The Routes of Significance: Reflections on Peirce's Theory of Interpretants

Os Caminhos do Significado: Reflexões sobre a Teoria dos Interpretantes de Peirce

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Abstract: The essay explores how C. S. Peirce, especially in his mature thought, addressed the question of meaning. It underscores how he not only took meaning to be at bottom a function of our habits but also how he conceived these habits themselves to be functions of the histories in which they originate and operate. Hence, what I propose here is this: One of the most fruitful ways to interpret Peirce's own contribution to this question is to see his efforts as carrying forward the impetus intensified by Hegel and Darwin's emphasis on temporality and historicity.

In Part One of this paper ("The Question of Meaning"), I suggest how Peirce approaches the question of meaning primarily in reference to what I call the *drama of self-correction*. Moreover, his approach is explicitly related to his pragmatism, semeiotic (or general theory of signs), and phenomenological doctrine of categories. Finally, the historical development of his own reflections on this question is taken to provide a basis for an *historicist interpretation of his mature position*. In Part Two ("The Routes of Significance"), I propose that the metaphor of a route provides a corrective to the excessively formal and indeed formalistic interpretations of Peirce's theory of signs still dominating the discussion of this theory. Routes are understood here not as antecedently fixed paths, but as historically emergent and alterable trajectories defined by the movements of travelers. In conjunction with this emphasis I explore several distinct senses in which both beliefs and signs are what agents go on. Such reflections are articulated for the purpose of facilitating a deeper understand of not only what Peirce meant by meaning but also what we might mean by this elusive term.

Keywords: Meaning. Sign. Interpretant. History (also historicitity). Pragmatism (also pragmaticism). Evolutionism. Intuition. Self-correction (thus, by implication at least, fallibilism or corrigibilism).

Resumo: O ensaio explora como C. S. Peirce, particularmente em seu pensamento maduro, abordou a questão do significado. Ressalta como ele não apenas tomou significado como, basicamente, uma função de nossos hábitos, mas também como ele concebeu esses próprios hábitos como funções das bistórias nas quais se originam e operam. Assim, o que proponho aqui é o seguinte: Uma das formas mais fecundas de interpretar a própria contribuição de Peirce a essa questão é ver seus esforços como levando adiante o *ímpeto intensificado pela ênfase dada por Hegel e Darwin à temporalidade e à historicidade.*

Na Primeira Parte deste trabalho ("A Questão do Significado"), sugiro como Peirce aborda a questão do significado principalmente em referência ao que eu chamo de drama da autocorreção. Ademais, sua abordagem está explicitamente relacionada ao seu pragmatismo, a sua semiótica (ou teoria geral dos signos) e sua doutrina fenomenológica das categorias. Finalmente, o desenvolvimento histórico das suas reflexões sobre essa questão é considerado como base para uma interpretação historicista de sua posição madura. Na Segunda Parte ("Os Caminhos do Significado"), proponho que a metáfora de um caminho proporciona uma correção às interpretações excessivamente formais, e, até mesmo, formalísticas, da teoria dos signos de Peirce que ainda dominam a discussão dessa teoria. Os caminhos devem ser entendidos aqui não como rotas pré-fixadas, e sim como trajetórias historicamente emergentes e alteráveis, definidas pelos movimentos dos viajantes. Juntamente com a ênfase, exploro alguns sentidos distintos, nos quais tanto as crenças como os signos são aquilo em que os agentes se fundamentam. Essas reflexões são articuladas com a finalidade de facilitar um entendimento mais profundo não só do que Peirce quis dizer com significado, mas também o que nós queremos dizer com esse termo indefinido.

Palavras-chave: Significado. Signo. Interpretante. História (também historicidade). Pragmatismo (também pragmaticismo). Evolucionismo. Intuição. Autocorreção (daí, por implicação pelo menos, falibilismo ou corrigibilismo).

Part One: The Question of Meaning

The question of meaning was near the center of C. S. Peirce's project. Arguably, it was at the very center of his concern. He addressed this question primarily as it arose in the context of his lifelong efforts to provide a normative account of objective inquiry (COLAPIETRO, 1998), the sort of inquiry best exemplified by the endeavors of physicists, chemists, physiologists, and other investigators who were *historically* successful in applying the experimental method to some particular domain of theoretical interest. But, as part of framing such an account of inquiry, he envisioned a truly comprehensive theory of signs, encompassing the myriad forms of meaning. Hence, Peirce addressed the question of meaning primarily, though not exclusively, in reference to the historically evolved practices of self-consciously experimental inquirers; but without exaggeration, the theory of signs provides resources for illuminating virtually every other human practice. The limitations of his focal concern were, at least partly, offset by the scope of his theoretical imagination. In particular, his theory of signs was designed, not merely envisioned, as an inclusive framework of ever wider reach. Indeed, the power of Peirce's semeiotic to shed light on such domains as art and religion, ethics and technology, has been far from determined.

In this respect, his semeiotic and allied investigations were linked to the monumental efforts of such historical predecessors as Schelling, Fichte, and Hegel to bring to explicit and systematic consciousness the historical achievements manifest in an interwoven array of human practices (DEWEY, 1927; FISCH, 1986, ch. 14, also 11; ESPOSITO). Of these practices, Peirce's talents and commitments disposed him mostly to neglect art and politics and to explore in detail religion and to a far greater extent science. Even so, he was engaged in the task of making sense out of his actual time in its irreducible complexity (see, e.g., one of his earliest public lectures, "The Place of Our Age in the History of Civilization" [W 1, p. 101-14]). Stated more precisely, he was devoted to the work of bringing to fuller self-control (COLAPIETRO, 1989), the practices constitutive of the present. Though he tended to take the experimental practices of natural scientists to be the paradigm of science, he fully appreciated the irreducible heterogeneity of human practices: these *various* practices do not conform to a single type or exemplify a common form. In particular, he insisted upon according *traditional* authority a greater weight in, say, ethics, politics, and religion than in science. Even so, Peirce had a clear sense of how the most practically binding authority was, at bottom, an historically evolved sanction.

More generally, he was a self-conscious participant in a radical alteration of Western self-consciousness. Though his emphasis was on experimental self-control or selfcontrolled experimentalism (his normative account of experimental investigation being essentially the work of a systematic experimentalist devoted to advancing the cause of experimental inquiry), this emphasis cannot be separated from his concern for historical self-consciousness. Ironically, the centrality of such historical self-consciousness to his philosophical project was not sharply focused in Peirce's theoretical self-consciousness: his philosophical self-understanding (his conception of himself as an experimentalist most closely akin to physicists and chemists) tended to occlude somewhat the extent to which his actual project was devoted to advancing historical self-consciousness. Whereas Peirce supposed philosophy was itself a cluster of sciences distinguished by the kind of experience to which philosophers appealed, and thus the level of generality with which they were forced to be satisfied, his own work as a philosopher might alternately be envisioned as a highly reflexive form of deliberation (COLAPIETRO, 1998, 273-75). Quite apart from this alternative, however, Peirce's philosophy revolves around what might be identified as *the drama of self-correction* (the sequence of endeavors in which agents are driven to the realization of having been mistaken, of being forced to acknowledge that, as Hegel put it, they meant something other than they meant to mean) (HEGEL, p. 39; COLAPIETRO, 2003).

Just as all drama is historical, so all history is dramatic. Both drama and history are sites in which the *meaning* of our actions are amplified and modified, frequently ramified and inevitably revised, in the ongoing course of sustained exertion. This sort of exertion is exhibited in virtually every human practice, from the traditional forms of religious worship to the successful employments of the experimental method, from the innovative practices of artists to the deliberative ones of citizens. But the drama of self-correction, illustrated at every turn in the work of self-critical experimentalists, defined the context in which Peirce principally explored the question of meaning.

In light of the writings of such contemporary thinkers as Paul Ricoeur, Alasdair MacIntyre, Charles Taylor, Bruno Latour, Joseph Margolis, and a growing number other important writers, we are now in a better position than Peirce ever was to appreciate the *historical* dimension of all our shared practices and the *dramatic* character of these historical affairs. But in this connection Peirce was far from oblivious to the relevant

sense of either the historical or the dramatic, even if insufficiently appreciative of their relevance and indeed centrality to his concerns. We are, however, here jumping ahead of our story (and it is, in truth, a story, a narrative constructed from a certain perspective, for a certain purpose). Suffice it to stress at this juncture that the drama of self-correction is predicated on the ubiquity of self-misundertanding and, moreover, that such misunderstanding can extend to the very activity in which one is engaged, the practice by which one even defines oneself (philosophy being in the case of Peirce such a practice). This means that the philosophical drama of self-correction encompasses pivotal moments in which self-misapprehension is somewhat overcome, in which we come to comprehend more clearly what we are doing. The character and meaning of our endeavors are, however, matters about which we are destined to comprehend only imperfectly. Our meanings outstrip our understanding, as much as they underwrite and sustain, animate and direct, this understanding. Part of Peirce's genius is to offer us insights into just how and why this is so. But here too we are jumping ahead of our story. At this juncture, we need to thrust into the background the respect in which Peirce's conception of philosophy involves a misconception of the task of the philosopher and bring into the foreground several ways in which our focal concern is intimately related to his main preoccupations.

The doctrines and pursuits for which Peirce is best known were manifestly linked to this question. It should suffice here to highlight only the three most obvious and important of these – *pragmatism, semeiotic,* and *bis doctrine of categories. Pragmatism,* the doctrine for which Peirce is still best known among philosophers, was in its inaugural articulation a heuristic maxim designed to push inquiry beyond the level of meaning obtainable by means of accustomed familiarity and even abstract definition. The need for such a maxim was rooted in Peirce's conviction that, at least in the distinctive context of experimental inquiry, translating signs into other signs of the same character (especially trying to clarify the meaning of a word or verbal expression by defining that meaning in terms of other words) is inadequate. Thus, the maxim formally put forth in "How to Make Our Ideas Clear" and clearly anticipated in a long review of Fraser's edition of Berkeley's writings was a maxim formulated for the purpose of rendering signs clearer than these signs could be rendered in abstract, verbal definitions.

Peirce's pragmatism is often characterized as a theory of meaning (e.g., in contrast to James' pragmatism, typically identified as a theory of truth even more than an account of meaning). It is, however, disputable whether Peirce's early pragmatism or even later pragmaticism constitutes a theory of meaning, rather than simply a heuristic maxim aiming at conceptual clarification. But it is indisputable that his formally semeiotic account of meaning culminates in a painstakingly detailed (if not fully integrated) treatment of the interpretants of signs, including habits and habit-changes as interpretants. That is, Peirce's comprehensive account of meaning is to be found in his *semeiotic* (his general theory of signs). The central emphasis of his pragmatic maxim is, hence, one with a crucial moment in Peirce's philosophical development – the realization that meaning is, at bottom, a function of habits (ROSENTHAL, 1994, ch. 2). If there is a pragmatic theory of meaning to be found in Peirce's writings, it is to be found most fully formulated in his mature account of the interpretant. Indeed, Peirce's semeiotic, the doctrine of signs for which he is most likely known outside of philosophy, included in its later development an elaborate theory of the interpretant and thus, in effect, a nuanced account of meaning.

In addition to his pragmatism and semeiotic, Peirce's *doctrine of categories* bears directly on the question of meaning, partly by virtue of delimiting the range of intelligibility

and, more broadly, by virtue of identifying the ubiquitous aspects of any imaginable being. Moreover, the Peircean categories play a decisive role in directing his investigation of signs and indeed of all other phenomena (COLAPIETRO). In particular, his categoreally directed classifications of interpretants (the two most famous and important of which are the classification of interpretants into emotional, energetic, and logical effects and, then, that of interpretants into immediate, actual, and final) indicate the importance of *botb* his theory of signs and doctrine of categories (especially in their intimate connection with one another). Peirce's theory of signs is nothing less than a theory of meaning, whereas his doctrine of categories is at the very least an attempt to provide the heuristic resources for making sense out of whatever might be encountered in human experience or simply conjured by human imagination. Moreover, his doctrine of categories was, in reference to thirdness, an attempt to make meaning (or intelligibility) as irreducible a phenomenon as either quality or opposition (see, e.g., his 1903 *Lectures on Pragmatism*). Meaning in the form of habit is as much a part of the fabric of reality as are qualitative immediacies and brute oppositions.

Accordingly, Peirce's *pragmatism, semeiotic,* and *categories* were conceived and refined explicitly in conjunction with the question of meaning. One might point to other respects in which this question is central to Peirce's project. Indeed, one might easily point to other doctrines and developments for the sake of illustrating or substantiating this centrality. Even his cosmology, for example, can easily be related to this question (again, the cosmological thesis regarding natural laws – the thesis construing such laws as the habits of nature herself – would be an example of this). For our purposes, however, these three should suffice, especially since my focus is on how Peirce took up anew the question of meaning after what might be called his pragmaticist turn (after his turn back to and revision of themes and topics explored conversationally in the Metaphysical Club and presented publicly in such early essays as "The Fixation of Belief" and "How to Make Our Ideas Clear").

My main concern here is, however, to highlight a neglected feature of Peirce's account of meaning. I noted above that meaning is, at bottom, a function of habit. But, in turn, the formation of habit is a function of history. Above all else, I want to bring into sharp focus just this *historical* dimension of even our most incontrovertible meanings. As a way of realizing this objective, I will focus on key moments in the actual development of Peirce's ongoing attempts to articulate an account of meaning, paying especially close attention to the most mature phase of his intellectual life (mainly from 1898 and, more decisively, from 1903 until his death in 1914). That is, I will partly make my case for Peirce's commitment to the *historicity of meaning* by attending to the history of his own thinking regarding meaning. My own interpretation is offered as a rival to the interpretation of Peirce as a transcendental philosopher who radically transformed but never ultimately transcended his youthful encounter with Immanuel Kant's critical project, an approach to Peirce effectively championed by Karl-Otto Apel (CHRISTENSEN). In this presentation, however, I will spend no time polemically detailing specific points of disagreement with Apel, but rather will spend the entirety of my time on positively reconstructing what I take to be a more compelling portrait of a thoroughgoing pragmaticist.

Behind the public, published record of Peirce's pragmatism, there were (at least) two sets of private, informal associations. Early, there was "a knot of us young men in Old Cambridge, calling ourselves, half-ironically, half-defiantly, 'The Metaphysical Club'"

(EP 2, p. 399). Later there was the correspondence, effectively beginning in 1903 (the vear in which Peirce lectured at the Lowell Institute on pragmatism) between the growingly reclusive philosopher and an aristocratic woman of independent means and intellect. The importance of the private, intense conversations of the Metaphysical Club to Peirce's original formulation of pragmatism was great. But, then, so was the importance of the private, extended correspondence between Peirce and a woman whom he never met face-to-face to his mature reformulation of this doctrine. Just as the "winged words" of passionate young intellectuals were in the background of the essays published in the *Popular Science Monthly*, so the epistolatory conversation between Peirce and Welby was in the background of his later pragmaticist writings. In 1898, Peirce received a letter from Open Court Publishing Company accompanying Victoria Lady Welby's The Witness of Science to Linguistic Anarchy (Grantham, England, 1898). Five years later (May 24th, 1903), he received a letter from the author herself, informing him of her request to her publisher to have another book (What Is Meaning?) sent to her transatlantic correspondent. In this missive, she confessed: "I do not pretend to be able to follow the course of your technical arguments, being quite untrained in that direction" (SS, p. 2). But then she immediately went on to note: "I constantly come upon points in your writings which have for me a keen interest from my special point of view," specifically citing Peirce's "contributions to the Philosophical Dictionary" (i.e., the Dictionary of Philosophy and Psychology, edited by James Mark Baldwin). Peirce's response to this is telling, especially since it highlights the connection in his own mind between the question of meaning and his doctrine of pragmatism as well as his misgivings about the way this doctrine was being appropriated by others. After indicating that he "often thought a book ought to be written on that subject," Peirce called attention to "The Fixation of Belief" and "How to Make Our Ideas Clear" as examples of his "own writings on the subject" (SS, p. 3) - that is, the topic of meaning. He went on to note that: "To the doctrine there proposed I gave the name pragmatism, which is in Baldwin's Dictionary, and which has some adherents in Oxford - Schiller, Sturt, etc. But I do not subscribe to all their extensions." In this letter he also reported to Lady Welby, "I have been delivering a course of lectures on the subject [of pragmatism] ... and these will be printed if I can find a publisher." Alas, Peirce was unable to find a publisher for what is one of the best statements of not only the pragmatic outlook but also his sweeping philosophical vision (COLAPIETRO).

In 1909, Peirce wrote a number of drafts of what was intended as an introduction to a collection of his papers on pragmatism (ROBIN, p. 76). The intimate relationship between Peirce's doctrine of pragmatism and his preoccupation with meaning was highlighted in the titles no less than the content of these manuscripts (MSS, p. 618-640). The working title for many of these drafts, inscribed in a box with the date in the upper left corner of each page, was "Meaning Pragmatism." In the opening sentence to MS 618, he wrote: "I wish in this Introduction to explain to the reader what I mean by Meaning and why I hold it to be not merely worth making a volume about, but a great and all-important subject in which Lady Welby, perhaps, first broke ground in her book 'What Is Meaning?', which is here a little further cultivated, and in which future writers will find a large field for a beneficent exercise of any amount of industry and genius" (March 28, 1909). The significance of this endeavor would be hard to exaggerate: as he was nearing his seventieth birthday, Peirce turned yet again to the question of meaning and he did so for the purpose of effectively introducing his version of pragmatism to audiences possibly acquainted with the writings of William James, F. C. S. Schiller, Giovanni Papini, John Dewey, and others who had road forth under this banner.

Ten years before Peirce penned this series of drafts, James had presented "Philosophical Conceptions and Practical Results," therein calling attention to both Peirce and pragmatism (FISCH, 1986, ch. 15). In 1907, James published his lectures on pragmatism, delivered first at the Lowell Institute in Boston in November and December, 1906, and again at Columbia University in New York in January 1907, James noted at the outset that: "The founder of pragmatism himself recently gave a course of lectures at the Lowell Institute with that very word in its title – flashes of brilliant light relieved against Cimmerian darkness!" (p. 10). Thus, roughly a decade after James won for pragmatism an international audience and four decades after Peirce introduced the doctrine, though not the name, Peirce in his seclusion returned to a consideration of the topic at the center of his pragmatism and, arguably, the whole of his philosophy - the question of meaning. Given his growing awareness of having limited time in which to put his philosophical views into anything approximating final form, this virtual septuagenarian was in these manuscripts addressing his successors even more than his contemporaries. It seems clear that his account of meaning was, in his own judgment, one of the most important contributions he ought to spend the remainder of his life refining and contextualizing so that his successors might have the benefit of his life-long labor to illuminate the meaning of meaning. In these drafts and other writings Peirce was making a more or less desperate bid against imminent oblivion: he was significantly staking his claim on the attention of the community of inquirers, extending into the indefinite and thus unforeseeable future, on the consolidated results of this sustained effort.

We encounter among Peirce's most youthful reflections suggestive texts in which the question of meaning is explicitly addressed. Two of these texts might be taken as tiny seeds from which a vast outgrowth partly sprung. The first of these is found in an entry in "Private Thoughts principally on the conduct of life" (W 1, p. 4-9) made in 1858, the year before Peirce graduated from Harvard College. In this entry, Peirce correlated meaning with form, continuing an ancient tradition in which form is identified as the principle of intelligibility and matter is conceived as inherently unintelligible. "When a child burns his finger at the candle" the heat responsible for both the pain and the "lesson in prudence" (the lesson being that this action insures this result) is a form. Indeed "all powers are forms. And matter we know nothing of" (W 1, p. 7). In a manuscript written three years later ("Views of Chemistry: sketched for Young Ladies"; MS 69: Summer-Fall 1861), he returned to the example of the child burning his finger in a candle (cf. JAMES: DEWEY). Here as in the entry made in 1858 Peirce correlated meaning with form, contending "it is the form of a thing that carries its meaning" (W 1, p. 50). Here as well form is efficacious ("all forms are powers"). Eventually, Peirce's conception of a sign will come to be envisioned as encompassing "a tri-relative influence" (CP 5.484). There is at the center of this trivalence the power or capacity of the sign itself to convey an influence to its interpretant in accord with the way in which the sign has been influenced by its object. In even these very early reflections on form as the bearer of meaning, however, it is hard to miss Peirce's appreciation of form as capable of exerting an influence on what is other than itself (W 5, p. 239).

Let us, accordingly, follow Peirce's example and take up once again the question of meaning, striving simultaneously to approach this topic with phenomenological

openness and historical awareness (above all, explicit awareness of Peirce's distinctive contribution to the thorny issues pertaining to the question of meaning). As we have noted, Peirce (early and late) appealed to the notion of form as a way of illuminating the phenomena of meaning. But his mature position involved a dramatic departure from the dominant tendency in Western philosophy from Plato, at least, to Immanuel Kant, a tendency bound up with a particular conception of the ultimate forms by which any phenomenon whatsoever is intelligible. In quite different ways, G. W. F. Hegel and Charles Darwin greatly contributed to a decisive alteration of this regnant tendency. One way to interpret Peirce's own contribution is to see his efforts as carrying forward the impetus intensified by Hegel and Darwin's emphasis on temporality and historicity. As I have already hinted, such will be the interpretation advocated in this paper. An appreciation of this neglected emphasis against the background of what has been the most the prevailing commitment, ontological no less than epistemological, of Western thinkers.

For much of our intellectual history, the dominant conception of meaning was tied to the *immediate grasp of immutable forms*. The word *intuition* has been used to name the cognitive process by which such forms are said to be grasped, whereas a variety of terms have been used to designate the object of such cognition. The alleged immediacy of this cognitive act and the supposedly requisite immutability of this cognized object erase any trace of temporality: intuition is instantaneous (it occurs in an indivisible instant and thus does not involve temporal duration) and its object timeless. To conceive the object of our knowledge to be irreducibly temporal makes it inevitably mutable: in turn, to make such an object mutable has been taken to imply it is something utterly elusive. Recall here the step from Heraclitus to the even more radical, from the claim that we cannot step into the same river twice to the claim that we cannot even step into the same river once, since the state of affairs is changing faster than our movements. In short, transience seems to entail inaccessibility: whatever temporally flows forever eludes our cognitive grasp. The imperative demand for a timelessly steadfast object took shape in response to the putative inadequacies of the temporally alterable objects of everyday experience. The fleeting, fugitive forms of the phenomena with which we are most directly and intimately familiar supposedly required something beyond themselves to be and to be known. Correlative to these self-grounded objects (the timeless, immutable forms beyond the temporal, alterable ones), there are our self-warranted cognitions. The acts by which the highest objects are known partake of the character of these objects; they are no more in time than are their objects. The erasure of any trace of temporality is supposed to eliminate the very possibility of error: the form is not only instantaneously but also infallibly grasped. Indeed, the insistence on the instantaneous character of intuitions is intended to insure the infallible character of their accomplishment.

Peirce's rejection of intuitionism involves an espousal of temporalism, the view that temporality is primordial and hence invariance (or immutability) is derivative. At least, his mature pragmaticism dramatically drives in the direction of such temporalism, whether or not it ultimately culminates in such a viewpoint. The simple yet profound truth is that *knowing takes time*. It is one of the ways in which time is taken up and also, in a qualified sense, left behind. But the transcendence of time is itself a temporal achievement, an accomplishment *in* time. This means that the transcendence *of* time is never more than a finite, provisional, and perspectival achievement; and *this* means

that, in an unqualified sense, there is no a transcendence of time, only a neutralization of certain aspects of the temporal flux. For certain purposes, what might be taken as temporally invariant forms can be formally identified, without reference to the conditions of their actual emergence or functions (potential as well as actual). The forms of deductively valid inference would be examples of this. So too is the irreducibly triadic form of semiosis itself. Our capacity to identify such forms and the power accruing to this capacity both appear to establish - or go a distance toward establishing - the superior reality of these underlying, invariant forms to their variable, transient instantiations. Take, for example, Peirce's own distinction between type and token (or replica). The tokens are replicas of a formal ideal open to endless replication. But what Darwin claimed regarding the biosphere is what Peirce claimed regarding virtually all spheres of being – the very forms of the most stable and enduring structures emerge in time and, in principle, are susceptible to dissolution. This is part of what Peirce meant when he asserted, in opposition to Herbert Spencer who strove to make cosmic evolution subordinate to antecedently fixed and temporally invariant laws of change and growth, "philosophy requires thorough-going evolutionism or none" (CP 6.14). For Peirce, nothing less than thoroughgoing evolutionism would provide the only basis for an adequate cosmology and for much else (however, cf. EP 2, p. 37). The principle of unpredictable growth and thus the chaos of absolute chance are primordial, the reign of invariant law always illusory: "a pseudo-evolutionism which enthrones mechanical law above the principle of growth is at once scientifically [and religiously] unsatisfactory, as giving no possible hint as to how the universe has come about, and hostile to all hopes of personal relations to God" (CP 6.157). One of Peirce's most forceful expressions of this radical temporalism is this: "The evolutionary process is ... not a mere evolution of the existing universe, but rather a process by which the very Platonic forms themselves have become or are becoming" (CP 6.194).

There are texts to which a critic of this interpretation might quickly point in objection to what can only appear to be a characterization of Peirce that makes him too much of an historicist. One crucial text is found in the opening lecture of his Cambridge Conferences Lectures (1898), "Philosophy and the Conduct of Life." After noting that "Aristotle justly finds fault with Plato in many respects," Peirce immediately goes on to stress: "But all his criticisms leave unscathed Plato's definitive philosophy, which results from the correction of that error of Heraclitus which consisted in holding the Continuous to be Transitory and also from making the Being of the Idea potential" (EP 2, p. 37). Like Plato, Peirce took continuity to be more ontologically primordial than temporality: he conceived temporality itself to be essentially a form of continuity. Time as we know and experience it came into being out of the chaos of absolute chance and, more proximately, the concatenation of random events. As far as the evolution of the cosmos is concerned, all forms of continuity (including that of temporality) originally emerged out of the firstness of a primordial chaos and the secondness of brute oppositions. Hence, Peirce's synechism is more basic than is his temporalism.

Or so the objection runs. There is much truth in this. But two points help to secure the plausibility of my portrait of Peirce as a temporalist and historicist. One point concerns the relationship between continuity and temporality, the other Peirce's understanding of his own position. Neither point can be developed or argued in full. *First*, every form of continuity is inherently inexhaustible and every actualization of a continuum (while infinitely far from exhausting the array of possibilities making up this continuum) involves either a temporal process or something at least remotely analogous to such a process. This suggests a much more intimate connection between Peirce's synechism and his temporalism than the objection to my interpretation allows. Second, what Peirce asserts regarding Plato in the lecture just quoted applies with equal force to Peirce himself. In order to see this, I need to sketch very quickly something of the context in which he makes this assertion. In Peirce's judgment, "Plato's whole philosophy is a philosophy of Thirdness, – that is to say, it is a philosophy which attributes everything to an action which rightly analyzed has Thirdness for its capital and chief constituent" (EP 2, p. 38). Nevertheless, Peirce contended: Plato "himself only recognizes duality, and makes himself an apostle of Dichotomy, - which is a misunderstanding of himself." He went so far as to assert: "This self-misunderstanding, this failure to recognize his own conceptions, marks Plato throughout. It is a characteristic of the man that he sees much deeper into the nature of things than he does into the nature of his own philosophy; and it is a trait to which we cannot altogether refuse our esteem." Given what Peirce has claimed elsewhere. however, what is supposedly true of Plato is inevitably true to some extent of all other philosophers (and, thus, true of Peirce himself). He was fond of quoting or alluding to Emerson's line from the poem entitled "The Sphinx" – "Of thy eye, I am eyebeam." The mind is no better positioned or suited to discern its own character than is the eve to see the act by which it perceives objects other than itself. Just as Plato misunderstood the nature of his own philosophy, so too Peirce (though perhaps not to the same degree) misunderstood the nature of *bis*, in particular, the extent to which his synechism and evolutionism committed him to a form of temporalism and historicism. The various attempts to interpret Peirce as an advocate of foundationalism, albeit a highly qualified and circumscribed version of this doctrine, fatally compromise his pragmaticism and thoroughly occlude his historicism (SHORT, p. 2000). My reading drives decisively in the direction of a thoroughgoing anti-foundationalism, because I take Peirce's pragmaticism to require neither ahistorical foundations nor timeless forms.

"Any mind which has the power of investigation, and which therefore passes from doubt to belief, must have," Peirce insisted, "its ideas follow after one another *in time*" (CP 7.346; emphasis added). Though logical order and sequence cannot of course be identified with, thus cannot be reduced to, temporal order and sequence, our own investigative capacity (in short, our mind) comes into possession of itself (to the extent it ever does) only in the drama of self-correction, in a temporal series in which our mistakes come to be identified as *ours*. The crucial capacity to identify mistakes and ignorance as ours is, according to Peirce, one with our initial capacity to identify the self as such (i.e., to attain an awareness of our own identity as self).

Semiosis is itself a temporal process in which certain defining features of time can be suspended or neutralized while other features are intensified or enhanced. Meaning results only from such processes. It is now time to turn *from* Peirce's thoroughgoing commitment to evolutionism *to* the most important details of his temporalism, insofar as this temporalism bears upon his conception of semiosis. A route can become a rut, an enlivening ritual can degenerate into a deadening routine, and the most vivifying metaphor can become ossified into the most hackneyed expression. But even ruts, routines, and clichés in their own way bear witness to the historical continuum in which they originally emerged and continue to function. The metaphor of journeying (occasionally quite explicit in Peirce's writings [see, e.g., MS 598, p. 1-2]) and hence the metaphor of routes by which distant points can be conjoined are more apt than most readers and expositors of Peirce appear to realize. Accordingly, let us make the transition to a consideration of the details of his temporalism vis-à-vis his understanding of semiosis (let us make this transition) by reflecting on the metaphor of routes and, by implication, that of journeying.

Part Two: Routes of Significance

There is a road or route only where there has been movement or, at least, the prospect of movement. Routes as such are defined either by actual courses along which travelers have moved or merely possible courses along which someone might go. Often a terrain not only affords possibilities for movement but also elicits ventures in certain directions. The folds in the field draw us to move here rather than there: they seduce our steps this way rather than that. Actual roads are thus a function of a field having been traversed in certain directions such that past traversals facilitate future ones, whereas possible routes are a function of a field being traversable in some more or less determinate directions. Routes are, in short, defined by the movements of travelers: they are trajectories of movement frequently disclosing other possible trajectories. They are hence not antecedently set paths, but historically emergent trajectories crisscrossing other such trajectories and also branching off from one another. Labyrinths often emerge as the result of such crisscrossings and branchings. Even apart from the formation of such labyrinths, our capacity to make our way about in the world has in some measure made the world into a network of routes offering ever new possibilities and frustrations. These reflections on routes provide us with metaphors for understanding crucial aspects of semiosic processes and forms (or functions and structures).

Peirce's doctrine of signs makes the interpretant central to the process of semiosis. In the Peircean sense, semiosis might even be defined as the process whereby an indefinite number of interpretants is generated. More simply, it is a process of generation. But it is, from Peirce's perspective, also a process of determination. When Peirce describes semiosis as a triadically mediated process of determination (e.g., one in which the sign *determines* its interpretant in a manner carrying forward the way the sign itself has been, or simply might be, *determined* by its object), determination here means delimiting the array of possibilities. It does not mean rigid causal determinism. Even so, there might be a tension between conceiving semiosis as an open-ended process of generation but also as a goal-directed process of determination (cf. SHORT). Whereas such goal-directed processes as the self-critical practices of experimental inquirers most clearly illustrate semiosis as processes of determination, such self-interrogative processes as the selftransformative practices of innovative artists (practices in which the very meaning of what counts as art is continuously subjected to interrogation and critique) more clearly exemplify *processes of generation*. But, without erasing or even downplaying the irreducible differences among such practices, we might nonetheless see all of them on a continuum. Even those processes in which the delimitation of an array of possibilities (in which, in a word, determination) is the most salient feature generate unsuspected possibilities, open unpredictable paths. So, too, even those processes in which the generation of a wider spectrum of possibilities than anything yet realized is the most prominent characteristic *delimit* possibilities, constrain interpretation.

There might also be a tension between Peirce's utterly abstract conception of semiosis and his essentially pragmatic conception of the object involved in semiosis. The abstractness of this conception is partly purchased by abstracting from the interpreter of signs, whereas what counts as an object of any sign does so only in reference to the purpose of some agent and, thus, in connection with the role of some interpreter. For certain purposes, then, we can conceive of semiosis in abstraction from any determinate agent by which signs are either issued or registered, uttered or interpreted. The dynamical object can function as the definitive source from which signs flow and also as an abiding force by which interpretants are constrained. What counts as an object, however, is always relative to a purpose; in turn, what exerts its influence as a purpose is always relative to an agent (JOSWICK). Unquestionably, the *idiosyncratic* purposes of particular agents need to be distinguished from the *constitutive* purposes of what might be called exemplary agents (agents who exemplify in their motivation and conduct the essential character of some historically evolved practice, e.g., investigators who are so animated by the love of truth that other passions, such as love of fame or wealth or power, are subordinated to this love). The pragmatic conception of the object of semiosis (the identification of the object in reference to the constitutive purpose of some exemplary agent, an identification without which nothing at all would count as an object of semiosis), accordingly, brings purpose into play and, along with it, agency. A pragmatic commitment to agency is, thus, implicit in Peirce's triadic conception of semiosis (cf. THOMPSON; JOSWICK). The specification of constitutive purposes and exemplary agents might even be requisite for the most formal and abstract characterizations of semiosis. At any rate, the purposes and thus contexts, the activities and thus agents, from which we abstract in order to reach a completely general and comprehensive conception of semiosis, are matters to which we must attend rather quickly in any analysis or investigation holding out the promise of enhancing our self-consciousness, self-criticism, and selfcontrol (the defining aim of Peirce's normative sciences, when taken collectively).

While metaphors are indispensable for advancing our understanding in any field of inquiry, it is almost certainly the case that a single metaphor is an inadequate means by which to comprehend even the least complex phenomenon. A single metaphor might, nonetheless, serve as an important corrective to the largely invisible metaphors by which a phenomenon (e.g., the phenomenon of semiosis) is inevitably imaged. My main suggestion here is that a fruitful characterization of semiosis in Peirce's distinctive sense is offered by this seemingly simple claim: semiosis defines routes of significance, possible as well as actual routes. The force and fecundity of this metaphor, however, depend upon an appreciation of just what a route is and how a path comes into being as the result of movement (the points stressed at the outset of this paper). They also depend upon an articulate sensitivity to several colloquial senses of *going* and *going on*, especially in reference to beliefs and of course also to semiosis.

In the colloquial English expression, beliefs are what we *go on*, what we are prepared to act on. As is true of most colloquial expressions, this one compresses within itself at least several distinct meanings. The most prominent of the meanings of *go on*, as used in such assertions as beliefs are what we go on, are these two: most obviously, the expression means that on which we rely and, less evidently, that enabling us to go on, to continue in some fashion. In the second sense, *going on* means either to continue in the direction in which we have been moving or to strike out in a new direction after having been waylaid in some fashion. Peirce's conception of habit is at the center of not

only his pragmatist understanding of belief but also his pragmatic "theory" of meaning. This notion concerns, above all else, the ability to go on in a *new* way, to act at once habitually yet innovatively (MERLEAU-PONTY). The continuity of our habitual responses does not preclude the eruption of innovative exertions. In fact, the thirdness of habit insures the secondness of such eruptions, the secondness of acting otherwise than we have tended to act thus far. Our beliefs, understood as a species of habits, are what we go on. They guarantee some degree of continuity in our actions and, in turn, this continuity insures the possibility of innovation. Such dramatically punctuated, inevitably ruptured continuity defines *history* in Peirce's sense. This sense overlaps significantly with that articulated by Maurice Merleau-Ponty: "So history is neither a perpetual novelty, nor a perpetual repetition, but the *unique* movement which creates stable forms but breaks them up" (p. 88). This movement is nowhere more manifest than in the cognitive life of intelligent organisms (i.e., organisms equipped with the capacity to learn from experience, thus to go on in novel or unprecedented ways). Our ability to maintain a particular belief (e.g., our belief in the sacred) often involves an alteration - and not infrequently a radical alteration - of that belief. This is perhaps most evident in the sphere in which doubt and belief in the full sense are (as Peirce himself suggests) most at home, the sphere of religious belief and doubt. For example, the ability of a person to go on believing in God frequently demands altering the content of that belief (the meaning of divinity). But the necessity of conserving beliefs by altering them is also observable in every other domain in which beliefs and thus doubts (the disruptions of the dispositions identifiable with our beliefs) have a place or role. To repeat yet once again, beliefs are what we go on: and in our reliance upon them their reliability, their adequacy, is tested. often in a direct and manifest way. In the face of unexpected doubts, we are confronted with the question: Can we continue to rely on this belief? Ought we to continue trying to go on what has proven in practice, even if only on a single occasion, to be untrustworthy?

As Ludwig Wittgenstein underscored in his later philosophy, especially his *Philosophical Investigations*, our understanding is bound up with our capacity *to go on* (I, p. 179; cf. p. 143, 151, & 153). An inner, mental event (such as an insight or flash of understanding) in which we seem to ourselves to have instantaneously grasped the meaning of an expression, formula, or rule offers no proof of understanding. What demonstrates our understanding is precisely our ability to go on in a manner or series in which some steps or moves count as errors.

In Peirce's account of belief, this sense of being able *to go on* is tied to the sense of habits being that which we, *qua* agents, *go on* (act on and in effect rely on). Especially this latter sense of *go on* is central to the Peircean construal of what beliefs, *pragmatically clarified*, mean. On this score, Peirce expressly acknowledged his debt to the Scottish psychologist Alexander Bain (CP 5.12; cf. FISCH, 1986, chapter 5 ["Alexander Bain and the Genealogy of Pragmatism"]. This paper has been a Peircean probing of the deep significance of commonplace expression *going on*, but the focus of my concern is semiosis, not belief. My hope is to have made metaphors of movement and locomotion, travel and cartography, more central to our understanding of semiosis than they have been thus far. Such metaphors provide more apt descriptions of the relevant phenomena than do architectural metaphors. Indeed, the principal task confronting cognitive agents is not to secure unshakeable foundations for some grand edifice but to identify our missteps, to discover the points at which we went astray and became lost. This often

involves retracing our steps, devising en route a retrodictive narrative about how we landed in our present confusion. Aporias are impasses. The prefix *trans*- is, however, as important in this regard as is the prefix *re*-. Dewey's emphasis on *re*construction needs, for example, to be juxtaposed to Peirce's stress on *trans*uasion. *Re*tracing our steps is, nonethess, often the sole way we have of *trans*cending our errors.

Despite the differences between beliefs and signs, signs are also what we go on. Beliefs and signs have at least this much in common: they are what we act on or, more exactly, what we are disposed to act on. The activity of being guided by signs, of moving in accord with their promptings and pressures, their allurements and compulsions, gives us a rudimentary yet crucial understanding of procedure. This activity is a going, a way of proceeding. There is implicit in this process both a history of having proceeded thus far in certain determinate directions and possibilities of going on along new as well as familiar paths (KAUFMANN, p. 109). The movement in the present contains clues of whence one has come and promises of whither one might go. The character of present activity significantly derives from prior action and dramatically drives toward innovative exertions.

There is a vast background of vague beliefs on which we go and without which we would be utterly incapable of acting at all. Some of the beliefs on which we proceed prove unreliable; our reliance upon such beliefs involves the frustration of our purposes. The price of relying on such beliefs is often the confusion of pain and the pain of confusion.

In addition to a vast background of vague beliefs, there is an intricate yet unfinished tapestry of interwoven signs whose finished patterns are often simply traced and whose unrealized possibilities are tried out. There are also places where the tapestry is unraveling, where even tightly woven threads are becoming disjoined. The focus of activity – e.g., the emotional interpretant of a person listening to music, the energetic interpretant of a deer taking flight in the opposite direction from which the sound of a broken twig is heard, or the initial logical interpretants of imaginary exertions trying out alternative lines of conduct – to repeat, the focus of activity is in the foreground. In contrast, an extensive, intricate, yet incomplete array of signs is always in the background. The reliability of any specific sign can only be determined in reference to this background (e.g., the beliefs, desires, motives, ideals, of agents *in situ*).

Like beliefs, signs thus prove themselves more or less reliable. The reliability of signs is revealed most clearly in their role in facilitating – or frustrating – the purposes animating and directioning our exertions (our inward, imaginative musings as much as our outward, bodily movements). The presence of signs most dramatically comes to light when on their basis we are led astray, when we go awry. This is what I identified above as the drama of self-correction. If signs infallibly guided us to the attainment of our purpose, we would never become aware of their presence or importance.

Our knowledge of our individually distinct selves is derived principally from the somatic effects of our ignorance and errors and, among these effects, mainly from the painful consequences of the absent or distorted understanding on which we have acted in some actual circumstance. Our most rudimentary sense of reality *and* subjectivity has its origin in the painful frustrations and impasses consequent upon ignorance and error. In the normal course of our cognitive development, a more robust, less privative notion of reality supplements this rudimentary sense of the real as that which is other than our thoughts and beliefs, especially our wishes and fancies, as well as the primordially basic

sense of the self as the locus of error and ignorance. Apart from the hypothesis of there being a locus of ignorance and error, the disconcerting and painful experiences resulting from a lack of, or defect in, our knowledge, would be inexplicable. The very formation of the hypothesis of the self as such a locus is, in effect, a step toward responsibility and thus agency; for it amounts to owning up to our own limits and shortcomings (SHORT, 1997; COLAPIETRO, 1989). This hypothesis construes the organism to be complicit in its own suffering. The sense of infantile omnipotence begins to give way from the assaults of painful experiences (see, e.g., OGDEN). A more realistic sense of self arises concomitantly with a less subjective sense of reality. This sense of self is due to the dawning awareness of just how limited the power of the self might be, just as this sense of reality is rooted in a growing appreciation of the just how pervasive is the presence of subjectivity.

On the surface, Peirce's theory of signs seems to entail the effacement of agency, for his definition of semiosis attains its generality and scope by abstracting from utterers and interpreters, from sign-using organisms or agents of any determinate character. But this is, for the most part, misleading. For the very identity of the object of semiosis ultimately depends on the presence of a purpose (one and the same quality, event, or regularity might be any number of semiosic objects, for in varying the purpose, one varies the object). In turn, the presence of a purpose (e.g., the love of truth) virtually identifies a form of conduct (e.g., theoretical inquiry) and also a mode of agency (that of the theoretical inquirer): to be animated by this purpose is to be engaged in this form of conduct and, by virtue of this engagement, to exercise a distinctive mode of human agency. This means that the very identity of any object of semiosis depends, at bottom. on the identification of some mode of engagement and form of agency (JOSWICK). What counts as science and who counts as a scientist, however, are historical judgments made by implicated agents (human actors implicated in the tangled affairs of irreducibly historical practices such as experimental inquiry or political deliberation, artistic innovation or moral reflection). The weight, authority, force, and indeed even the *meaning* or significance of these judgments is a function of the histories in which they are made. Just as the identity of the object of semiosis implies a reference to purpose, practice, and agency, so any reference to purpose, practice, and agency involves consideration of the actual and ideal histories by which these have taken shape and continue to hold sway. Any reference to any one of these has depth and concreteness only to the extent we traverse the steps by which our ancestors marked these pathways and, of even greater significance, the steps by which we and our imagined successors might go on, in dramatically new direction. Such novel directions are, however, ones not completely discontinuous with already defined routes. These directions are *the ways* that historical agents – that is, the ways that the implicated bearers of a complex inheritance – have more or less ingeniously devised to go on. They are the ways such agents have devised, for example, to go on seeking for truth, or struggling for justice, or trying to maintain a sense of the sacred, or exploring the possibilities for exhibiting arresting, absorbing forms of aesthetic engagement. They are, in other words, the ways various histories have been taken up and carried on, appropriated and refashioned.

The question of meaning is indeed at the center of Peirce's concern. But, given the history of his own preoccupation with this question, this means that the topics of temporality and historicity are more central to his investigation of meaning than most of even his most informed, sympathetic expositors seem to have realized. In my judgment at least, his thoroughgoing evolutionism amounts to nothing less than a radical but robust historicism. By virtue of being so robust, such historicism escapes collapsing into a form of self-defeating historical relativism. By virtue of being so radical, it breaks decisively with the dominant tradition in Western ontology, a tradition running from Parmenides to at least Kant. It carries *forward* a trajectory traceable to Vico, Hegel, and Darwin, but it unquestionably *goes on* from where they left off.

References

CHRISTENSEN, C. B. Peirce's Transformation of Kant. *The Review of Metaphysics*, 48, p. 91-120, 1994.

COLAPIETRO, Vincent M. Peirce's approach to the self. Albany, NY: SUNY Press, 1989.

_____. Transforming philosophy into a science. *American catholic philosophical quarterly*, LXXII, 2, p. 245-78, 1998.

_____. A lantern for the feet of inquirers: the heuristic function of the Peircean categories. *Semiotica*, 136-1/4, p. 201-16, 2001.

_____. The practice of inquiry: Charles Sanders Peirce (1839-1914). [1903 Lectures on Pragmatism]. The classics in Western Philosophy: a reader's guide. Edited by Jorge J. E. Gracia, Gregory M. Reichberg, Bernard N. Schumacher. NY: Blackwell, 2003. p. 453-459.

_____. Portrait of an historicist: an alternative reading of Peircean semeiotic. *Segni e realità,* Edited by Giovanni Maddalena, 2004.

DEWEY, John. Reflex arc of psychology. *Psychological review*, III (July), p. 357-370, 1896 [1972]. Reprinted in *The early Works of John Dewey*, v. 5 (Carbondale, IL: SIU Press, 1972), p. 96-109. All references in this paper are to the reprint in volume 5 of *Early Works* (cited as EW 5), 1896 [1972].

_____. Philosophy and civilization. *Philosophical review*, 36, p. 1-9, 1927. Reprinted in *The later works of John Dewey*, v. 3. Carbondale, IL: SIU Press, 1984, p. 3-10. All references in this paper are to the reprint in volume 3 of *Later works* (cited as LW 3).

ESPOSITO, Joseph L. *Schelling's idealism and philosophy of nature*. London: Bucknell University Press, 1977.

FISCH, Max H. *Peirce, semeiotic, and pragmatism.* Ed. Kenneth Laine Ketner and Christian J. W. Kloesel. Bloomington: Indiana University Press, 1986.

HEGEL, G. W. F. *Phenomenology of spirit*. Trans. A. V. Miller. Oxford University Press, 1977.

JAMES, William. Pragmatism. Cambridge: Harvard University Press, 1975.

____. *Principles of psychology*. Cambridge, MA: Harvard University Press, 1981.

JOSWICK, Hugh. The object of semeiotic. In: *Peirce's doctrine of signs*. Ed. Vincent M. Colapietro and Thomas M. Olshewsky. Berlin: Mouton de Gruyter, 1996. p. 93-102.

KAUFMANN, Walter. *Discovering the mind: Freud, Adler, and Jung*. New Brunswick, NJ: Transaction Press, 1994.

MERLEAU-PONTY, Maurice. *The phenomenology of perception*. Translated by Colin Smith. London: Routledge, 1995.

OGDEN, Thomas. Subjects of analysis. Northvale, NJ: Jason Aronson, 1994.

PEIRCE, Charles S. *Collected papers*. Vol. 7 & 8. Ed. Arthur W. Burks. Cambridge: Belknap Press of Harvard University Press, 1958.

SEMIOTIC and significs: the correspondence between Charles S. Peirce and Victoria Lady Welby. Ed. Charles S. Hardwick. Bloomington: Indiana University Press, 1977. Cited as *SS*.

WRITINGS of Charles S. Peirce: a chronological edition. Vol. 1, 1857-1866. Edited by Peirce Edition Project. Bloomington: Indiana University Press, 1982). Cited as *W1*.

WRITINGS of Charles S. Peirce: a chronological edition. Vol. 4, 1879-1884. Edited by Peirce Edition Project. Bloomington: Indiana University Press, 1986.

WRITINGS of Charles S. Peirce: a chronological edition. Vol. 5, 1884-1886. Edited by Peirce Edition Project. Bloomington: Indiana University Press, 1993.

THE ESSENTIAL Peirce: selected philosophical writings. Vol. 2, 1893-1913. Ed. Peirce Edition Project. Bloomington: Indiana University Press, 1998. Cited as *EP 2*.

REYNOLDS, Andrew. *Peirce's scientific metaphysics*: the philosophy of chance, law, and evolution. Nashville, TN: Vanderbilt University Press, 2002.

ROBIN, Ricahrd S. Classical Pragmatism and Pragmatism's proof. In: *The rule of reason*: the Philosophy of Charles Sanders Peirce. Ed. Jacqueline Brunning and Paul Forster. Toronto: University of Toronto Press, 1997. p. 139-152.

ROSENTHAL, Sandra B. *Charles Peirce's Pragmatic pluralism*. Albany, NY: SUNY Press, 1994.

SHORT, T. L. Hypostatic abstraction in self-consciousness. In: *The rule of reason*: the Philosophy of Charles Sanders Peirce. Ed. Jacqueline Brunning and Paul Forster. Toronto: University of Toronto Press, 1997. p. 289-308.

_____. Was Peirce a weak foundationalist? *Transactions of the Charles S. Peirce Society*, XXXVI, 4, p. 503-28, 2000.

THOMPSON, Manley. *The Pragmatic Philosophy of C. S. Peirce*. Chicago: University of Chicago Press, 1953.

WITTGENSTEIN, Ludwig. *Philosophical investigations*. Trans. G. E. M. Anscombe, NY: Macmillan, 1953 [1958].