or hypothesis, with favor. As I phrase it, he provisionally holds it to be "Plausible" … Plausibility, I reckon as composing the First Stage of Inquiry. Its characteristic formula of reasoning I term Retroduction, i.e., reasoning from consequent to antecedent.[90]

The second stage of inquiry consists in testing the hypothesis.

> This testing, to be logically valid, must honestly start, not as Retroduction starts, with scrutiny of the phenomena, but with examination of the hypothesis … This constitutes the Second Stage of Inquiry. For its characteristic form of reasoning our language has, for two centuries, been happily provided with the name Deduction … The purpose of Deduction [is] that of collecting consequents of the hypothesis …[91]

Having gathered the consequents, they too must be tested.

> The inquiry enters upon its Third Stage, that of ascertaining how far those consequents accord with Experience, and of judging accordingly whether the hypothesis is sensibly correct or requires some inessential medication, or must be entirely rejected. Its characteristic way of reasoning is Induction.[92]

This stage of inquiry is itself trifurcated.

> For it must begin with Classification, which is an Inductive Non-argumentational kind of Argument, by which general Ideas are attached to objects of Experience; or rather by which the latter are subordinated to the former. Following this will come the testing-argumentations, the Probations; and the whole inquiry will be wound up with the Sentential part of the Third Stage, which, by Inductive reasonings, appraises the

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90. *CP* 6.469.
91. *CP* 6.470, 472.
92. *CP* 6.472.

different Probations singly, then their combinations, then makes self-appraisal of these very appraisals themselves, and passes final judgment on the whole result.[93]

Peirce wished us to observe that "neither Deduction nor Induction contributes the smallest positive item to the final conclusion of the inquiry."[94] Peirce, at the apex of his eloquence, continued by claiming:

> Deduction explicates; Induction evaluates: that is all. Over the chasm that yawns between the ultimate goal of science and such ideas of Man's environment as, coming over him during his primeval wanderings in the forest, while yet his very notion of error was of the vaguest, he managed to communicate to some fellow, we are building a cantilever bridge of induction, held together by scientific struts and ties. Yet every plank of its advance is first laid by Retroduction alone, that is to say, by spontaneous conjectures of instinctive reason and neither Deduction nor Induction contributes a single new concept to the structure.[95]

It is to retroduction (abduction) as the intersection of insight and inference to which we shall turn later in this chapter.

As we noted in our study of the classification of the sciences, one reason Peirce had for classifying anything was his view that classification is the very business of science, especially logic, the science dearest to his heart. This motivation led him to attempt a classification of the instincts as a way of treating psychology in its proper relationship to the other sciences and to demonstrate that in addition to the psychological aspects of human instinct, there is a logical dimension as well. There was, however, another motivation at work, one that even antedated pragmatism. In 1905, he wrote,

> Another doctrine which is involved in Pragmaticism as an essential consequence of it, but which the writer defended before [1871] he had formulated, even in his own mind, the principle of pragmaticism, is the

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93. Ibid.
94. *CP* 6.475.
95. Ibid.

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scholastic doctrine of realism. This is usually defined as the opinion that there are real objects that are general, among the number being the modes of determination of existent singulars, if, indeed, these be not the only such objects. But the belief in this can hardly escape being accompanied by the acknowledgement that there are, besides, real *vagues*, and especially real possibilities.[96]

Peirce continued by explaining that his 1878 formulation of pragmatism came very close to denying what for him was this essential realism.

> The article of January 1878 [How to Make Our Ideas Clear] endeavored to gloze over this point as unsuited to the exoteric public addressed; or perhaps the writer wavered in his own mind. He said that if a diamond were to be formed in a bed of cotton-wool, and were to be consumed there without ever having been pressed upon by any hard edge or point, it would be merely a question of nomenclature whether that diamond should be said to be have been hard or not. No doubt this is true, except for the abominable falsehood in the word MERELY, implying that symbols are unreal. Nomenclature involves classification; and classification is true or false, and the generals to which it refers are either reals in the one case, or figments in the other.[97]

Thus, in 1902, Peirce turned his attention to what he called a classificatory psychonosy or psychotaxy within which he located the instincts, the latter admittedly "not a very good name for classificatory psychognosy or the study of kinds of mental manifestation,"[98] and used only for the sake of brevity.[99]

Psychotaxy was comprised of two Suborders (I) Kinds of Performance [or perhaps Faculties], broadly construed to include actions that are simple and involuntary, and (II) Kinds of Individuals. Under the former there are two genera (A) Elements of Performance and (B) Systems of Performance, the former being subdivided into (A1) kinds of sensations and their relations and (A2) kinds of emotions and their relations.

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96. *CP* 5.453.
97. Ibid.
98. *CP* 1.271.
99. *CP* 7.378.

Under (B) Systems of Performance, Peirce included two subgenera (B1) those that are at the instinctive stage of development and generally associated with brutes and lower animals, being comprised of "inborn performance determined in almost every detail." These instincts are thus divided, as we have seen, between those that are associated (a) with the preservation of the stock, or an individual or individuals other than the agent, and those that are associated (b) with the preservation of the individual agent. The first species he terms "social," and the second he terms "selfish."

Under the preservation of the stock he listed several orders of instinct as being reproduction, communication (the cries and songs of mammals and birds and the facial expressions of mammals), and architectural instinct, related to shelter, e.g., the construction of cobwebs. Peirce also mentioned instincts for locomotion and migration, instincts for games and instincts for adornment and decoration (sometimes, but not always related to reproduction, e.g., the delight of a horse with a handsome harness or the pride of the freshly trimmed poodle).

A second subfamily (B2) under Systems of Performance is related to "systems in minds that are too highly developed for much wealth of Instinct" (*CP* 7.380). As Peirce explained in a lengthy section on the rational mind, it was his opinion that the instinctive mind could probably not have developed into the rational mind because the rational mind's capacity for growth seems to make it appear more undeveloped than the instinctive mind.[100] It is its immaturity and capacity for growth, and thus for error, that distinguishes the rational mind from the instinctive mind. Animals rarely make mistakes while humans often err. Peirce surmised that rational mind might well be a case of an

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100. *CP* 7.380.

arrested development of instinctive mind. However, only through the resilience and

flexibility that is manifest in immaturity could the rational mind be suited for the

tremendous development of which it is capable.

> The conception of the Rational Mind as an Unmatured Instinctive Mind
> which takes another development precisely because of its childlike
> character is confirmed, not only by the prolonged childhood of men, but
> also by the fact that all systems of rational performances have had
> instinct for their first germ. Not only has instinct been the first germ, but
> every step in the development of those systems of performance comes
> from instinct. It is precisely because this Instinct is a weak, uncertain
> Instinct that it becomes infinitely plastic, and never reaches an ultimate
> state beyond which it cannot progress. Uncertain tendencies, unstable
> states of equilibrium are conditions *sine qua non* for the manifestations
> of Mind.[101]

Instinctive mind is governed by automatic rather than reasoned response; it is by nature

decidedly unreflective and inert. But, according to Peirce, this is the seed of progress. As

we will see, instinct serves to guide the mind by putting it on the right scent.[102]

Before setting aside the business of psychotaxy, the work of Maryann Ayim, who

compiled an exhaustive list of instincts from the published and unpublished writings of

Peirce, should be mentioned.[103] She has catalogued the instincts of animals and humans

under ten separate categories and included any examples provided by Peirce. This

remarkable work appears as Appendix C.

C. Reason and Instinct

Peirce's classification of the instincts reveals the separate development of reason

from the germ of instinct. In addition to what he said in the psychotaxy regarding rational

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101. *CP* 7.381.
102. Davis, *Peirce's Epistemology*, 120.
103. Ayim, *Peirce's View of the Roles of Reason and Instinct in Scientific Inquiry*, 23-25.

mind as a case of the arrested development of instinctive mind, Peirce held a variety of other positions on the relationship between reason and instinct, opinions that appear on the surface to be contradictory. Briefly, as Ayim showed, those positions can be summarized as follows.

Instinct evolves, albeit more slowly than reason, and its development is toward reason as it moves toward infinite plasticity and increasing fallibility. As Ayim observes, "reason is an evolutionary development of instinct in that man, as a rational animal, has gradually evolved from non-rational forms of life."[104] She points out that within this context, instinct and reason are continuous. However, as we noted in chapter three, it is Wells' observation that "If something, x, has evolved, it must have evolved from what it is not; from non-x, in other words."[105] A common view is that judgment evolved from feeling just as reason evolved from instinct.

> Peirce sometimes uses the evolutionary term 'rudimentary' … The more or less synonymous term 'low-grade' is not distinctively evolutionary, but if evolution is upward ascent, then labeling of x as low-grade y would suggest that the relation between x and y, if conceived evolutionarily, is to be conceived as the evolution of x into y (= evolution of y from x). To decide, however, that in that situation y is the paradigm to which x is to be assimilated is to take a further step. Peirce takes this step but it is one of my aims … to argue that the step is arbitrary, i.e., that one might as reasonably have taken some other step.[106]

We've noted that one of Wells' chief criticisms of Peirce centers on what he takes to be a tendency to over-generalize. Peirce's ambitious attempt to demonstrate the continuity of reason and instinct is perhaps another example even though, as we saw in *CP* 5.533, he

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104. Ibid., 17.
105. Rulon S. Wells, "Peirce's Notion of the Symbol," *Semiotica* 19 (1977), 200.
106. Ibid., 201.

subsumes both under the mediating principle of self-control, the varying degrees of which provide the biggest difference between species.

As we saw in the classification of instincts, Peirce viewed reason as one of the types or subdivisions of instinct. While closely related to the view of reason as an evolutionary development of instinct, he expressed the opinion that reason might be a case of inchoate instinct, suggesting that reason might actually be an instance of the arrested development in the evolution of instinct. This represents a second position of the relationship of instinct and reason.

A third view that Peirce expressed was that reason and instinct are completely distinct faculties. In some of his writings he asserted that instinct had little or nothing to do with theoretical matters and was only reliable and useful in practical matters. This opinion is largely confined to the first of his Cambridge lectures of 1898. As we saw in the last chapter, the correspondence between William James and Peirce leading up to this lecture series provides a clue for the title of that first lecture, "Vitally Important Topics."

> After reading the lecture which Peirce first proposed, James was apprehensive over the emphasis Peirce had given to formal logic. James told Peirce that he and Royce both agree there were only three men at Harvard "who could possibly follow your graphs and relatives." James, who as a close friend of Peirce had obtained the lectureship for him, counseled Peirce to "be a good boy and think a more popular plan out," suggesting that he might consider dealing with "separate topics of a vitally important character."[107]

Peirce's response was grudgingly compliant, condescending and dripping with sarcasm.

> I have no doubt you gauge the capacity of your students rightly … People who cannot reason exactly (which alone *is* reasoning), simply cannot understand my philosophy, neither the process, methods, nor

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107. Richard L. Trammell, "Religion, Instinct and Reason in the Thought of Charles S. Peirce," *Transactions of the Charles S. Peirce Society,* 8 (1972): 7.

results. The neglect of logic in Cambridge is plainly absolute … I will begin again, and will endeavor to write out some of the "ideas" with which I am supposed to be "teaming" on "separate topics of vital importance." I feel I shall not do it well, because in spite of myself I shall betray my sentiments about such "ideas"; but being paid to do it, I will do it as well as I possibly can … I wish I had to sing comic songs and dance, though I should do *it* badly … The audience had better go home and say their prayers, I am thinking.[108]

In a draft of the first lecture Peirce addressed his audience, comprised largely of Harvard's "*élite* youths … living softly cultured lives" and beseeched them to "be guided by their instincts into almost every detail of life" after the example of "our humble cousins whom it pleases us to refer to as 'the lower animals.'"[109] Throughout this lecture he repeated the theme that instinct is infallible in practical matters but prone to failure and of little value in "useless" matters of theory and scientific discovery.[110] At every turn, he expressed thinly masked contempt for "matters of vital importance," i.e., the practical concerns of morality, religion, "high and holy desires," "the greatest affairs of life," and "matters which are, and out to be, sacred to us," including earning comfortable incomes and obtaining worldly success, and reassured his hearers that "on vitally important topics reasoning is out of place."[111]

At least once in these lectures Peirce made reference to the medieval term *logica utens*.[112] He explained elsewhere that *logica utens* is "the set of opinions which you bring

108. Letter of Peirce to James, 12/26/1897, in Ralph Barton Perry, *The Thought and Character of William James,* 2 vols., (Boston: Little, Brown, and Company, 1935), 2:419-20.

109. *CP* 1.649, 1.650.

110. *CP* 1.633, 1.634, 1.661.

111. *CP* 1.619, 1.620, 1.623, 1.633, 1.635, 1.642, 1.652 1.653.

112. Charles Sanders Peirce, *Reasoning and the Logic of Things: The Cambridge Conferences Lectures of 1898*, ed. Kenneth Laine Ketner (Cambridge: Harvard University Press, 1992), 109 (hereinafter cited as *RLT*).

to the study of logic,"[113] a common and general method for acquiring truth that is in our possession and operative in our daily decision making even when we are not aware of it. That is to say, *logica utens* is "the instinctive logic-in-use [that] is more or less adequate to a very primitive and simple type of life," and hence for resolving the "vitally important issues" that everyone faces.[114] Peirce illustrated the operation of *logica utens* in the following passage.

> Perhaps it may sound like a contradiction to talk of "instinctive logic." It may possibly be thought that instinct is precisely that which is not logic or reason. But think of a man whose business it is to lend out money. The accuracy of his cool reason is what he relies upon; and yet he is not guided by a theory of reasoning, but much rather upon an intense love of money which stimulates his faculties of reasoning. That is what I call his logica utens. There are many fields in which few will maintain that any theoretical way of reaching conclusions can ever be so sure as the natural instinctive of an experienced man. Yet let instinct tread beyond its proper borders but by ever so little, and it becomes the most helpless thing in the world, a veritable fish out of water.[115]

Logica utens is contrasted with *logica docens* "or the legitimate doctrine that is to be learned by study," the discipline or science of logic that can be developed and refined by erudition.[116]

The fourth opinion held by Peirce and noted by Ayim was one that views instinct and reason as complementary powers in the attainment of knowledge. In this view abduction, as the first step in the process of inquiry, is requisite to both induction and

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113. *CP* 2.186.
114. Joseph Ransdell, "Some Leading Ideas of Peirce's Semiotic," see Arisbe website http://members.door.net.arisbe/menu/library/acoutcsp/ransdell/leading.htm (accessed August 2008).
115. Charles Peirce, *MS* L75:398-408 Version 1 Part 8, see http://members.door.net/arisbe/menu/library/bycsp/l75/ver1/l75v1-10.htm (accessed August 2008).
116. Carolyn Eisele, ed., *Historical Perspectives on Peirce's Logic of Science*, 2 vols. (Berlin: Mouton Publishers, 1985), 2:892; *MS* 692.

deduction and necessary for any progress in science.[117] It is Ayim's position that not only

did Peirce hold each of these four positions on abduction but that he held them

contemporaneously and that they are in not, upon examination, mutually exclusive, rather

that they each simply emphasize a different aspect of the analysis of reason and

instinct.[118]

In any event, abduction is variously viewed by Peirce as bearing traits of both an

instinct and a form of inference. To the extent that it is originative (*CP* 2.96),

presumptive (*CP* 2.776), irresistible (*CP* 5.582) and experienced as an insight (*CP*

5.181), a feeling (*CP* 7.218), a hope (*CP* 7.219, 1.121), a surmise (*CP* 7.36) a guess (*CP*

6.526), a conjecture (*CP* 7.36), an attraction, an aversion, or an urge, abduction is clearly

instinctual and psychological. On the other hand, to the degree that abduction is

experimental (*CP* 5.581), deliberate (*CP* 5.581), colligating (*CP* 5.581), voluntary,

critical (*CP* 2.102), and controlled, it is inferential and, hence, normative. Peirce

summarized his position by stating "It must be remembered that abduction, although it is

very little hampered by logical rules, nevertheless is logical inference, asserting its

conclusion only problematically, it is true, but nevertheless having a perfectly definite

logical form.[119] It is this very position that has drawn the ire of his critics. Harry

Frankfurt spoke for many of them when he wrote:

> …it is this very insistence by Peirce on the originative character of
> abduction, together with his claim that abduction is indeed a form of
> logical inference, that presents the first problem in the understanding of
> his doctrine [of abduction]. For Peirce also holds the view that
> hypotheses are the result of insight, and there is a *prima facie*

117. *CP* 6.475.
118. Ayim, *Peirce's View of the Roles of Reason and Instinct in Scientific Inquiry,* 18ff.
119. *CP* 5.188.

contradiction between this opinion and what he says about abduction …
We are, then, faced with the seeming paradox that Peirce holds both that
hypotheses are the products of a wonderful imaginative faculty in man
and that they are products of a certain sort of logical inference.[120]

For Frankfurt, abductions may be insights or inferences, but not both to the extent that

inferences are conclusions drawn from premises based on prior experience and known

facts, which are themselves conclusions. The late Arthur Burks also expressed dismay at

the apparent contradiction in Peirce's treatment of abduction as the logic of discovery.

One might expect Peirce's view to flow out of a confusion of logic and
psychology, or out of a theory which held them to be inseparable. But he
clearly separates logic from psychology: psychology, he frequently says,
is a study of how we do think and is irrelevant to logic, which is a study
of how we *ought* to think. It is true that in his discussions of abduction
Peirce often speaks of a man's "insight into the laws of nature," his
"guessing instinct," his natural tendency to guess right; "… all human
knowledge, up to the highest flights of science, is but the development
of our inborn animal instincts" (2.754). Thus he says that abduction "is
really an appeal to instinct" (1.630), and that the "simpler" hypothesis is
the one that instinct suggests (6.416). Of course if these statements were
taken literally, one could not speak meaningfully of the logic of
abduction, for unless the process of abduction has a rationale of some
sort it cannot have a logic.[121]

Another of Peirce's critics, K.T. Fann, agrees with Burks that the apparent

contradiction is attributable to a transition in Peirce's thought on abduction from the view

of it as an "evidencing process" to seeing it as a stage of scientific inquiry that produces

hypotheses.[122] This shift marked a movement from the syllogistic iteration of abduction

that Peirce used to explain abduction in 1878. Peirce's early work on abduction was

rooted in his study of Aristotelian logic. Anderson traces the summation of Peirce's

120. Harry G. Frankfurt, "Peirce's Notion of Abduction," *The Journal of Philosophy* 55 (July
1958): 593-4.
121. Arthur W. Burks, "Peirce's Theory of Abduction," *Philosophy of Science* 13 (Oct. 1946):
302.
122. Anderson, *Creativity and the Philosophy of C.S. Peirce*, 19-20.

syllogistic understanding of abduction to a 1901 paper entitled "The Logic of Drawing History from Ancient Documents."[123] There Peirce argued for his translation of Aristotle's *apagogue* as abduction.

> … having remarked that induction, *epagogue,* is the inference of a syllogism in Barbara or Celarent from its other two propositions as data, [Aristotle] would have asked himself whether the minor premiss of such a syllogism is not sometimes inferred from its other two propositions as data. Certainly, he would not be Aristotle, to have overlooked that question; and it would no sooner be asked than he would perceive that such inferences are very common. Accordingly, when he opens the next chapter [of *Prior Analytics,* II, 25] with the word *apagogue* a word evidently chosen to form a pendant to *epogogue,* we feel sure that this is what he is coming to.[124]

Anderson's claim is that "[Peirce] sees [apagogue] as the acceptance or creation of a minor premiss as a hypothetical solution to a syllogism whose major premiss is known and whose conclusion we 'find to be a fact.'"[125] Because the minor premiss is not immediately known, Anderson says abductive arguments are merely possible, maybe probable, but can only be accepted provisionally. However, from "his interpretation of Aristotle, Peirce arrived at an initial view of abduction which held it to be a type of reasoning whose form was that of obtaining a minor premiss from a major premiss and a conclusion."[126]

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123. *CP* 7.164-231,
124. *CP* 7.249.
125. Douglas R. Anderson, "The Evolution of Peirce's Concept of Abduction," *Transactions of the Charles S. Peirce Society* 22 (Spring 1986): 146.
126. Ibid., 147.

In the final installment of the 1878 *Popular Science* series, Peirce had turned his

attention to explaining the subtle differences that stand between induction and abduction

as forms of synthetic inference.[127]

> Induction is where we generalize from a number of cases of which
> something is true, and infer that the same thing is true of a whole class.
> Or, we find a certain thing to be true of a certain proportion of cases and
> infer that it is true of the same proportion of the whole class. Hypothesis
> [or Abduction] is where we find some very curious circumstance, which
> would be explained by the supposition that it was a case of a certain
> general rule, and thereupon adopt that supposition. Or, where we find
> that in certain respects two objects have a strong resemblance, and infer
> that they resemble one another strongly in other respects.[128]

Peirce admitted that abduction is grounded in a common logical error: "There is no

greater nor more frequent mistake in practical logic than to suppose that things which

resemble one another strongly in some respects are any the more likely for that to be alike

in others."[129] Therefore, he proposed a set of rules for this admittedly weak form of

inference that would protect honesty and guard against bias in scientific results, i.e., not

block the road of inquiry.[130] The application of these rules would require that abductive

inferences be replaced by stronger inductive arguments as inquiry progressed.[131]

In distinguishing induction from abduction Peirce noted the greatest difference as

being "that the former infers the existence of phenomena such as we have observed in

cases which are similar, while hypothesis supposes something of a different kind from

what we have directly observed, and frequently something which it would be impossible

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127. *CP* 2.619-644.
128. *CP* 2.624.
129. *CP* 2.634.
130. Ibid.
131. *CP* 2.642.

for us to observe directly.[132] Be that as it may, "when we stretch an induction quite

beyond the limits of our observation, the inference partakes of the nature of

hypothesis."[133] Thus Peirce was admitting that the real differences between induction and

abduction are more a matter of degree than of kind, inasmuch as

> it would be absurd to say that we have no inductive warrant for a
> generalization extending a little beyond the limits of experience, and
> there is no line to be drawn beyond which we cannot push our inference;
> only that it becomes weaker the further it is pushed. Yet, if an induction
> be pushed very far, we cannot give it much credence unless we find that
> such an extension explains some fact which we can and do observe.[134]

Peirce goes on to note that distinction between induction and abduction is "that it is

associated with an important psychological or rather physiological difference in the mode

of apprehending facts."[135] This becomes critical to whatever response that can be made to

Stephens' serious criticism of Peirce's analogy of emotion to hypothesis that we made

reference to in chapter three. That distinction was that

> Induction infers a rule. Now, a belief of a rule is a habit. That a habit is a
> rule active in us, is evident. That every belief is of the nature of a habit,
> in so far as it is of a general character, has been shown in the earlier
> papers of this series. Induction, therefore, is the logical formula which
> expresses the physiological process of formation of a habit. Hypothesis
> substitutes, for a complicated tangle of predicates attached to one
> subject, a single conception. Now, there is a peculiar sensation
> belonging to the act of thinking that each of these predicates inheres in
> the subject. In hypothetic inference this complicated feeling so produced
> is replaced by a single feeling of greater intensity, that belonging to the
> act of thinking the hypothetic conclusion. Now, when our nervous
> system is excited in a complicated way, there being a relation between
> the elements of the excitation, the result is a single harmonious
> disturbance which I call an emotion. Thus the various sounds made by
> the instruments of an orchestra strike upon the ear, and the result is a

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132. *CP* 2.640.
133. Ibid.
134. Ibid.
135. *CP* 2.643.

peculiar musical emotion, quite distinct from the sounds themselves. The emotion is essentially the same thing as an hypothetic inference, and every hypothetic inference involves the formation of such an emotion. We may say, therefore, that hypothesis produces the *sensuous* element of thought, and induction the *habitual* element.[136]

We will again address the Stephens criticism in the final section of this chapter and speculate what kind of response Peirce might have made.

Even though the form of abductive inference ranges outside the commonly accepted bounds of formal logic, it is by virtue of its loose resemblance to syllogism and its continuity with induction that Peirce was able to later argue that it is both an originative method and a logical form.[137] It is, however, in a work simply entitled "Guessing" from 1907 that Peirce provided the clearest picture of his mature thinking on abduction and indicates his growing interest in the instinct. This essay was only partially included in the *Collected Papers*,[138] omitting a detailed and disturbing account of an instance of racial profiling Peirce used to illustrate how he had once used abductive reasoning to recover a stolen gold watch by "guessing" the identity of a "colored" waiter he suspected. The complete essay appeared in Harvard's literary quarterly, *The Hound & Horn*, in 1929.[139] In it he claimed that even though abduction operates as surmise, conjecture, or guess:

> We may be aided by previous knowledge in forming our hypotheses. In that case they will not be pure guesses but will be *compounds* of deductions from general rules we already know, applied to the facts under observation, for one ingredient, and pure guess for the other ingredient.[140]

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136. Ibid.
137. Anderson, "The Evolution of Peirce's Concept of Abduction," 146.
138. *CP* 7.36-48.
139. Charles S. Peirce, "Guessing," *The Hound & Horn* 2 (Spring 1929): 267-282.
140. Ibid., 268.

He went on to explain how such compounds might be formed.

> … suppose the surprising facts which puzzle us are the actions of a
> certain man on a certain occasion; and our conjecture relates to the state
> of belief that caused such conduct. If we have no previous knowledge of
> the man, any one state of belief that would account for his conduct might
> be as good a guess as any other; but if we know that he is particularly
> inclined, or particularly disinclined, to extravagant beliefs or any other
> special kind of belief, we still have to guess; only we shall select our
> guess from a small number of possible hypotheses.[141]

He then tied the whole business of guessing to Darwinian evolution.

> In the evolution of science, guessing plays the same part that variations
> in reproduction take in the evolution of biological forms, according to
> the Darwinian theory. For just as, according to that theory, the whole
> tremendous gulf, or ocean rather, between the moner and the man has
> been spanned by a succession of infinitesimal fortuitous variations at
> birth, so the whole noble organism of science has been built up out of
> propositions which were originally simple guesses.[142]

It is here that Peirce presents his strongest argument for abduction, namely, that for any
given phenomenon under investigation there might be "trillions and trillions" of
hypotheses that could account for it. Notwithstanding the fact that in the mind of the
investigator this phenomenon might be a special determination by a million other
phenomena, each of which might, in turn, be shown to be determined by each of the
others, by the laws of probability it would be nearly impossible for any mind to correctly
guess the cause of any phenomenon. The chronicles of science are, however, filled with
one account after another of an investigator beating these odds.

> There are, indeed, puzzles, and one might well say mysteries, connected
> with the mental operation of guessing … There can, I think, be no
> reasonable doubt that man's mind having been developed under the
> influence of the laws of nature, for that reason naturally thinks

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141. Ibid.
142. Ibid.

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somewhat after nature's pattern. This vague explanation is but a surmise; but there is no room to believe that it was merely by luck that Galileo and the other masters of science reached the true theories after so few wrong guesses as they did. This power of divining the truths of physics – for such it is, although it is somewhat imperfect – is certainly an aid to the instinct for obtaining food, an instinct whose wonders throughout the animal kingdom are exceeded only by that of producing and rearing offspring.[143]

Yet it is just this kind of incredible luck that Rorty credits to Galileo in having hit upon a vocabulary that enabled him to frame his hypotheses and achieve scientific success.

Galileo's terminology was the *only* "secret" he had – he didn't pick that terminology because it was "clear" or "natural," or "simple," or in line with the categories of pure understanding. He just lucked out.[144]

Whether it is, as Rorty suggests, a matter of finding the right jargon with which to frame one's hypotheses and pose the right questions or a capacity for guessing the hypotheses that turn out to be the truest representation of nature which accounts for scientific breakthroughs, the odds of doing either are, as Peirce indicated, astronomical.

William Davis uses a familiar puzzle to illustrate just how long the odds would be. To find the correct answer to the next letters in an infinite sequence beginning OTTFF …, one would have to pick the ordering principle out of literally an infinite number of possibilities.

For example, here is one wrong solution to the problem: "O" is the fifteenth letter in the alphabet; "T" is the twentieth; "F" is the sixth. Perhaps the series is constructed by dropping back one letter, and the next group is NSSEE, and so on indefinitely, going back to "Z" after "A." This certainly brings a unity to the problem and is a *possible* solution. But perhaps the rule is more complex. Here is another wrong solution: Perhaps these letters are the initial letters to the first words in the first book in the upper, right-hand corner of the bookcase in my

143. Ibid., 269.
144. Richard Rorty, *Consequences of Pragmatism* (Minneapolis: University of Minnesota Press, 1982), 193.

study, and the next letters are the initial letters to the succeeding words in that book, and so on through that book and all the other books in the bookcase, and then repeat the series … There is no end to wrong theories, and to wrong ways to impose a unity on the series.[145]

Davis' contention is that to arrive at the correct answer, i.e., the solution that the puzzle's inventor had in mind, would, because of the puzzle's vagueness, literally take a stroke of luck. Even the series OTTFF… repeated infinitely would meet the condition of a possible solution and would be, undoubtedly, offered by a computer that was programmed to run through all possibilities. According to Peirce's theory there is not only an appropriate answer to the puzzle that abduction suggests to the mind of the investigator, there is a sense of *knowing* that it is the right answer that is instinctive.

> The only way to express Peirce's theory is to say that the person who solves the problem has enough insight into human psychology to know or to sense or feel that the correct answer is the kind of answer that makes the puzzle significantly interesting to other people. The subconscious hones in [sic] on "interesting" solutions, and ignores the vast quantity of possible and *ad hoc* solutions. How a machine could answer this puzzle other than by going blindly through every conceivable possibility – and whether it could do it even this way in anything less than a short eternity, I do not know. And how it could recognize the significant answer when it found it, is the second problem.[146]

Such is the reason why Peirce did not believe that machines could be made to reason in any but the most superficial sense of the word.[147] True reason involves more than endless deductions upon infinite hypotheses; it employs insight, an instinct or sense of "knowing" what is significant to other minds and, as we will see in the final chapter, such a capacity

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145. Davis, *Peirce's Epistemology*, 117-8.
146. Ibid., 118.
147. *CP* 2.59.

requires the notion that minds share a common nature, that the content of other minds are accessible to us.

Peirce credited the human instinct for correct guessing to a natural adaptation. Survival of the species is due in large measure to its having acquired certain instincts or natural beliefs that relate "in part to forces, in part to the action of minds."[148] Science itself "is nothing but a development of our natural instincts."[149] "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."[150] As we have noted, Peirce employed a term he credited to Galileo for the rational instinct of understanding nature and correctly guessing the laws that govern it *il lume naturale* and likened its operation to the instincts of lower animals. *Il lume naturale* as an instinctive capacity works not only to help us identify the set of best hypotheses from the trillions of possible solutions but by revealing the right hypothesis as the simplest from the standpoint of nature rather than, *à la* Ockham, logic.

> That truly inspired prophet [Galileo] had said that, of two hypotheses, the simpler is to be preferred; but I was formerly one of those who, in our dull self-conceit fancying ourselves more sly than he, twisted the maxim to mean the *logically* simpler, the one that adds the least to what has been observed … It was not until long experience forced me to realize that subsequent discoveries were every time showing I had been wrong, while those who understood the maxim as Galileo had done, early unlocked the secret, that the scales fell from my eyes and my mind awoke to the broad and flaming daylight that it is the simpler Hypothesis in the sense of the more facile and naturale, the one that instinct suggests, that must be preferred.[151]

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148. *CP* 5.603.
149. *CP* 6.604.
150. *CP* 6.531.
151. *CP* 6.477.

Such a caveat, it might be argued, by bifurcating logical and natural simplicity makes identification of the best hypothesis, i.e., the naturally simpler, largely a matter of question begging. That hypothesis will always be the one that instinct, not logic, suggested. But the instinct we are talking about is the *logic* of abduction or it is merely a hunch or pure guess. As if anticipating this criticism, Peirce provided his response in the closing paragraphs of the "Guessing" essay.

It is not without real significance that Peirce concluded "Guessing" by recounting the series of experiments on perception that he and Jastrow had conducted at the Johns Hopkins University, experiments that demonstrated "a discrimination below the surface of consciousness, and not recognized as a real judgment …"[152] The success of abduction is "a chapter of the *art* of inquiry," according to Peirce, a mystery grounded in two leading principles. "I infer in the first place," he said, "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."[153] In the end, "our faculty of guessing corresponds to a bird's musical and aeronautic powers; that is, it is to us, as those are to them, the loftiest of our merely instinctive powers."[154] Taking this statement at face value it is nothing short of astonishing to consider that in

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152. Peirce, "Guessing," 280.
153. Ibid., 281-2.
154. Ibid., 282.

1903 Peirce had written "If you carefully consider the question of pragmatism you will see that it is nothing else than the question of the logic of abduction."[155]

D. Reason, Emotion and Sentiment

In chapter three we presented Lynn Stephens' criticism of the analogy that Peirce drew between emotion and hypothesis. We will now address it in more detail and conclude with an examination of the normative aspect of emotion. This latter study will take us to Peirce's understanding of community, the subject of the final chapter. In this section we return to the semiotic aspect of emotion.

Stephens' problem with Peirce centers on Peirce's alleged cognitivist treatment of emotion which should demonstrate how emotion is reducible to cognition. Peirce's attempt to draw a strong analogy between the operations of emotion and hypothesis fails, by Stephens' estimation, to indicate that such a reduction is possible on Peirce's own terms in the essay "Some Consequences of Four Incapacities" from the 1868 Cognition Series (*CP* 5.264-317).

Peirce's position, as we have seen, was that "every mental operation consists in a succession of thought which proceeds according to and is explainable by reference to the rules of valid inference."[156] The emotions as mental processes, hence, should be reducible to cognition. Peirce pointed to the evidence.

> Now every emotion has a subject. If a man is angry, he is saying to
> himself that this or that is vile and outrageous. If he is in joy, he is

155. *CP* 5.196,

156. G. Lynn Stephens, "Cognition and Emotion in Peirce's Theory of Mental Activity," *Transactions of the Charles S. Peirce Society* 17 (Spring 1981): 134.

saying "this is delicious." If he is wondering, he is saying, "this is strange." In short, whenever a man feels, he is thinking of *something*.[157]

He then claimed that there is a similarity between the mental processes involved in emotion and those found in hypothesis or abductive reasoning[158] that consists of the explanatory nature of emotion in which an emotion substitutes a simple predicate for a complicated set of sensations, i.e., for a highly complex predicate. He concluded by saying, "if we consider that a very complex predicate demands explanation by means of an hypothesis, that that hypothesis must be a simpler predicate substituted for that complex one; and that when we have an emotion, an hypothesis, strictly speaking, is hardly possible – the analogy of the parts played by emotion and hypothesis is very striking."[159] As Peirce later noted, "hypothesis substitutes, for a complicated tangle of predicates attached to one subject, a single conception,"[160] thus arguing that there is a very strong similarity in these mental operations. Stephens wonders just how far Peirce wished to take this analogy and says that from the text, it is hard to tell whether he intended it as merely an analogy or was suggesting that emotion is a kind of abduction. He goes on to conclude that the balance of Peirce's remarks in this essay make it clear that he did not regard emotions as a type of hypothesis.

"There is, it is true," said Peirce, "this difference between an emotion and an intellectual hypothesis."

> We have reason to say in the case of the latter, that to whatever the
> simple hypothetic predicate can be applied, of that the complex predicate
> is true; whereas, in the case of an emotion this is a proposition for which

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157. *CP* 5.292.
158. Ibid.
159. *CP* 5.292.
160. *CP* 2.643

no reason can be given, but which is determined merely by our emotional constitution.[161]

In the case of hypothesis we have an argument form

> which proceeds upon the assumption that a character which is known necessarily to involve a certain number of others, may be probably predicated of any object which has all the characters which this character is known to involve. Just as induction may be regarded as the inference of the major premiss of a syllogism, so hypothesis may be regarded as the inference of the minor premiss, from the other two propositions.[162]

Stephens explains that hypothetical reasoning commences

> When we observe that some object or state of affairs, S, exhibits a puzzling complex of properties, CP. Casting about for an explanation it occurs to us that if S were M, where 'M' denotes a predicate simpler than 'CP,' it would not be puzzling that S should be CP. We therefore advance the hypothesis that S is M.[163]

Peirce formally stated the rule of inference in *CP* 5.276 and ten years later in *CP* 2.623 as:

> Whatever is M is CP
> S is M
> ∴ S is CP

Stephens reminds us that the argument depicts the logical form but not the temporal succession of the thoughts represented. The conclusion 'S is CP' is actually what occurs first, though it appears last as the thing to be explained by the hypothesis. The (unknown) hypothesis is the minor premise but occurs last in the sequence as the thing to be shown. The major premise is only known to us empirically from prior cognitions and, says Stephens, may not occur explicitly in our thinking, but must occur implicitly.[164]

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161. *CP* 5.292.
162. *CP* 5.276.
163. Stephens, "Cognition and Emotion in Peirce's Theory of Mental Activity," 136.
164. Ibid., 137.

Peirce claimed that in the case of emotion "no reason can be given" for holding

"that to whatever the hypothetic predicate can be applied, of that the complex predicate is

true."[165] Stephens illustrates the point.

> My anger, i.e., my thought that something is vile, arises on the occasion
> of my thinking that something is CP. But, I have no reason to believe
> that there is any connection, empirical or conceptual, between being vile
> and being CP. Hence, the fact that S is vile isn't a hypothesis and the
> transition from thinking that S is CP and that S is vile isn't a
> hypothetical argument.[166]

Emotion, according to the iteration of 1868, follows more closely along the lines of

sensation than hypothesis.

> The general principle that everything to which such and such sensation
> belongs, has such and such a complicated series of predicates, is not one
> determined by reason (as we have seen, but is of an arbitrary nature.
> Hence, the class of hypothetic inferences which the arising of a
> sensation resembles, is that of reasoning from definition to definitum, in
> which the major premise is of an arbitrary nature. Only in this mode of
> reasoning, this premiss is determined by the conventions of language,
> and expresses the occasion upon which a word is to be used; and in the
> formation of sensation, it is formed by the constitution of our nature, and
> expresses the occasions upon which sensation, or a natural mental sign,
> arises.[167]

The appeal to the *constitution of our nature* as whatever cause there is for the transition

from the thought that S is CP to the emotion – the notion that S is vile, to use his example

– is, for Stephens, an assertion that refutes Peirce's own theory of cognition.

> That which distinguishes both sensations proper and emotions from the
> feeling of a thought, is that in the case of the two former the material
> quality is made prominent, because the thought has no relation of reason
> to the thoughts which determine it … By there being no relation of
> reason I mean that there is nothing in the content of the thought which

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165. *CP* 5.292.
166. Stephens, "Cognition and Emotion in Peirce's Theory of Mental Activity," 137.
167. *CP* 5.291.

explains why it should arise only on occasion of these determining thoughts.[168]

The material quality is a reference to the mere feeling of the emotion or Sensation,[169] i.e., an "incomplex" thought.[170] Cognition is, however, dependent upon the relations of reason. "Cognition is a sequence of thoughts in which the propositions expressed by the successive thoughts are related by the rules of valid inference. Peirce denies that any such relations hold between emotions and the thoughts which precede them."[171] In so doing, Peirce has refuted his own cognitivist project.

Peirce's response to Stephens would, I believe, follow a path converging from other things he had to say regarding the nature and function of emotion elsewhere in "Some Consequences of Four Incapacities," and ten years later in the *Illustrations of the Logic of Science* series for *Popular Science Monthly*. First, he might remind the reader that "we have … seen that every sort of modification of consciousness – Attention, Sensation and Understanding – is an inference.[172] That would also include emotion, instinct and perception, which like sensation and attention, are semiotic, i.e., logical, processes. Michael Hoffman acknowledges the "central feature of Peirce's epistemology is that all cognition – from perception to logical and mathematical reasoning – is mediated by 'signs' or 'elements of generality.'"[173] We noted in the previous chapter,

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168. *CP* 5.294.
169. *CP* 5.293.
170. *CP* 5.294.
171. Stephens, "Cognition and Emotion in Peirce's Theory of Mental Activity," 138-9.
172. *CP* 5.298.
173. Michael Hoffmann, "Is There a 'Logic' of Abduction?" Institute für Didaktik der Mathematik, see http://www.uni-bielefeld.de/idm/personen/mhoffman/papers/abduction-logic.html (accessed August 2008).

that for Peirce there is clearly evidence of generality in perception and, as it turns out, there is even evidence of it in sensation.

> I am not quite prepared to say what precisely is in my consciousness; but of this I am sure, that every memory of a sensation is more or less vague, that is, general. Every *memory*! Why, the sensation itself, when present for a few moments, is so …[174]

To the extent that something is general, it is predicable. Thus there is no mental activity which is not, in some manner of speaking, reasonable.

Secondly, the conclusion in *CP* 5.292 that "in the case of an emotion this is a proposition for which no reason can be given, but which is determined merely by our emotional constitution," should be interpreted in light of what follows in the next paragraph, a passage we examined in chapter three, where in distinguishing sensation and emotion, Peirce wrote:

> An emotion … comes much later in the development of thought [than a sensation] – I mean, further from the beginning of the cognition of its object – and *the thoughts which determine it* already have motions corresponding to them in the brain or the chief ganglion; consequently, it produces large movements in the body, and independently of its representative value, *strongly affects the current of thought*.[175]

And a few paragraphs later he declared that:

> Everything in which we take the least interest creates in us its own peculiar emotion, however slight this might be. This emotion is a sign and a predicate of the thing."[176]

It is clear that even in 1868 Peirce was moving toward an understanding of emotion as part of the reasonable sequence of thought, determined, in part, by the thoughts which precede it, as a sign to its object. As we will reiterate in the next section, emotions as

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174. *CP* 7.407.
175. *CP* 5.293.
176. *CP* 5.308.

signs have interpretants and are interpretants to other signs. The important thing to bear in mind is that, as Short notes, "the concept of the interpretant is broader than that of consciousness, and applies to many kinds of responses to stimuli in the animal and even in the vegetable world that certainly do not involve consciousness."[177] As interpretants, our emotions do participate in the rational process of thought, or semiosis, without necessarily being cognized as such.

In a long section in *CP* 5.294, Peirce addressed the differences between sensations and emotions, on the one hand, and the feeling of a thought, on the other hand. "What distinguishes sensations and emotions from thoughts is not the structure of the mental processes but the relative prominence of the material quality of the mental action."[178] We might say that the physiological manifestation associated with the feeling of sensation and emotion eclipses the more subtle feeling of thought. In chapter three we observed that one of the difficulties with the theory of 1868 is that it does not provide a means of differentiating sensation from emotion, one of the serious problems with James' theory of emotion. It says nothing about emotional affect which, as Savan understood it, has to do with variations in the intensity of arousal and agitation and its manifestations in involuntary physiological change as well as larger movements of approach and withdrawal, the impulse to "fight or flight."[179]

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177. Thomas L. Short, "David Savan's Peirce Studies," *Transactions of the Charles S. Peirce Society* 22 (Spring 1986): 115.

178. C.F. Delaney, "Peirce's Account of Mental Activity," *Synthese* 41 (1979): 34.

179. David Savan, "Peirce's Semiotic Theory of Emotion," in *Proceedings of the C.S. Peirce Bicentennial International Congress*, eds. Kenneth L. Ketner, Joseph M. Ransdell, Carolyn Eisele, Max H. Fisch and Charles S. Hardwick (Lubbock: Texas Tech University Press, 1981), 326.

What does it mean to be an emotional person as well as a rational being? The answer Peirce gave is to be found in the 1877-8 papers of the *Popular Science Monthly* series. There, in the essay entitled "Deduction, Induction Hypothesis," Peirce stated:

> Now, when our nervous system is excited in a complicated way, there being a relation between the elements of the excitation, the result is a single disturbance which I call an emotion. Thus, the various sounds made by the various instruments of an orchestra strike upon the ear, and the result is a peculiar musical emotion, quite distinct from the sounds themselves. This emotion is essentially the same thing as a hypothetic inference, and every hypothetic inference involves the formation of such an emotion. We may say, therefore, that hypothesis produces the *sensuous* element of thought, and induction the *habitual* element.[180]

It is clear from this passage that Peirce believed emotion not only to be a simple predicate substituting for a complex predicate, but a hypothetical inference related to the preceding thoughts, aiding in the explanation and justification of the actions that follow. Thus, in answer to Stephens, we might argue that Peirce did, indeed, clearly indicate how emotion is reducible to reason.

Peirce's view of emotions was that they are not value-neutral, as Savan has indicated.[181] Emotions are evaluated, in a broad sense, as being good or bad. Joy, hope and love are deemed to be good, perhaps simply because they accompany sensations of pleasure or perhaps because they are regarded by others as honorable or desirable. Sorrow, fear, and shame are bad, again, possibly because they occur on occasions of experienced pain or discomfort, or for the reason that they are not valued by others. Emotions are also judged to be appropriate or inappropriate, justified or unjustified. "Sometimes anger is called for and not to be angry is a weakness, but other times anger is

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180. *CP* 2.643.
181. Savan, "Peirce's Semiotic Theory of Emotion," 328.

a mistake; and so on for sadness, joy, and the rest."[182] We've seen how Peirce viewed the

teleological growth of inquiry, ideas, habits, feelings, the notion of self, literally every

mode of a sign, and, in chapter three, how this aspect of signs is recognized in and by the

final interpretant. Savan reminds us that "It is … [Peirce's] recognition of the importance

of critical standards for moral action and for logical argumentation that leads him to call

the final interpretant, alternatively, the normal interpretant."[183] In the case of emotion it

has, predictably, three aspects.

> It is considered first, as in itself a norm for a sign. Second, it is in a
> dyadic relation to the sign it interprets. And third, it is in a triadic
> relation of assurance to its object through the sign that it interprets.[184]

Peirce introduced his theory of logical sentiments in the 1878 *Illustrations of the*

Logic of Science series. There he made it clear that they were associated with the business

of fixing belief, specifically with the rational method of science.

> It may seem strange that I should put forward three sentiments … as
> indispensable requirements of logic. Yet when we consider that logic
> depends on a mere struggle to escape doubt, which, as it terminates in
> action, must begin in emotion, and that, furthermore, the only cause of
> our planting ourselves on reason is that other methods of escaping doubt
> fail on account of the social impulse, why should we wonder to find
> social sentiment presupposed in reasoning?[185]

Savan suggests that Peirce had intentionally associated each of the methods of fixing

belief that he treated in the first essay of this series with one of the three relations derived

via hypostatic abstraction from the categories.

> In … "The Fixation of Belief," Peirce discussed two other methods of
> dealing with doubt, a method of Firstness that he called the ap priori

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182. Short, "David Savan's Peirce Studies," 119-20.
183. Savan, "Peirce's Semiotic Theory of Emotion," 329.
184. Ibid.
185. *CP* 2.655.

method, and a method of Secondness, divided into the two forms of tenacity and authority. The three logical sentiments are basic to the method of Thirdness, the rational method of science. The first method is closely linked with instinctive emotions … the second method is associated with the emotions regulated by the church and the state. The [three] logical sentiments are fundamental to the all inclusive community of those whose actions and emotions are controlled through constantly renewed, rational criticism.[186]

This, according to Savan, gives rise to Peirce's three-fold classification of emotions.

The first category of emotions is comprised of the natural emotions, those that are innate, instinctive in the narrowest sense, and have to do with breeding and feeding.[187] These include natural fears, rages, revulsions, joy in warm bodily contact, and grief over loss and are observable in human infants and other animals.[188] Instinctive emotions find their objects of expression without a learning process. Savan raises the question of what the final aim of natural emotions might consist in.

What is their ultimate interpretant, considered in itself, as a monad? What is the bad condition that anger, fear, and revulsion tend to remove? What is the good state that gives rise to joy? It is not enough answer that frustration is the unlearned stimulus for anger, and that warm body contact is the unlearned stimulus for joy. We are asking about the final interpretant, the end toward which the dynamic interpretants tend.[189]

Peirce did not reduce the ultimate aim simply to the pursuit of pleasure and the avoidance of pain. He said that we have "an instinctive dislike of an undecided state of mind, exaggerated into a vague dread of doubt."[190] Admittedly, it might be argued that this is nothing more than the motivation of pain avoidance to the extent that Peirce associated doubt with a feeling of irritation (*CP* 5.373), struggle (*CP* 5.374), and uneasiness (*CP*

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186. Savan, "Peirce's Semiotic Theory of Emotion," 329.
187. *CP* 1.118.
188. Savan, "Peirce's Semiotic Theory of Emotion," 330.
189. Ibid., 330.
190. *CP* 5.377.

5.510). The complement to this unpleasant feeling is not so much pleasure *per se* but an absence of irritation, a homeostatic sense of rest, equilibrium and peace of mind which doubt disrupts. However, Peirce does speak of this state as one that is naturally happy and self-satisfied.[191] This is a state to which one, disturbed by doubt, seeks to return. Pleasure is not, in the final analysis, the object that is pursued by the natural emotions, but the thing that is associated with joy, i.e., the full stomach and the warmth that the infant receives in bodily contact with its mother. In the end, the natural emotion identifies its object through the quality of the emotion experienced. "The sign that is interpreted by its final interpretant as identifying its objects primarily through the quality of the sign was called by Peirce a rhematic sign."[192]

Besides natural emotions there is a second category of emotions which are acquired through experience and moral training. To illustrate the difference between natural and moral emotions, Savan asks us to compare the following pairs: anger and indignation, annoyance and resentment, affection and benevolence, disgust and contempt, fear and guilt, joy and pride.

> In each of these pairs the second member includes a moral norm. I may be angry at my car for breaking down on an important trip, but I can be indignant only with someone I can blame – say, the garage mechanic. I may be annoyed at trivia but I cannot resent them unless I think I have a right to be free of interruption. I may be disgusted by a foul meal but I reserve my contempt for the cook. The norm is moral. When a sign is referred to its moral final interpretant, Peirce called it practical, leaning on Kant's use of that term.[193]

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191. *CP* 5.366.
192. Savan, "Peirce's Semiotic Theory of Emotion, 330. See *SS,* 33-4 where Peirce writes: "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, & Argument, modified so as to be applicable to signs generally … A Rheme is any sign that is not true or false." See also *CP* 2.250, where he adds: "Any Rheme, perhaps, will afford some information; but it is not interpreted as doing so."
193. Savan, "Peirce's Semiotic Theory of Emotion, 331.

Savan rightly points out that moral emotions, being learned in specific social and historical contexts, can never be universal and necessary. External social authorities, perhaps religious or political, differ according to place and time, and exert various kinds of emotional influence on the authority of an individual's conscience. "There are folkways of right emotion as well as of right conduct."[194] For this reason the final intrepretant of a moral emotion is a dicent or dicisign, an indexical representation of its object.

> A Dicisign must profess to refer or relate to something as having a real being independently of the representation of it as such … Or we may say … that a Dicisign is a sign which is understood to represent its object in respect to actual existence.[195]

Indignation, resentment, benevolence, contempt, and guilt can only be represented in relation to an actual other by whom or by which one can be truly affected.[196] In other words, it is unlike a natural emotion which is represented simply by the quality of feeling as simply anger, annoyance or fear.

Finally, there are the sentiments. "Sentiments are enduring and ordered systems of emotions, attached either to a person, an institution, or, in Peirce's case, a method."[197] By way of example, Savan points out that one who loves will experience a full complement of emotions that include, but are not limited to, anger, joy, jealousy, sorrow, euphoria, embarrassment, disappointment, and contentment. The three logical sentiments[198] provide another example. These sentiments are (1) an interest in an indefinite community,

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194. Ibid.
195. *EP* 2:275, 292.
196. Ibid.
197. Savan, "Peirce's Semiotic Theory of Emotion," 331.
198. *CP* 2.655.

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(2) recognition of the possibility of this interest being made supreme, and (3) hope in the unlimited continuance of intellectual activity and are indispensable requirements of logic.[199] "To be logical, men must not be selfish,"[200] and these sentiments are premised upon the possibility of the very kind of self-sacrifice and sympathy with the thoughts of others that Peirce deemed essential to scientific progress. "So the social principle is rooted intrinsically in logic."[201] He likened the logical sentiments to those of which Paul of Tarsus wrote in the Christian Bible, "the famous trio of Charity, Faith, and Hope, which … are the finest and greatest of spiritual gifts."[202] Savan paraphrased the relationship of the logical sentiments to the business of scientific inquiry as follows:

> It is a matter of *faith* or trust that there is a real world which is independent of what any man or group of men may think it to be. It is a matter of *hope* that this independent reality can be known eventually through the long painstaking process of formulating, clarifying, and sifting our theoretical beliefs about it. Beyond the two sentiments of faith and hope, the scientist must be moved by the *love* of truth, that is to say, by a willing sacrifice of personal short-term achievement for the long-run approximation to an ideally ultimate and stable truth, agreed upon by the scientific community.[203]

We will take a closer look at Peirce's notion of the sentiment of selfless love or *agape* in the next chapter.

Just as Peirce spoke of methods for fixing belief, we have in the logical sentiments, according to Savan, a means for fixing emotion.[204] The aim of these sentiments is "true stability in our beliefs and in our daily lives. Indeed, they convert the

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199. Ibid.
200. *CP* 2.654.
201. *CP* 5.354; cf. 2.654f.
202. Ibid.
203. David Savan, "The Unity of Peirce's Thought," in *Pragmatism and Purpose,* eds. L.W. Sumner, John G. Slater, and Fred Wilson, (Toronto: University of Toronto Press, 1981) (emphasis mine).
204. Savan, "Peirce's Semiotic Theory of Emotion," 331.

goal of stability into a norm for criticizing, rationalizing, and controlling our emotions."[205] That stability, Savan suggests, is the final interpretant of the logical sentiments, "the secure peace of a contingent, finite, and mortal person."[206]

The vicissitudes of life promise despair and unrest. The doctrine of chances guarantees ruination.

> If [the gambler] plays long enough he will be sure to have such a run against him that as to exhaust his entire fortune. The same thing is true of an insurance company. Let the directors take utmost pains to be independent of great conflagrations and pestilences, their actuaries can tell them that, according to the doctrine of chances, the time will come, at last, when their losses will bring them to a stop. They may tide over such a crisis by extraordinary means, but then they will start again in a weakened state, and the same thing will happen again all the sooner.[207]

Whatever can happen, will happen in the long run. It is, as we will examine more closely in the final chapter, our identification with an indefinite community of investigators and the *hope* that that this community, bound together by the altruistic logical sentiments, will endure long enough to profit from the business of drawing inferences from probabilities.[208]

> All human affairs rest upon probabilities, and the same thing is true everywhere. If man were immortal he could be perfectly sure of seeing the day when everything in which he had trusted should betray his trust, and, in short, of coming eventually to hopeless misery. He would break down, at last, as every great fortune, as every dynasty, as every civilization does. In place of this we have death.
> But what, without death, would happen to every man, with death must happen to some man. At the same time, death makes the number of our risks, of our inferences, finite, and so makes their mean result

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205. Ibid.
206. Ibid., 332.
207. *CP* 2.653.
208. Christopher Hookway, "Sentiment and Self-Control," in *The Rule of Reason: The Philosophy of Charles Sanders Peirce,* eds. Jacqueline Brunning and Paul Forster (Toronto: University of Toronto Press, 1997), 211.

uncertain. The very idea of probability and of reasoning rests on the assumption that this number is indefinitely great. We are thus landed in the same difficulty as before, and I can see but one solution of it. It seems to me that we are driven to this, that logicality inexorably requires that our interests shall *not* be limited. They must not stop at our own fate, but must embrace the whole community.[209]

Elsewhere, sentiment is identified with instinct[210] and is linked to the doctrine Peirce termed 'sentimentalism' or 'conservatism' which stresses that "great respect should be paid to the natural judgments of the sensible heart."[211] Peirce believed reason to be essentially egotistical,[212] appealing to sentiment in the last resort.[213] It is instinctive or sentimental induction that summarizes the collective experience of the human race.[214] "That it is abstractly and absolutely infallible we do not pretend," Peirce conceded, "but that it is practically infallible for the individual … in that he ought to obey it and not his individual reason, *that* we do maintain."[215] In the next chapter we will explore several themes stemming from this concurrence of sentiment and the whole experience of the unlimited community.

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209. *CP* 2.653-4.
210. *CP* 1.637.
211. *CP* 6.292.
212. *CP* 1.631.
213. *CP* 1.632.
214. *CP* 1.633.
215. Ibid.

Chapter Seven

Community: The Social Instinct

No general description of the mode of knowledge
can be just which leaves out account of the
social aspect of knowledge.
This is its very essence. What a thing society is!
-- Peirce, *MS*

A. <u>Inquiry and Community: The Social Theory of Logic</u>

In this chapter we will examine the fundamental status of the general notion of

community in Peirce's work. This will entail a look at how Peirce understood the nature

of community, his view of the individual human as "a community of cells" and his

understanding of society as a "greater person." From there we will study his idea of the

"community of inquirers," the ideal "community without definite limits," through which

reality is defined and truth is pursued. This will necessitate some understanding of his

doctrine of agapism, the antithesis of the arrogant individualism, errant subjectivism and

greed that he viewed as the fruits of the vulgar nominalism permeating nineteenth century

American culture. It will also require some understanding of the role of community in

what Helmut Pape has called the normativity of assertion.[1] The juxtaposition of logic and

community is a relatively unexplored area of Peirce's thought, as James Hoopes

observes. "Those intellectual historians such as Murray Murphey and Bruce Kuklick who

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Epigraph. C.S. Peirce, *MS* 1573:273, n.d.; see http://www.cspeirce.com/menu/library/rsources/ quotes/quotes.html (accessed September 2008).

1. Helmut Pape, "Pragmatism and the Normativity of Assertion, *Transactions of the Charles S. Peirce Society* 38 (Fall 2002): 521-542.

have paid the most attention to Peirce's actual writings rather than merely the social circumstances of his life have recognized the centrality of logic to his thought but have not related it to his emphasis on community."[2] This unfortunate fact is, I believe, one reason that Peirce's work has not been as valued as it might otherwise have been.

Peirce held that the attainment of knowledge is, as John E. Smith put it, "an organic process that is dialectical in the sense that it involves a gradual criticism of what is merely private or subjective, and the preservation of the objective and universal."[3] In 1868 Peirce's claim was that the act of "thinking is a dialogue that originates between different phases of the ego."[4] Forty years later he reiterated that "All thinking is dialogic in form. Your self of one instant appeals to your deeper self for his assent. Consequently, all thinking is conducted in signs…."[5] From his belief that all thought is in signs, and its corollary that all thinking is dialogic in nature, followed what Peirce called his social theory of logic. "In time," says Fisch, "it led him to return to the etymological meaning of the adjective 'scienti*fic*'; that is, knowledge-*making*, or *conducive* to knowledge … [and] to abandon the notion of science as a body of organized knowledge, once-and-for-all and infallibly concluded, and to adopt instead the notion that science is what scientists do – the way of life of the scientific community."[6]

This view of science turned on two assumptions. First, science can only succeed to the extent its practitioners are governed by habits of self-effacement and humility.

2. James Hoopes, *Community Denied* (Ithaca, New York: Cornell University Press, 1998), 32.
3. John E. Smith, "Community and Reality," in Richard J. Bernstein, ed., *Perspectives on Peirce* (New Haven: Yale University Press, 1965), 109.
4. *CP* 4.6, Cf. 5.506, 5.497n1, 5.481.
5. *CP* 6.338.
6. Max H. Fisch, "Just How General Is Peirce's General Theory of Signs?" in *Peirce, Semiotic and Pragmatism*: *Essays by Max H. Fisch,* eds. Kenneth Laine Ketner and Christian J. W. Kloesel (Bloomington: Indiana University Press, 1986), 358.

Peirce variously defended the following values as necessary preconditions of inquiry: the passion and joy of learning, fair-mindedness and impartiality, devotion, honesty, probity, industry, and cognitive flexibility.[7] These attitudes can only be cultivated within the scientific community and are embodied in the logical sentiments, consisting of, as we have seen, interest in an indefinite community, recognition of the possibility of this interest being made supreme, and hope in the unlimited continuance of intellectual activity.[8]

B. <u>The Nature of Community</u>

In chapter four we examined Peirce's negative view of the self and observed that Peirce viewed the individual as the source of ignorance and error, that human beings were, to Peirce's mind, "mere cells on the social organism."[9] In the Lowell Lectures of 1866 he stated his belief that the individual human being, like any singular term, is in actuality a composite.

> Do you say Daniel Webster is an individual? He is so in common
> parlance, but in logical strictness he is not. We think of certain images in
> our memory – a platform and a noble form uttering convincing and
> patriotic words – a statue-certain printed matter – and we say that which
> that speaker and the man whom that statue was taken for and the writer
> of this speech – that which these are in common is Daniel Webster.
> Thus, even the proper name of a man is a general term or the name of a
> class, for it names a class of sensations and thoughts. The true individual
> term [,] the absolutely singular *this* and *that* cannot be reached.
> Whatever has comprehension must be general.[10]

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7. Ilona Kemp-Pritchard, "Peirce on Logical Hope and Philosophical Sentiment," in *Philosophy and Phenomenological Research* 42 (September 1981): 82. See, e.g., *CP* 1.43, 1.49, 1.127, 1.236, 1.576, 2.82, 6.3.
8. *CP* 2.655.
9. *CP* 1.673.
10. *W* 1:461.

Further reflection, however, indicates that Peirce did not so much intend to denigrate the individual as he sought to establish the community as an empirically grounded, metaphysical entity through which the self as actualized reality is understood and knowledge is obtained.

His understanding of the communal nature of all life bears some similarity to the basic tenets of twentieth century sociobiologists and communitarians. Like a sociobiologist, Peirce had an expressed interest in the complex social structures and behaviors of various species. Like any communitarian, Peirce held that "society … has some of the same reality as does the individual."[11] However, as we have noted above, Peirce's interest in the phenomenon of community went much deeper, down to the cellular level. His claim that, "…consciousness is a sort of public spirit among the nerve-cells,"[12] provided a protoplasmic metaphor for his understanding of human community. As he remarked on another occasion, "by *us,* we mean our neighbors, all that are embraced in the community, or society, very indefinite to our apprehension of which you and I are, as it were, histological cells."[13]

In this sense, i.e., in terms of the social nature of personal identity, Peirce bears some resemblance to the ideal of humanity expressed by Bradley's "My Station and Its Duties."[14] In this model self is realized as it is merged with the whole, as it accepts its role and becomes immersed in the performance of its function within the community which is, as it is for Peirce, the analog to a biological organism. Bradley himself seems to

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11. Hoopes, *Community Denied,* 11.
12. *CP* 1.354.
13. *NEM* 4:144.
14. F. H. Bradley, *Ethical Studies* (London: Henry S. King & Co., 1876), 145ff.

have sensed the limitations of this analogy. "With a fine disregard for the question of how far the comparison of community to organism can be taken, he reminds us that the members of the social organism are self-conscious whereas the organs of an animal … are not."[15] Given Peirce's view of self-consciousness as something which the individual becomes aware of by becoming aware of the non-self, and his view of matter as effete mind, the analogy seems stronger in Peirce's case than in Bradley's. However, community was, for Peirce no less than for Bradley, something greater than the sum of its parts, more than the collection of individuals comprising it. At a practical level there was something very important at stake: "…Whether men really have anything in common, so that the *community* is to be considered as an end in itself, and if so, what the relative value of the two factors is, is the most fundamental practical question in regard to every public institution the constitution of which we have it in our power to influence."[16]

As we saw in chapter four, Peirce's 1892 essay for *The Monist*, "Man's Glassy Essence,"[17] included a discussion of the constitution and behavior of the simplest forms of protoplasm. The properties of liquefaction, food assimilation, waste expulsion, growth, and reproduction were examined as habits of conduct, wherein one molecule affects another, and that, for Peirce, evoked the properties of mind. To the extent that the molecules of a slime-mould exhibit reaction to stimuli, a propensity for patterns of behavior under controlled conditions, and the occasional departure from regularity under unusual conditions, they suggested the elements of mental action. Questions of

15. Stewart Candlish, "Bradley on My Station and Its Duties," *Australasian Journal of Philosophy* 56 (August 1978), 158.

16. *CP* 8.38.

17. *CP* 6.238-71.

anthropomorphism aside, Peirce continued by arguing that "all mind is directly or indirectly connected with all matter, and acts in a more or less regular way; so that all mind more or less partakes of the nature of matter."[18] Mind, no less than matter, is governed by habit and the consciousness of habit is a general idea. Furthermore:

> the consciousness of a general idea has a "certain unity of the ego" in it, which is identical when it passes from one mind to another. It is, therefore, quite analogous to a person, and, indeed, a person is only a particular kind of general idea. Long ago … I pointed out that a person is nothing but a symbol involving a general idea; but my views were, then, too nominalistic to enable me to see that every general idea has the unified living feeling of a person.[19]

Two things are clearly in evidence here. First, the continuity of matter with mind, in which the physical properties of protoplasm exhibit the traits of mental action, presents us with a view of the universe as organic in every sense of the word. Secondly, as he went on to conclude in this essay, the personification of the world extends to the social structures that are comprised of individual persons.

> It is true that when the generalization of feeling has been carried so far as to include all within a person, a stopping-place, in a certain sense, has been attained; and further generalization will have a less lively character. But we must not think it will cease. *Esprit de corps*, national sentiment, sympathy, are no mere metaphors. None of us can fully realize what the minds of corporations are, any more than one of my brain-cells can know what the whole brain is thinking.[20]

This allows Peirce to view human communities not only as the analog to colonies of social insects and the flocks, herds, and packs of higher animals, within which individual behavior can be studied, but also as fundamental and egocentric entities with their own habits, exerting forces upon their constituents, forces which the members may not

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18. *CP* 6.268.
19. *CP* 6.270.
20. *CP* 6.271.

individually cognize, any more than a single affected brain-cell cognizes the thought of the whole brain. This view of community becomes paradigmatic for Peirce's understanding of the social nature of logic, reality and truth.

This brings us to Peirce's view of society as a "greater person." Following his assertion that *esprit de corps*, national sentiment, and sympathy are no mere metaphors, he says that "the law of mind clearly points to the existence of such personalities, and there are many ordinary observations which, if they were critically examined and supplemented by special experiments, might, as first appearances promise, give evidence of the influence of such *greater persons* upon individuals."[21] He follows this with several examples, both secular and non-secular in nature, where all the individual members of a given group were moved, sometimes without mutual knowledge, acting in unison in some capacity as a corporate personality.

We should be reminded that Peirce attached the notion of corporate personality to the social instincts. Social instincts were those that Peirce saw as adapted to the preservation of the species. Sometimes, as he noted, "social instincts are expensive to the individual, even dangerous, sometimes fatal."[22] Peirce understood "something that Darwin saw straight through to the bottom, that to explain altruistic behavior the unit of selection cannot be the individual, since moral acts usually offer him no advantage. The unit of selection must be the whole tribe or community."[23] Selfish instincts "are adapted to the preservation of the stock, if at all through preserving the individual in whom the

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21. Ibid.
22. *CP* 7.378.
23. Robert J. Richards, *Darwin and the Emergence of Evolutionary Theories of Mind and Behavior* (Chicago: The University of Chicago Press, 1987), 446. Some may argue that Peirce interpreted Darwin as supporting individualism, and rejected his position accordingly. See, e.g., *CP* 6.293.

instinct acts"; social instincts are "adaptive primarily to the advantage of some other individual or individuals than the agent."[24] Thus, the phenomenon of altruism, evidenced in many species throughout the animal kingdom, is clearly a social instinct.[25] For Peirce, altruism was not only noble, but logical, and thus the moral duty of every investigator.

> That logic rigidly requires, before all else, that no determinate fact, nothing which can happen to a man's self, should be of more consequence to him than everything else. He who would not sacrifice his own soul to save the world, is illogical in all his inferences, collectively. So the social principle is rooted intrinsically in logic.[26]

This understanding of altruism, as we will see, became central to his understanding of inquiry.

One final point on Peirce's view of the nature of community is that it clearly owes something to the Greek notion of *polis*. Though he did not make reference to the idea of the *polis* in his publications, it seems reasonable that his idealized community of minds has Hellenistic roots. Wells acknowledges that for Peirce "the pseudo-terminus [or end] of the world is a community of minds; recalling that the best translation of the Greek word *polis* into present-day English is not 'city,' 'state,' or 'city-state,' but 'community,' we may compare Peirce's ideal of a world community with the ancient ideal of a *cosmopolis*."[27] Wells draws this conclusion despite, as is well known, Peirce's having paid virtually no mind to political philosophy. The Peircean 'community of minds' is the aim, or as he put it on one occasion, the "great hope" of human evolution.[28] Through the

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24. *CP* 7.378.
25. For a biological view of human altruism, see Edward O. Wilson, *On Human Nature* (Cambridge: Harvard University Press, 1978), 149ff.
26. *CP* 5.354, cf, *CP* 2.654.
27. Rulon Wells, "Peirce as an American," in *Perspectives on Peirce,* ed. Richard J. Bernstein (New Haven and London: Yale University Press, 1965), 22.
28. *CP* 5.487.

use of one of his favorite metaphors Peirce described this community as the place where individual minds and their wills, their ideas, their views and their feelings are "welded" together.[29]

C. Community, Reality, and Probability

As we have seen, Peirce postulated three logical or social sentiments which are necessary for the grounding or founding of logic and thus presupposed in correct reasoning. These social sentiments clearly established the foundational connection between virtuous emotions and correct reasoning.[30] Bernstein points out that the social sentiments also established the elementary status of community. "Peirce saw clearly that the notion of community is not like a superstructure resting on a more fundamental epistemological and metaphysical foundation, but is intimately bound up with our very conceptions of reality, knowledge and semiosis."[31] The idea of the social nature of reality was first heralded in the Cognition Series where Peirce had written: "the very origin of the conception of reality shows that this conception essentially involves the notion of a COMMUNITY, without definite limits, and capable of a definite increase of knowledge."[32] "The concept of reality implies community, not vice versa."[33] This remained a vital tenet of his philosophy for the next forty-five years. Peirce's work during the first decade of the twentieth century especially served to underscore the view

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29. See Wells, "Peirce as an American," 38 ff, for a comprehensive study of the frequent use of this metaphor in Peirce's writings.
30. Kemp-Pritchard, "Peirce on Philosophical Hope and Logical Sentiment," 75.
31. Richard J. Bernstein, "Toward a More Rational Community," in *Proceedings of the C.S. Peirce Bicentennial International Congress,* eds. Kenneth L. Ketner, Joseph M. Ransdell, Carolyn Eisele, Max H. Fisch, and Charles S. Hardwick (Lubbock: Texas Tech University, 1981), 115.
32. *CP* 5.311.
33. Hoopes, *Community Denied,* 45.

first expressed in 1868, that the "ideal perfection of knowledge by which we have seen that reality is constituted must thus belong to a community in which this identification is complete."[34]

The social theory of reality begins with the activity of inquiry. "The real is what is disclosed through the application of empirical method; it is also called the stable belief expressed in that ultimate opinion resulting, in the long run, from the persistent following of the method of science."[35] Inquiry, in turn, rests upon the logical sentiments. In 1902 Peirce had written "all that logic warrants is a *hope*, and not a belief."[36] Earlier he had claimed that "… when we busy ourselves to find the answer to a question, we are going upon the *hope* that there is an answer, which can be called *the* answer, that is, the final answer … which sufficient inquiry will compel us to accept."[37] Similarly, "when we discuss a vexed question, we *hope* that there is some ascertainable truth about it, and that the discussion is not to go on forever and to no purpose."[38] The answer, the ascertainable truth, paradoxically, entails hope in the unlimited continuance of intellectual activity which implicitly entails the existence of an indefinite community of investigators. As Peirce viewed it, reality is bound up in the definition of truth: "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."[39] Reality, in turn, is the product of an idealized intersubjectivity: "The real is the idea in which the community ultimately settles

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34. *CP* 5.356.
35. Smith, "Community and Reality," 104.
36. *CP* 2.113.
37. *CP* 4.61.
38. *CP* 2.113.
39. *CP* 5.407.

down."[40] As fated or destined, this opinion is one that rests not only on faith in the

activity of an indefinite community with which one can identify his or her own interests,

but hope in its continued existence.

> [A]ll this requires a conceived identification of one's interests with those of an unlimited community. Now, there exist no reasons … for thinking that the human race, or any intellectual race, will exist forever. On the other hand, there can be no reason against it; and, fortunately, as the whole requirement is that we should have certain sentiments, there is nothing in the facts to forbid our having a *hope*, or calm and cheerful wish, that the community may last beyond any assignable date.[41]

Such hope is grounded in a theory of probabilistic reasoning, as Christopher Hookway

explains:

> Inquiry and deliberation rest upon a framework of assumptions and standards which function as hopes; and inquirers incur the obligation eventually to explain why those hopes were, in fact, warranted. One task of (properly scientific) metaphysics is to provide an account of reality which explains why those hopes were in fact correct. Although these themes became prominent in Peirce's thought only after the mid-1890s, they were implicit in the early discussions of probabilistic reasoning: one of the logical sentiments was *hope* that the scientific community would endure for long enough to benefit from the policy of drawing inferences on the basis of probabilities.[42]

The early work in which this explanation was first attempted is entitled "The Doctrine of

Chances," the third paper of the six "Illustrations of the Logic of Science," that appeared

in *Popular Science Monthly*, an essay which contains the important insight that Hilary

Putnam calls "Peirce's Puzzle."[43]

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40. *CP* 6.610.
41. *CP* 2.654.
42. Christopher Hookway, "Sentiment and Self-Control," in *The Rule of Reason: The Philosophy of Charles Sanders Peirce*, eds. Jacqueline Brunning and Paul Forster (Toronto: University of Toronto Press, 1997), 211.
43. *Popular Science Monthly* 12 (March 1878): 604-615; also published in *CP* 2.645-60. See Hilary Putnam, *The Many Faces of Realism* (Chicago and La Salle, Illinois: Open Court Publishing Company, 1987), 80ff.

Peirce's Puzzle is a way of questioning the propriety of acting according to the precepts of logical probability, which is rooted in a kind of hope. As Peirce correctly noted:

> the idea of probability essentially belongs to a kind of inference which is repeated indefinitely. An individual inference must either be true or false, and can show no effect on probability; and, therefore, in reference to a single case considered in itself, probability can have no meaning.[44]

In vital matters of choice based on an inference that cannot be repeated, such as Peirce's hypothetical decision involving personal immortality or Putnam's suggested substitute of a choice between an easy death and a hard death, one would reasonably opt for whatever strategy that would increase his or her odds of gaining the desirable outcome.[45]

> [I]f a man had to choose between drawing a card from a pack containing twenty-five red cards and a black one, or from a pack containing twenty-five black cards and a red one, and if the drawing of a red card were destined to transport him to eternal felicity, and that of a black one to consign him to everlasting woe, it would be folly to deny that he ought to prefer the pack containing the larger proportion of red cards, although, from the nature of the risk, it could not be repeated. It is not easy to reconcile this with our analysis of the conception of chance.[46]

The question for Peirce is *why should he or she choose from the pack of predominately red cards?* Probable inference is based on repeated and repeatable outcomes, employing the method of success frequencies found, for instance, in actuarial calculations. In situations that are not repeatable, that are by definition limited to a single situation, we are confronted with Peirce's Puzzle.

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44. *CP* 2.652.
45. Putnam, *The Many Faces of Realism,* 81.
46. *CP* 2.652.

Citing Reichenbach's position that probability statements concerning unrepeatable cases are simply a *fictitious transfer* of our knowledge of relative frequencies over time, Putnam notes that:

> the very statement that Jones will have only one chance in twenty-five [*sic*] of eternal felicity *this one time* … is a 'projection.' There is no fact about the single unrepeatable situation which is *the fact that* [the choice of a card from the pack of predominantly red cards] *gives Jones twenty-four chances out of twenty-five* [sic] *of eternal felicity.* Peirce's problem comes out very clearly if we take the view that probability just is relative frequency in the long run. The person in the situation knows a fact which is *utterly irrelevant* to what he should do. He knows that *if there were* a series of situations like this one, then he *would have* eternal felicity twenty-four times out of every twenty-five if he were to choose [from the pack of predominantly red cards] each time. But a person can have eternal felicity or everlasting woe only once! His problem is not how to achieve eternal felicity twenty-four times *out of every twenty-five*; his problem is to obtain eternal felicity *this* time.[47]

Why, therefore, should one pick from the pack of predominately red cards? Peirce's answer is an appeal to altruism and community. By identifying my interests with those of the indefinite community, Peirce asserted that I am able to infer the reasonableness of selecting a card from the pack of predominantly red ones. I would be acting on a rule that would, if employed by the fellow members of my community, produce eternal felicity twenty-five times out of twenty-six. This is a logical fact and no mere individualistic projection.

Putnam believes this reasoning is akin to the ethical reasoning of Rule Utilitarianism: "in choosing this arrangement I am supporting, and helping to perpetuate,

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47. Putnam, *The Many Faces of Realism*, 82.

a rule which will benefit mankind (or the community of rational investigators) *in the long run.*[48] For Peirce:

> this makes logicality attainable enough. Sometimes we can personally
> attain to heroism. The soldier who runs to scale a wall knows that he
> probably will be shot, but that is not all he cares for. He also knows that
> if all the regiment, with whom he identifies himself, rush forward at
> once, the fort will be taken. In other cases we can only imitate the virtue.
> The man whom we have supposed as having to draw from the two
> packs, who if he is not a logician will draw from the red pack from mere
> habit, will see, if he is logician enough, that he cannot be logical so long
> as he is concerned only with his own fate, but that man who should care
> equally for what was to happen in all possible cases of the sort could act
> logically, and would draw from the pack with the most red cards, and
> thus, though incapable himself of such sublimity, our logician would
> imitate the effect of that man's courage in order to share his logicality.[49]

Putnam, however, sees this response as highly unlikely. The identity of one's own

interests with those benefiting members of the community is out of place in just such a

case.

> Can it really be that the reason I would choose [to select a card from the
> pack of predominantly red cards] is that I am *altruistic*? Maybe I am, but
> isn't it obvious that I would choose [this] arrangement first and foremost
> because it would avoid everlasting woe *in my own case*? … If my *only*
> reason for believing that I should be reasonable were my beliefs about
> what will happen *in the long run* if I act or believe reasonably, then I
> would have absolutely *no* reason (apart from the implausible reason of
> altruism) to think it better to be reasonable in an unrepeatable single case
> like the one described.[50]

So far as it goes, Putnam's dismissal of Peirce's solution of "a conceived

identification of one's interests with those of an unlimited community"[51] as incredible, is

compelling. Hookway concedes there is ample evidence that the appeal to altruism in a

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48. Ibid., 84.
49. *CP* 2.654.
50. Putnam, *The Many Faces of Realism,* 84.
51. *CP* 2.654.

case of vital concern, i.e., the question of one's eternal happiness or woe, is probably the

product of Peirce's own confusion regarding the differing demands of rationality in

matters of theory and practice during the 1870s.[52] As Peirce came to believe, matters of

vital concern must be settled without recourse to probabilistic calculation, to scientific

reflection about the long run and the good of the community. Thus it would appear that

appeals to altruism and the long-run benefit to the community are out of place in such

fateful decisions and matters of vital concern.

D. <u>Agapism</u>

As we observed in chapter four, Peirce harbored a lifelong suspicion toward all

forms of individualism. The process of inquiry is clearly no individual affair. Reality, no

less than truth, is tied to the opinion of the community. "The real, then, is that which,

sooner or later, information and reasoning would finally result in, and which is therefore

independent of the vagaries of me and you."[53] This assertion, as we've seen, rests upon

the logical sentiments which embody the notion of a community. The notion of

community is made possible because the law of love is operative as a creative force in the

universe. Peirce developed what he termed his *agapism*[54] in the final essay of the five

part series for *The Monist.* In this last essay, a highly romanticized piece he called

"Evolutionary Love,"[55] he attempted to spell out his belief that *agape* operates as one of

three discernible types of evolution. Evolutionary love entails sentimentalism which, as

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52. Hookway, "Sentiment and Self-Control," 218.
53. *CP* 5.311.
54. Of this doctrine, Wiener observed that "for sheer speculative audacity [it] was a worthy rival of the absolutism of Schelling and Hegel." Philip P. Wiener, *Evolution and the Founders of Pragmatism* (Cambridge: Harvard University Press, 1949), 76-7.
55. *The Monist* 3 (October 1892): 1-22; also published in *CP* 6.287-317.

we noted in the last chapter, is "the doctrine that great respect should be paid to the natural judgments of the sensible heart."[56] It is the force that makes possible the communicability of feeling and the sympathy of ideas.[57]

Agapism is contrasted with evolution by natural selection or fortuitous variation and evolution by mechanical necessity. Evolution by fortuitous variation is associated with the theory of Darwin and is termed *tychasm*.[58] Interestingly, this essay betrays Peirce's ambivalence toward Darwinian evolution. Evolution by mechanical necessity is associated with the thought of Karl Nägeli, Albert von Kölliker and August Weismann and is termed *anacasm*.[59] Juxtaposed with tychasm and anacasm is the theory that Peirce associated with Jean-Baptiste de Lamarck's theory.

> Evolution by sporting and evolution by mechanical necessity are conceptions warring against one another. A third method, which supersedes their strife, lies enwrapped in the theory of Lamarck. According to his view, all that distinguishes the highest organic forms from the most rudimentary has been brought about by little hypertrophies or atrophies which have affected individuals early in their lives, and have been transmitted to their offspring. Such a transmission of acquired characters is of the general nature of habit-taking … Its action is essentially dissimilar to that of a physical force; and that is the secret of the repugnance of such necessitarians as Weismann to admitting its existence.[60]

Habit, which is *merely* inertia, acts upon the novel forms generated by Lamarckian evolution by codifying changes.

> Habit … forces them to take practical shapes, compatible with the structures they affect, and, in the form of heredity and otherwise, gradually replaces the spontaneous energy that sustains them. Thus,

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56. *CP* 6.292.
57. *CP* 6.307.
58. *CP* 6.302.
59. *CP* 6.298.
60. *CP* 6.299.

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habit plays a double part; it serves to establish the new features, and also to bring them into harmony with the general morphology and function of the animals and plants to which they belong. … [T]he reader … will see that this account of Lamarckian evolution coincides with the general description of the action of love …[61]

As its name suggests, the theory of agapism (alternately "agapasm" or "agapasticism") has theological roots, and, as far as providing a context for what is purported to be a scientific explanation of the universe's functioning, this is unfortunate. Peirce's description of evolutionary love is certainly laced with religious idiom, and as was the case with his depiction of the logical sentiments, the notion of agape clearly owed something to the Pauline missives of the Christian Bible. However, as Hausman is quick to point out, "the conceptual advantages it has as a hypothesis for interpreting evolution can be offered without reference to Christianity."[62]

Peirce required several things from agapism. In language oddly reminiscent of Whitehead's metaphysical writings, he suggested that there "probably in nature is some agency by which complexity and diversity is increased."[63] Later, in "Evolutionary Love,"

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61. *CP* 6.300.
62. Carl R. Hausman, *Charles S. Peirce's Evolutionary Philosophy* (Cambridge: Cambridge University Press, 1993), 171.
63. *CP* 6.58. The striking similarity in the language, if not the concepts, employed by Peirce in *The Monist* series of 1891-3 and by Whitehead in *Process and Reality* − a revision of his Gifford Lectures of 1927-8 − warrants further investigation. Whitehead arrived at Harvard in 1924. The first collection of Peirce's essays, *Chance, Love, and Logic*, edited by Morris Cohen, and containing all five articles from *The Monist* series, had appeared in 1923. While there is scant evidence that Whitehead had more than a passing interest in the Peirce Papers, housed at Harvard beginning in 1915, his paper grader, the newly-minted Ph.D., Charles Hartshorne, was very much interested, and, with Paul Weiss, was put to the task of editing the first six volumes of the *Collected Papers* when C.I. Lewis decided to pursue other interests. In an interview in 1970, Hartshorne remembered showing Whitehead some of Peirce's papers: "Whitehead read several pages in which Peirce sounded rather like Whitehead talking for instance about the 'irrevocable past' and the 'indeterminate future,' and Whitehead said to me, 'I hope you will testify that this is the first time I have seen this.' When I told him that I could find some of his characteristic ideas in Peirce he said, 'Then I say he's a great man. I'm bound to.'" [From "Charles Hartshorne's Recollections of Editing the Peirce Papers, an Interview by Irwin C. Lieb, *Transactions of the Charles S. Peirce Society*. 6 (Summer-Fall 1970): 157]. Reflecting on his research experiences as Peirce's biographer, Joseph Brent commented: "I wonder if Whitehead would have written just the way he did without knowledge of Peirce's work … The

this agency through which "new elements of form are first created," is tied to Lamarck's theory and labeled in a distinctly Peircean term as "energetic projaculation."[64] Secondly, agape supplies the need for a source of uniformity in nature.[65] As we saw in the last chapter, the interaction of spontaneity and mechanical necessity produces "another kind of causation, such as seems to be operative in the mind of the formation of associations, and enables us to understand how the uniformity of nature could have been brought about."[66] This view of nature, Hausman points out, allowed Peirce to establish a continuum between chance and necessity, "the idea of lawfulness as inseparable from spontaneity, which is one of the conditions under which agape functions."[67] As we noted, Peirce claimed elsewhere in the *Monist* series, that "mind, no less than matter, is governed by habit."[68] Thirdly, Peirce needed agapism to establish the objectivity of mind as an agent in the universe, apart from the mere feeling or "inward aspect" of the individual self.

> … by supposing the rigid exactitude of causation to yield, I care not how little – be it but by a strictly infinitesimal amount – we gain room to insert mind into our scheme, and to put it into the place where it is needed, into the position which, as the sole self-intelligible thing, it is entitled to occupy, that of the fountain of existence; and in so doing we resolve to problem of the connection of soul and body.[69]

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issue of the extent of Peirce's unrecognized influence is a genuine one." [From Joseph Brent, "The Singular Experience of the Peirce Biographer," see Arisbe website: http://www.cspeirce.com/menu/ library/aboutcsp/brent/singular.htm (accessed September 2008)].

64. *CP* 6.300.
65. Hausman, *Charles Peirce's Evolutionary Philosophy,* 172.
66. *CP* 6.60.
67. Hausman, *Charles Peirce's Evolutionary Philosophy,* 173
68. *CP* 6.270.
69. *CP* 6.61.

Finally, agapism provided Peirce with the mechanism of what he termed "developmental teleology," the means by which the universe becomes self-intelligible and self-actualized, without the operation of either rigid necessity or pure chance.

Agape, the third form of evolution, incorporates elements of both tychism and anacasm. "Agapasm is evolution that includes chance and necessity and something else: it is the synthesis of chance and necessity, which is not reducible to either or to both simply added together."[70] Agapism provides the dynamic, self-determining, and ultimately purposive element of the universe. Through creative love Peirce was able to impose the principle of continuity on the workings of the universe.

Endowment of the universe with the element of harmonious, self-determining continuity implied, for Peirce, a moral principle. Progress toward an end could be possible only to the degree that individual will was superseded by selfless love. It is at this point that his hypothesis for interpreting evolution took on a decidedly Manichean flavor and his religious bias was revealed.

> Here, then, is the issue. The gospel of Christ says that progress comes from every individual merging his individuality in sympathy with his neighbors. On the other side, the conviction of the nineteenth century is that progress takes place by virtue of every individual's striving for himself with all his might and trampling his neighbor under foot whenever he gets a chance to do so. This may accurately be called the Gospel of Greed.[71]

The evangelist of this Gospel of Greed was clearly Darwin.

> The *Origin of Species* of Darwin merely extends politico-economical views of progress to the entire realm of animal and vegetable life. The vast majority of our contemporary naturalists hold the opinion that the true cause of those exquisite and marvelous adaptations of nature for

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70. Hausman, *Charles Peirce's Evolutionary Philosophy,* 174.
71. *CP* 6.294.

which, when I was a boy, men used to extol the divine wisdom, is that
creatures are so crowded together that those of them that happen to have
the slightest advantage force those less pushing into situations
unfavorable to multiplication or even kill them before they reach the age
of reproduction. Among animals, the mere mechanical individualism is
vastly reënforced as a power making for good by the animal's ruthless
greed. As Darwin puts it on his title-page, it is the struggle for existence;
and he should have added for his motto: Every individual for himself,
and the Devil take the hindmost![72]

Peirce was certainly not alone in seeing Darwin as having extended to the human animal

a materialist view of nature, with its cold-blooded will-to-survive-at-all-costs imbued in

the heart of every individual creature. Richards argues that by the close of the nineteenth

century, this was a common view that fueled much of the conflagration over evolution.

Such a view was, however, at variance with the facts. "Darwin, perhaps more forcefully

than any of his disciples, attempted to infuse human nature with an authentic moral sense:

altruistic behavior did not disguise a more fundamental utilitarian selfishness but instead

revealed a divine spark lighting the rest of nature."[73] The moral sense of human beings,

understood as a motivating feeling to act on behalf of others or suffer the pangs of guilt

for resisting it was, for Darwin, a species of social instinct, and was to be understood as

the capacity of the individual to see him or herself in relation to others, bonded to social

wholes, the preservation of which was in the ultimate interest of each member.

> Social instincts comprised behaviors that nurtured offspring, secured
> their welfare, produced cooperation among kin, and organized the group
> into a functional unit. The principal mechanism of their evolution, in
> Darwin's view, was community selection: that kind of natural selection
> operating at levels of organization higher than the individual. The degree
> to which social instincts welded together a society out of its striving
> members depended on the species and its special conditions. Community
> selection worked most effectively among the social insects, but Darwin

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72. *CP* 6.293.
73. Richards, *Darwin and the Emergence of Evolutionary Theories of Mind and Behavior,* 504.

thought its power was in evidence among all socially dependent animals, including that most socially advanced creature, man.[74]

We have already noted Peirce's understanding and description of the social instincts and the considerable influence of Darwin on his thinking. This characterization of Darwin as the purveyor of the gospel of greed in biology can thus best be viewed as a straw man. Darwin's understanding of community selection certainly has parallels to Peirce's general understanding of community and his theory of moral sense as a capacity for altruistic action has much common ground with Peirce's own views.

E. Community and Normativity

Peirce's interest in the normative sciences was a relatively late development. It was largely an outgrowth of his attempts to refine and redefine his pragmatism in the first decade of the twentieth century. His interest was focused primarily on logic as a regulative principle; only in this way did it extend to ethics and aesthetics, and then only in the most general way. By this time, he had shifted his thinking to the view that logic was part of semiotic. In a 1908 letter to the British mathematician and philosopher, P.E.B. Jourdain, he wrote:

> We think in signs; and indeed meditation takes the form of a dialogue in which one makes constant appeal to his self of a subsequent moment for ratification of his meaning in respect to his thought = signs really representing the objects they profess to represent. Logic therefore is almost a branch of ethics, being the theory of the control of signs in respect to their relation to their objects.[75]

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74. Ibid., 599.
75. *NEM* 3:886.

Brent contends that Peirce's newly found interest in ethics also resulted from Peirce's finally coming to see the connection between his professional and economic failings and his moral turpitude.

> [Peirce] said of himself, "For long years I suffered unspeakably … from ignorance of how to go to work to acquire sovereignty over myself." His despair and self-loathing finally drove him to change his ways, and in 1905, he was reconstructing the pragmatism of the "Illustrations" of twenty-seven years before so that it would show not only its origin in the doctrine of signs, but its dependence on ethics, the requirement for self-control.[76]

Helmut Pape sees both of these sources of Peirce's reconstructed pragmatism as intertwined and inseparable. This conclusion is traceable to Peirce's own restatement of the pragmatic maxim in 1905:

> I will restate [the pragmatic maxim of 1878] in other words, since ofttimes one can thus eliminate some unsuspected source of perplexity to the reader. This time it shall be in the indicative mood, as follows: 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.[77]

Four paragraphs later, Peirce added, "For it is to conceptions of deliberate conduct that Pragmaticism would trace the intellectual purport of symbols; and deliberate conduct is self-controlled conduct."[78] The use and control of signs to express beliefs and to direct action is an ethical concern and, of course, what has ethical implication also has social and political implication.

In 1903, Peirce described what he meant by the ethics of assertion.

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76. Joseph Brent, *Charles Sanders Peirce: A Life* (Bloomington and Indianapolis: Indiana University Press, 1993), 341.
77. *CP* 5.438.
78. *CP* 5.442.

> … an act of assertion supposes that, a proposition being formulated, a
> person performs an act which renders him liable to the penalties of the
> social (or, at any rate, those of the moral law) in case it should not be
> true, unless he has a definite and sufficient excuse; and an act of assent
> is an act of the mind by which one endeavors to impress the meanings of
> the proposition upon his disposition, so that it shall govern his conduct,
> including thought under conduct, this habit being ready to be broken in
> case reasons should appear for breaking it.[79]

Pape's interpretation of Peirce's pragmatism seems to be that assenting to a proposition

(i.e., believing it to be true) and asserting a belief (i.e., publicly pronouncing it to be true)

involves normativity in two distinct, but related senses.

In the first sense, "the proposition is an inner habit of thought or 'thought-sign'

that structures the behavior of the thinker of this proposition."[80] The second sense

follows from the act of public assertion of a belief and results in accountability for the

truth of what is asserted under threat of public sanction or consequence.[81] Peirce did not

make it entirely clear just what such penalties might entail, though his biography would

have undoubtedly provided a fair sampling. He does, however, give us a hint in a later

passage on assertion. In a 1905 letter to James he wrote:

> Now an assertion belongs to the class of phenomena like going before a
> notary and making an affidavit, executing a deed, signing a note, of
> which the essence is that one voluntarily puts oneself into a situation in
> which penalties will be incurred unless some proposition is true. One
> may maintain that every proposition involves an assertion. Very likely
> that may be true as a psychological truth; but if so the element of
> assertion is frequently altogether or in great degree inhibited and
> disavowed. I have nothing further to say about assertion.[82]

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79. *CP* 2.315.
80. Helmut Pape, "Pragmatism and the Normativity of Assertion," *Transactions of the Charles S. Peirce Society* 38 (Fall 2002): 524.
81. Ibid.
82. *CP* 8.313.

In other passages, Peirce likened the notion of assertion to a promise of future payment, and to swearing an oath in court.[83] Presumably, social sanctions include, but likely are not exhausted by, legal penalty. Certainly one who asserts, promises, or swears falsely also runs the risk of social stigma and ostracism for having violated the moral law. In a lengthy letter to Welby on signs and the categories, he expressed himself on the subject three months before the missive to James just quoted.

> According to my present view (I may see more light in future) the act of assertion is not a pure act of signification. It is an exhibition of the fact that one subjects oneself to the penalties visited on a liar if the proposition is not true. 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.[84]

In any event, within the first few years of the twentieth century, Peirce had come to see assertion as involving something more than the mere utterance of thought-signs. It is, "as Peirce put it elsewhere, 'an action that is related to our thought' (*MS* 599, 1902, & in *MS* 499/499s, 1906) by which we take responsibility for the truth of a proposition."[85] Tom Short claims that, at least in this sense, Peirce's position presaged Austin's famous dictum that saying "'I know that …' is a sort of 'performative' utterance, akin to saying 'I promise,' making one vulnerable to censure if what is said turns out not to be true."[86]

The act of public assertion, by which the declarer becomes liable for social and moral sanctions, refers us back to the social status of normativity for the belief that is asserted. Pape explains that "what determines the validity of an assertion as well as the validity of the rules I am using is … independent of my conduct as an individual: there

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83. *CP* 5.546.
84. *CP* 8.337.
85. Pape, "Pragmatism and the Normativity of Assertion, 525.
86. T.L. Short, *Peirce's Theory of Signs* (Cambridge: Cambridge University Press, 2007), 243.

can be no inferential or semiotical rules which are valid for me alone."[87] A social theory

of logic, or logic viewed "almost as a branch of ethics," implies that my interests and the

interests of the community are one in the use of signs. This identification, or as Peirce

called it 'personification,' becomes instinctive through enculturation.

> Cannot a man act under the influence of a vague personification of the
> community and yet according to a general rule of conduct? Certainly: he
> so acts when he conforms to custom … Conformity to a norm may take
> place by an immediate impulse. It then becomes instinctive imitation.
> But here the man does not vaguely personify the community, but puts
> himself in the shoes of another person, as we say. I call this putting of
> oneself in another's place, *retroconsciousness*.[88]

As we learned in chapter three, such norms are symbols. "A *Symbol* is a sign

which refers to the Object that it denotes by virtue of a law, usually an association of

general ideas, which operates to cause the Symbol to be interpreted as referring to that

Object. It is thus itself a general type or law, that is, a legisign."[89] Symbols represent their

objects by incorporating a habit or habits of interpretation.[90] "Such is any utterance of

speech which signifies what it does only by virtue of its being understood to have that

signification."[91] Finally, "every symbol is an *ens rationis*, because it consists in a habit,

in a regularity; now every regularity consists in the future conditional occurrence of facts

not themselves that regularity."[92] Or, in the slightly different way Peirce stated it earlier

in the same essay,

> The being of a symbol consists in the real fact that something surely *will
> be* experienced if certain conditions be satisfied. Namely, it will

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87. Pape, "Pragmatism and the Normativity of Assertion, 534.
88. *CP* 1.586 (1903).
89. *EP* 2:292 (1903).
90. *CP* 4.531 (1906).
91. *P* 2:304 (1902) cf *EP* 2:461 (1909).
92. *CP* 4.464 (1903).

influence the thought and conduct of its interpreter. Every word is a symbol. Every sentence is a symbol. Every book is a symbol. Every representamen depending upon conventions is a symbol.[93]

Thus, Pape concludes

The reason why the normativity of belief depends on its *social* status and the reason why we have to accept the sanctions of social obligations, if the belief does not fulfill the required standards, is the role the belief plays in the communicative and inferential use for us or in a community of interpreters. If *other people* trust my assertion, they will use what *I* say as a premise for their inferences and interpretations – as I do with theirs. For this reason, the meaning of my beliefs depends on what, in the long run, the community of investigators will accept as valid logical inferences and interpretations. It is the inferential and communicative context of a community of reasoners/interpreters for which the meaning and seriousness of assertions is important.[94]

Pape goes on to explore the social status of the logical rules themselves in Peirce's writings, a study beyond the scope of the present work, but integral to the grand work that Peirce proposed in his grant application to the newly formed Carnegie Institution in 1902. There, in answer to his own question "What am I prepared deliberately to accept as the statement of what I want to do, what am I to aim at, what am I after?", he would demonstrate, in the span of a planned three dozen "Memoirs on Minute Logic," that "logic is a means of attaining the end of thought," that "life can have but one end" [and] "it is Ethics which defines that end."[95] The irony was that, the esteem with which the Peirce family was held by Harvard community (his grandfather had been the University's first historian, his father Benjamin, a highly revered professor and founding member of the National Academy of Sciences, his brother James, dean of the

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93. *CP* 4.447. Dates have been inserted to indicate Peirce's focus on this subject during the first decade of the twentieth century.
94. Pape, "Pragmatism and the Normativity of Assertion," 535.
95. *CP* 2.198.

Mathematics department, and his other brother Herbert, an under-Secretary of State), the social and political connections he enjoyed and the favors he could cull in support of his Carnegie application (those who wrote letters to the grant committee in support included his first cousin, Henry Cabot Lodge; the astronomer and aeronautics pioneer, Samuel P. Langley; the bridge-builder and engineer, George S. Morison; the mathematician, William Pepperell Montague; the psychologists J. McKeen Cattell and William James; and even President Theodore Roosevelt, "whom Peirce's cousin Senator Lodge had fascinated with the tale of Peirce's life") was not enough to overcome his reputation for personal and professional failure.[96] The grant application was denied, in part the residual outcome of his banishment from the academy and twenty years of self-imposed exile in the wilds of northeastern Pennsylvania. He remained a pariah to the community of investigators he lauded as so vital to the pursuit of truth.

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96. Brent, *Peirce: A Life*, 278ff.

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Appendices

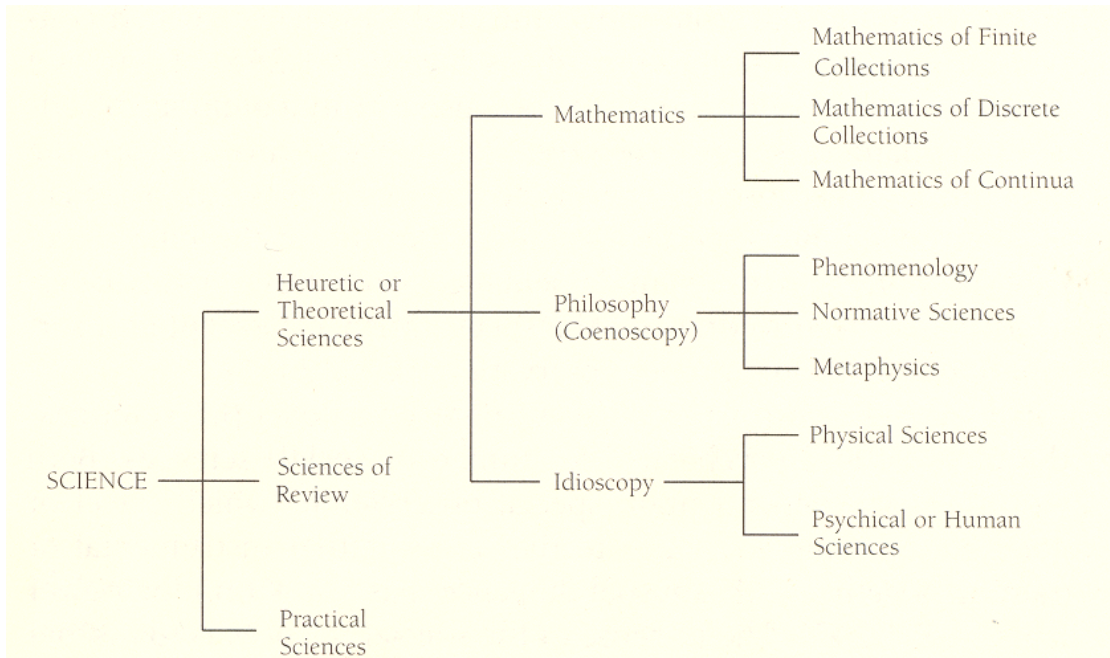Appendix A: The 1903 Classification of the Sciences

Figure 1. 1903 Classification of the Sciences. Reproduced with permission of the author and publisher from Kelly A. Parker, *The Continuity of Peirce's Thought* (Nashville: Vanderbilt University Press, 1998), 37.

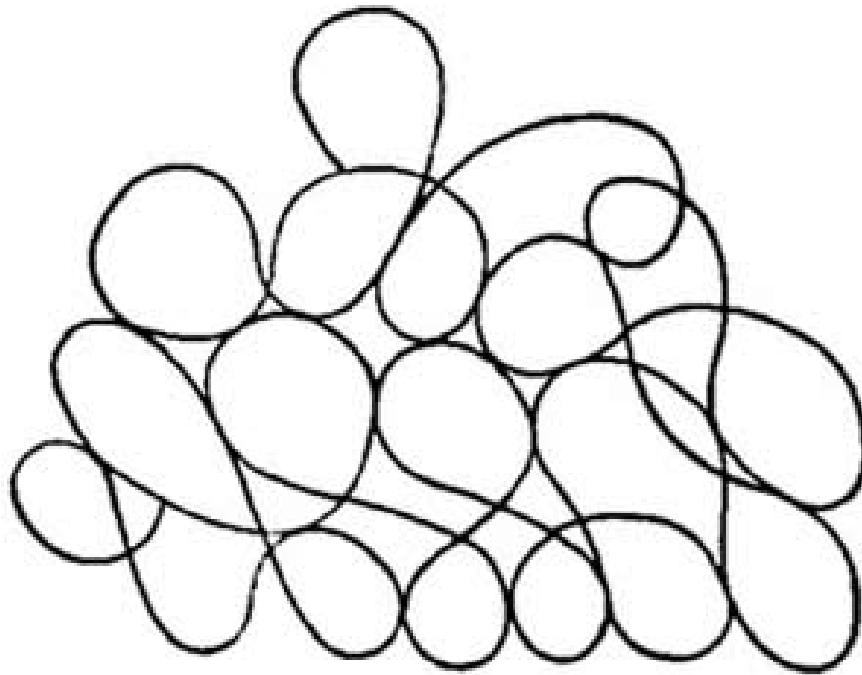Appendix B: Peirce's Drawing of the Serpentine Wall

Figure 2. Peirce's Drawing of the Serpentine Wall. Reprinted by permission of the publishers from the COLLECTED PAPERS OF CHARLES SANDERS PEIRCE; VOLUMES 1-6, edited by Charles Hartshorne and Paul Weiss; VOLUMES 7-8, edited by Arthur Burks, Cambridge, Mass.: The Belknap Press of Harvard University Press, Copyright © 1931, 1932, 1933, 1934, 1935, 1958, 1960, 1961 by the President and Fellows of Harvard College.

Ayim's Catalog of the Instincts from the Writings of Charles S. Peirce

I.   *Instincts Related to the Physical Sciences:*
    (1)   Theoretical instinct – the example Peirce gives is that man instinctively places phenomena and their causes in close spatial proximity (*CP* 8.223);
    (2)   The gnostic instinct – curiosity (*CP* 7.58). (2) is closely related to (1);
    (3)   The power of the human mind to divine the truth, or the method of hypothesis (*MS* 652, p.14, *CP* 1.630, 5.591, 6.491);
    (4)   Instincts which assist the investigator in giving certain hypotheses priority over others for initial testing (*CP* 8.223) – (4) is closely related to (3);
    (5)   The belief that there is an element of order in the universe (*CP* 6.496)
    (6)   Respect for the physical sciences (*MS* 668, pp. 10-11);
    (7)   Most reflection – Peirce claims that this instinctive reflection, which consists essentially in reconsidering ideas and asking whether they appear reasonable, is quite different from the operation of reason (*CP* 7.606)
    (8)   The bulk of simple reasonings (*CP* 2.181)
    (9)   The instinct for obtaining food (*CP* 1.118, 7.39)

II.   *Instincts Related to Psychology:*
    (10)   Man's natural psychology, or mass of opinions about the mind -Peirce notes that this body of beliefs, contributing much towards our welfare, is at least partly instinctive, for it is shared by the lower animals (*CP* 2.753, 7.421)
    (11)   Sexuality (*MS* 668, p.11)
    (12)   Reproductive instincts (*CP* 7.379), closely related to (11) and under which (13) and (14) are subsumed;
    (13)   The instinct for producing offspring (*CP* 1.118, 7.39)
    (14)   The instinct for rearing offspring (*CP* 7.39); (See also Category I, (7) and (8);

III.   *Instincts Related to Basic Human Attributes:*
    (15)   Speech, to which Peirce refers as "man's instinctive vehicle of thought" (*MS* 654, First Copy, p.4)
    (16)   Instinct for communication (*CP* 7.379), closely related to (15), and under which (17) and (18) are subsumed;
    (17)   Instinct for cries and songs (*CP* 7.379);
    (18)   Instinct for facial expressions (*CP* 7.379);
    (19)   The gust instinct or pleasure principle (*CP* 7.58);
    (20)   Walking (*MS* 693a, pp. 16-18);
    (21)   Instinct for locomotion and migration (*CP* 7.379);

IV.   *Instincts Related to less Basic Human Attributes:*
    (22)   Instinct for games (*CP* 7.379)
    (23)   Instincts for medicine – e.g., dogs eating grass (*CP* 7.378);
    (24)   Ferocity (*MS* 668, p.11)
    (25)   Instincts for war (*CP* 7.378);
    (26)   Instincts for self-concealment (*CP* 7.378);
           (See also Category III, (19));

V.   *Instincts Related to Religion*
    (27)   The belief that there is a God (*CP* 6.501) – religion itself is a generalization of sentiment or instinct (*CP* 1.676);
           (See also Category I, (5));

VI.   *Instincts Related to Moral Beliefs:*
    (28)   Aversion to incest (*CP* 5.445, 6.570); (See also Category X, (36), and (37));

VII.   *Instinct Related to Art and Literature:*
    (29)   Poetry, which is a generalization of sentiment or instinct (*CP* 1.676); (See also Category III, (16), (17) and (18));

VIII.   *Instincts Related to Indubitable Beliefs:*
    (30)   The belief that fire burns (*CP* 5.498)

IX.   *Instincts Related to Shelter:*
    (31)   Architectural instincts – e.g., construction of cobwebs (*CP* 7.379);
    (32)   Instincts of working materials – e.g., tree falling instinct of beavers, instinct of woodpeckers, and all instinctive mechanical skills (*CP* 7.378)
    (33)   Instinct for clothing (*CP* 7.379);
    (34)   Instinct for adornment and decoration (*CP* 7.379);
    (35)   Instinct for collecting and hoarding useless things – e.g., rats magpies (*CP* 7.378); (See also Category IV, (26));

X.   *Instincts Related to Etiquette*
    (36)   Instinct for manners – e.g., the conviction that nudity among adults in public places is socially unacceptable (*CP* 2.160)
    (37)   Instinct for personal cleanliness (*CP* 7.378); (See also Category IX, (33) and (35)).

Figure 3. Ayim's Catalog of the Instincts from the Writings of Charles S. Peirce. Reproduced by permission of author from Maryann Ayim, *Peirce's View of the Roles of Reason and Instinct in Scientific Inquiry* (Meerut, India: Anu Prakashan, 1982), 23-25.

About the Author

Robert J. Beeson received a Bachelor's Degree in Philosophy from the State University of New York College at Buffalo, in 1976. He attended The Wesley Theological Seminary in Washington, D.C., graduating with a Master of Divinity Degree in 1979 and a Doctor of Ministry Degree in 1982. He spent 19 years as a pastor and parish priest before being hired to teach philosophy and humanities at Edison State College in Fort Myers, Florida. He entered the Ph.D. program at the University of South Florida in 1999.

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