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FROM THE CHAIN TO THE CABLE: PEIRCE'S THEORY OF INQUIRY THROUGH HIS METAPHORS†

DE LA CADENA AL CABLE: LA TEORÍA DE LA INVESTIGACIÓN DE PEIRCE A TRAVÉS DE SUS METÁFORAS

Susan Haack
University of Miami

[Philosophical] reasoning should not form a chain which is no stronger than its weakest link, but a cable whose fibers may be ever so slender, provided they are sufficiently numerous and intimately connected.[1]

Resumen*: La obra de Peirce está repleta de maravillosas metáforas; y muchas de estas metáforas son filosóficamente profundas e iluminadoras. En mis reflexiones iniciales sobre el papel de la metáfora en la investigación filosófica hago uso tanto de las ideas de Peirce acerca de la relación entre pensamiento y lenguaje como de sus ideas acerca de la vaguedad, la indeterminación y la precisión. A continuación exploro la teoría de la investigación de Peirce, comenzando con algunas importantes metáforas de su extraordinariamente fértil crítica al cartesianismo; y me ocupo después de las profundas y sutiles metáforas que conforman la comprensión madura de Peirce de la duda, el espíritu de la investigación, el método de la experiencia y la razón, la comunidad de investigadores y los obstáculos que ponemos en nuestro propio camino. Finalmente, a modo de conclusión, exploro algunas ventajas significativas del enfoque de Peirce frente a la epistemología predominante en la*

1 C. S. Peirce, *Collected Papers*, eds. Charles Hartshorne, Paul Weiss and (vols. 7 and 8) Arthur Burks (Cambridge, MA: Harvard University Press, 1931-58), 5.265 (1868). References to the Collected Papers are given by volume and paragraph number, followed by the original date as given by the editors. Referred to in the notes as CP.

principal corriente filosófica de nuestros días, mostrando que, en esto como en tantos otros asuntos, él estuvo por delante de nuestro tiempo así como del suyo propio.

Palabras clave*: Peirce, metáfora, teoría de la investigación, percepción, lógica, epistemología.*

Abstract*: Peirce's work is replete with marvelous metaphors; and many of these metaphors are philosophically deep and illuminating. My initial reflections on the role of metaphor in philosophical inquiry will draw on Peirce's ideas both about the relation of thought and language and about vagueness, indeterminacy, and precision. Then I explore Peirce's theory of inquiry, starting with some important metaphors from his extraordinarily fertile critique of Cartesianism); and next turn to the deep and subtle metaphors that inform Peirce's mature understanding of doubt, the spirit of inquiry, the method of experience and reason, the community of inquirers, and the impediments we put in our own way. And finally, by way of conclusion, I explore some significant advantages of Peirce's approach over the epistemology predominant in the philosophical mainstream today, showing that, in this as in so much, he was ahead of our time as well as of his own.*

Keywords*: Peirce, metaphor, theory of inquiry, perception, logic, epistemology.*

Peirce warns us that "in order to be deep it is requisite to be dull," and acknowledges that his work in logic may be found "so dry, husky, and innutritious to the spirit that it is hard to believe there is any human good in it."[2] He is known for his insistence that it is "good economy for philosophy to provide itself with a vocabulary so outlandish that loose thinkers shall not be tempted to borrow its words";[3] and for his sometimes barbarous-sounding neologisms: e.g., in his metaphysics, "agapism"[4] and "tychism"[5]—also pressed into service to distinguish different kinds of evolution, "tychastic evolution," "anacastic evolution," "agapastic evolution";[6] and, in his semiotics, "qualisign," "sinsign," "legisign,"[7] to mention just the first of his trichotomies of signs. And he

2 CP 2.17 (1902).

3 CP 2.223 (1903).

4 CP 6.102 (1892).

5 CP 6.302 (1893).

6 CP 6.302 (1893).

7 CP 2.244 (c.1897).

contrasts himself with his old friend William James —James "so concrete, so living," himself "a mere table of contents, so abstract, a very snarl of twine."[8]

And yet, as this last example illustrates, Peirce's writing is anything but stiff, humorless, or colorless; he has a notably pithy turn of phrase, a wry wit and, most to the present purpose, a remarkable talent for memorable and illuminating metaphors. Sometimes, to be sure —for example, when he begs his audience's pardon for "hopping about from one branch of my discourse to another and back again, with no more apparent purpose than a robin redbreast"[9]— his figures of speech are simply decorative and playful. But often they are much more than that—serving both as an engine propelling his philosophical thinking and as a vehicle for introducing difficult philosophical ideas to his readers.

For example, when Peirce urges that we "rescue the good ship Philosophy for the service of Science from the lawless rovers of the sea of literature,"[10] he introduces his subtle understanding of precision and key themes of his ethics of terminology, and highlights the difference between serious philosophical discourse and merely elegant, entertaining, and learned writing, *belles lettres*. When he presents his neologism, "pragmaticism," famously hoping that this new word will prove "ugly enough to be safe from kidnappers,"[11] he disassociates himself from the "merciless abuse" his word "pragmatism" had suffered in the literary journals of his day, distinguishes his version of pragmatism from James's, Dewey's, and Schiller's, and alludes to his theme that ugliness can be a positive virtue in philosophical terminology. Explaining that "instead of merely jeering at metaphysics, the pragmaticist extracts from it a precious essence,"[12] he encapsulates the fundamental difference between pragmaticism and positivism, its commitment to metaphysics as an integral part of serious empirical inquiry. And, urging that the slogan "Do not block the way of inquiry" be written "on every wall of the city of philosophy," he goes on to articulate the many obstacles philosophers put in the way of their own, and others', intellectual advancement.[13]

8 CP 6.184 (c. 1911).

9 CP 1.656 (1898).

10 CP 5.449 (1903). See also Susan Haack, "As for that phrase… 'studying in a literary spirit'" (1996), in Haack, *Manifesto of a Passionate Moderate: Unfashionable Essays* (Chicago: University of Chicago Press, 1998) 48-68.

11 CP 5.414 (1905). See also Haack, "The Meaning of Pragmatism: The Ethics of Terminology and the Language of Philosophy Today" *Teorema* 30, no.3 (2009) 9-29

12 CP 5.423 (1905). See also Haack, "The Legitimacy of Metaphysics: Kant's Legacy to Peirce, and Peirce's to Philosophy Today," *Polish Journal of Philosophy* 1 (2007): 29-43; in Spanish translation by Sara Barrena, "La legitimidad de la metafísica: el legado de Kant a Peirce y de Peirce a la filosofía de hoy," *Anuário Filosófico* XL, no 2 (2007) 471-92.

13 CP 1.135. The editors describe the pages in question as from a fragment headed "F.R.L.," and date it c.1899; but we now know they come from the fourth of Peirce's Cambridge Conference lectures of 1898. C. S. Peirce, *Reasoning and the Logic of Things*, eds. Hilary Putnam and

Peirce notes the role of metaphor in the origin of symbols, and hence in the growth of meaning;[14] and his semiotic classifies metaphor as the third of three types (image, diagram, metaphor) of iconic representamen or "hypoicon."[15] So far as I know, however, beyond this he hadn't much to say much about the phenomenon of metaphor as such.[16] But my initial reflections on the role of metaphor in philosophical inquiry (§1) will draw on his ideas both about the relation of thought and language and about vagueness, indeterminacy, and precision. Then it will be time to explore Peirce's theory of inquiry, starting with some important metaphors from his extraordinarily fertile critique of Cartesianism (§2); and then to turn to the deep and subtle metaphors that inform his mature understanding of doubt, the spirit of inquiry, the method of experience and reason, the community of inquirers, and the impediments we put in our own way (§3). And finally, by way of conclusion, I'd like to explore some significant advantages of Peirce's approach over the epistemology predominant in the philosophical mainstream today—for as we'll see, in this as in so much he was ahead of our time as well as of his own (§4).

1. The Role of Metaphor in Inquiry

Thomas Hobbes thought metaphors were dangerous in philosophy, because they use words "in another sense than they are ordained for; and thereby deceive …."[17] In a similar vein, John Locke held that "all the artificial and figurative applications of words eloquence hath invented, are for nothing else than to insinuate wrong ideas, move the passions, and thereby

Kenneth Lane Ketner (Cambridge, MA: Harvard University Press, 1992) (hereafter, "RLT"), p. 178.

14 CP 2.222 (1903).

15 CP 2.277 (c.1902). A hypoicon is a degenerate third, a "first Thirdness." This comment of Peirce's has prompted a considerable scholarly literature; see, e.g., Thomas L. Short, "Semeoisis and Intentionality," *Transactions of the Charles S. Peirce Society* 17, no.3 (1981): 197-233; Douglas Anderson, "Peirce and Metaphor," *Transactions of the Charles S. Peirce Society* 20, no.4 (1984) 453-68; Carl Hausman, "Peirce and the Interaction View of Metaphor," in Vincent Colapietro and Thomas Olshewky, eds., *Peirce's Doctrine of Signs: Theory, Applications, and Connections* (Berlin: de Gruyter, 1995), 193-205; Bent Sørensen et al., "Metaphor and Cognition from a Peircean Perspective," *Transactions of the Charles S. Peirce Society* 43, no.3 (2007) 562-74; Aaron Wilson, "Peirce versus Davidson on Metaphorical Meaning," *Transactions of the Charles S. Peirce Society* 47, no.2 (2011) 117-35. But I can't get involved in these discussions here.

16 Sørensen et al. note another observation of Peirce's: "not only metaphysics but logical and phaneroscopical concepts need to be clothed in [metaphorical] garments. For a pure idea without metaphor or other significant clothing is an onion without a peel" *The Essential Peirce*, ed. Peirce Edition Project (Bloomington, IN: Indiana University Press, 1998), 2.392 (c. 1906).

17 Thomas Hobbes, *Leviathan* (1651), ed. C. B. McPherson (Harmondsworth, Middlesex: Penguin Books, 1968), p. 102. Hobbes admits, however, that metaphors are not the worst kind of abuse of speech, since they at least "profess their inconstancy" (p.110).

mislead the judgement; and so indeed are perfect cheats"[18] —in short, figurative speech is just the kind of "hindrance to true knowledge,"[19] that the philosophical under-laborer must clear away. Where Hobbes saw metaphor as a kind of ambiguity, Locke saw it as confusing, emotive —appropriate to "wit and fancy" and tolerable in everyday ("civil") discourse, but dangerous to "judgement and discernment" and so wholly out of place in serious ("philosophical") discourse.[20]

But neither Hobbes nor Locke practiced what he preached —in fact, both relied on metaphors even as they were inveighing against them. Hobbes wrote that "words are wise men's counters, they do but reckon by them; but they are the money of fooles";[21] and that metaphors "are like *ignes fatui*; and reasoning upon them is wandering in innumerable absurdities,"[22] leaving you "entangled in words, as a bird in lime-twigges."[23] Locke wrote that figurative language makes it all too easy to disguise absurd doctrines "with legions of obscure, doubtful and undefined words," verbal "briars and thorns" that make it impossible to escape confusion;[24] so, he advised, if what we want is "dry truth and real knowledge," we should scrupulously avoid metaphors and such.[25] More importantly, you can hardly understand Hobbes's political philosophy without an appreciation of his metaphor of the state as leviathan, or Locke's theory of knowledge without an appreciation of his metaphors of the philosopher as under-laborer to the sciences, or of the mind as a blank slate, an empty cabinet.

Verbal confusion is certainly undesirable in serious philosophical writing; and so, too, is the simple, objectionable kind of ambiguity that gives rise to fallacies of equivocation. But Hobbes and Locke are wrong in supposing that metaphor is inherently confusing, ambiguous, and misleading; it isn't —at least, provided it's recognized *as* metaphor, and not taken literally. Granted, metaphor *is* inherently indefinite, open to interpretation; indeed, as I conceive it, it functions as a kind of open-ended invitation to look for relevant similarities between things being implicitly compared.[26] But with the help of Peirce's

18 John Locke, *Essay Concerning Human Understanding* (1690), ed. Alexander Campbell Fraser (New York: Dover, 1959), III.x.34. References are by book, chapter, and section number.

19 Locke, *Essay*, III.x.34.

20 Locke, *Essay*, III.x.34.

21 Hobbes, *Leviathan*, p. 106.

22 Hobbes, *Leviathan*, pp. 116-17 ("*ignes fatui*" means "will o' the wisps").

23 Hobbes, *Leviathan*, p. 105 ("lime" here refers to a sticky substance made from holly bark that was used for catching small birds).

24 Locke, *Essay*, III.x.9.

25 Locke, *Essay*, III.x.34.

26 I have drawn here on an earlier paper of mine, "Dry Truth and Real Knowledge: Epistemologies of Metaphor and Metaphors of Epistemology" (1995), in Haack, *Manifesto of a Passionate Moderate* (note 11 above), 69-89, in which I treat Hobbes's and Locke's critiques of metaphor,

ideas about the relation of thought and language and the role of the vague, we can see that this open-endedness is precisely what enables a good metaphor to help you come up with promising ideas, and to communicate them effectively.

Both Hobbes and Locke thought of language as merely a vehicle for the expression of ideas —necessary for communication, but inessential to thinking.[27] Peirce teaches us, however, that this conception of the relation of thought and language is wrong-headed. All thought is in signs;[28] thinking something through is a kind of internal dialogue, silent inner discussion;[29] "men and words reciprocally educate each other."[30] Indeed; and an apt metaphor can educate both its author and its audience by inviting them to explore similarities between the less familiar phenomenon under scrutiny and a more familiar one.

Hobbes and Locke took for granted that a metaphor's lack of specificity —which is what Peirce meant by "vagueness"— is a bad thing. Peirce teaches us, however, that for certain purposes open-endedness and lack of specificity can be a good thing. True, as he writes in "How to Make Our Ideas Clear," an *un*clear idea sometimes acts like "an obstruction of inert matter in artery, hindering the nutrition" of a young man's brain, condemning him to "pine away… in the midst of intellectual plenty"; and too many young men have been seduced by "a vague shadow of an idea" that, in the end, amounts to nothing.[31] However, he also writes that there can be no perfect formulation of a philosophical thesis;[32] and this means that initially unspecific ideas —such as the instinctive beliefs of Critical Common-sensism, which are certain precisely because they are "invariably vague,"[33] must gradually be refined, articulated, and made more definite.[34]

These Peircean insights suggest a positive role for metaphor both in the early, fumbling stages of philosophical inquiry, and in presenting philosophical ideas to others. A good metaphor can suggest where to look for parallels

and spell out my conception of its epistemological role, in more detail. I also note the affinity of my understanding of the function of metaphor with the account earlier proposed in Robert Fogelin, *Figuratively Speaking* (New Haven: Yale University Press, 1988).

27 Though, notably, despite their "official" view, both recognized that abuse of language may lead thought astray.

28 CP 5.250-53 (1868).

29 CP 4.6 (1906).

30 CP 5.313 (1868).

31 CP 5.393 (1878).

32 CP 1.140, RLT, p.180 (1898).

33 CP 5.446 (1905).

34 This idea informs "the method of successive approximation" I adopted in *Evidence and Inquiry* (1993; second ed., Amherst, NY: Prometheus Books, 2009).

worth pursuing, paths worth following, and potentially fruitful abductions. Spelling out the ramifications of an apt metaphor can be a near-indispensable tool of philosophical inquiry; and an initially indefinite metaphorical picture may be an excellent way to introduce your audience to a new, unfamiliar, and fruitful way of looking at things —as we'll soon see.

2. The Cartesian Blind Alley

In the opening paragraph of the second of his three anti-Cartesian papers of 1868, "Some Consequences of Four Incapacities," Peirce contrasts the Cartesian approach to philosophy with the scholasticism that it displaced:

(i) Cartesianism teaches that philosophy must begin with universal doubt, whereas scholasticism "never questioned fundamentals."

(ii) It makes individual consciousness the ultimate test of certainty, whereas scholasticism rested on "the testimony of sages and of the Catholic Church."

(iii) It relies on a single thread of inference, quite unlike the "multiform argumentation" of scholasticism.

(iv) And —since "God made it so" is no real explanation at all— Cartesianism makes many facts inexplicable; whereas scholasticism, though it acknowledged "mysteries of faith," undertook, as Peirce says, "to explain all created things"; i.e., to explain everything within the realm of experience and reason.[35]

What's less apparent from these observations alone is the way each of them leads —sometimes in "Some Consequences" itself, sometimes only later— to a memorable Peircean metaphor that will in due course illuminate some important theme of his theory of inquiry.

As Peirce reads him, Descartes proposed to make a new start in philosophy by trying to doubt all his former beliefs, so as to determine whether any are "indubitable," i.e., impossible to doubt; but, Peirce argues, this procedure can be nothing but a sham. It is *impossible* to begin with complete doubt; you can only begin from where you are, with the beliefs you actually have. In 1868 Peirce relies on a simile, writing that Descartes' purported skepticism:

> …will be a mere self-deception, and not real doubt; and no-one who follows the Cartesian method will be satisfied until he has formally recovered all those beliefs which in form he has given up. [This] is … as useless a

[35] I summarize CP 5.264 (1868).

> preliminary as going to the North Pole would be in order to get to Constantinople by coming down regularly upon a meridian.[36]

You might feel that this is hardly a fair criticism: that, when Descartes proposed to sift through his beliefs and suspend all but the "indubitable," he used the word, not subjectively ("beliefs I can't doubt"), but objectively ("beliefs no one could have reason to doubt"). And indeed Peirce *is* a little unfair.

But beneath the surface of his perhaps deliberately tendentious criticism there lies something much deeper: a thorough-going repudiation of Descartes' conception of what doubt is, and what its role is in inquiry generally, and in philosophical inquiry in particular. Belief, Peirce writes, *guides* action, which doubt never does —doubt stimulates inquiry but, far from telling you how to act, it can leave you paralyzed, not knowing what to do. For doubt —*real* doubt, that is— is an "uneasy, dissatisfied state,"[37] the kind of irritation that arises when an existing belief-habit is disrupted by contrary experience. "Do you call it doubting to write down on a piece of paper that you doubt?" Peirce asks; "[i]f so, doubt has nothing to do with any serious business."[38] Hence a metaphor he will use over and over: genuine doubt, the real thing, is "living doubt";[39] the Cartesian *Ersatz* is merely "paper doubt."[40]

Descartes thought he had found an infallible criterion to identify the indubitable: "what I clearly and distinctly perceive is true"; but the fact is, Peirce argues, that every individual has blind spots and limitations, and is inevitably ignorant of some matters and mistaken about others. For this reason, serious scientific inquiry is the work of many people over many generations, and the long-run consensus of the community of inquirers is a far better guide to truth than any individual's intuition.[41] Hence Peirce's scathing metaphorical depiction of Descartes, "the father of modern philosophy," as ushering in "the period when Philosophy put off childish things, and began to be a conceited young man."[42]

You might feel that this criticism, too, is a little unfair; after all, though admittedly Descartes uses "I," "me," and "my" over and over, he also sometimes speaks in the plural: "the senses sometimes deceive us"; "let us assume that we are asleep …"; "we are bound … to confess that… all

36 CP 5.265 (1868).

37 CP 5.372 (1877).

38 CP 5.416 (1878).

39 CP 7.315 (1873); 5.376 (1877); 5.384 (1877).

40 CP 5.445 (1905); 5.514 (c.1905); 6.498 (c.1906); 6.500 (c.1906).

41 CP 5.311 (1868). See also Susan Haack "Descartes, Peirce and the Cognitive Community," *The Monist* 65, no.2 (1982):156-81.

42 CP 4.71 (1893).

these images of things which dwell in our thoughts, whether true and real or false and fantastic, are formed."[43] The point, I take it, is that anyone who cares to may go through the same process of sifting through their beliefs as Descartes has done; so that, in this sense, it's *not* all about him. This said, however, it must be added that there is no indication that Descartes had any real appreciation of the social dimensions of inquiry; and that we soon see Peirce moving from this perhaps not-quite-fair criticism to a subtle and complex understanding of the importance of the long-run, intergenerational community of inquirers.

Descartes' approach to philosophy is modeled on a mathematical proof, a chain of inference—a chain of inference often depending, Peirce adds, on "inconspicuous premisses." But, he continues —introducing one of his most important metaphors, the one I have adopted as the title of this paper— it is far better that philosophy imitate the successful sciences:

> …proceed[ing] only from tangible premisses that can be subject to careful scrutiny, and …trust[ing] rather to the multitude and variety of its arguments than to the conclusiveness of any one. Its reasoning should not form a chain which is no stronger than its weakest link, but a cable whose fibers may be ever so slender, provided they are sufficiently numerous and intimately connected.[44]

Peirce's own argumentation is in striking conformity to the pattern he recommends: think, for example, of the mesh of arguments (phenomenological, logical, ontological) supporting his universal categories, or of the multiform reasoning behind his distinctive form of empiricism,[45] his repudiation of nominalism, or his theory of inquiry. Moreover, his many cables of argument are themselves interwoven, giving his philosophy as a whole its architectonic character.[46]

[43] Descartes' *Meditations on First Philosophy* were originally published in Latin (Paris, 1641). The following year they were translated into French by the Duc de Luynes, and the translation was revised and approved by Descartes himself. I believe it is this translation, published in Paris in 1647, on which the French text in André Bridoux, *Descartes: Oeuvres et Lettres* (Paris: Gallimard, 1953) is based. My quotations are from a now-standard English edition of Descartes' *Meditations*, Elizabeth S. Haldane and G. R. T. Ross, *The Philosophical Works of Descartes* (Cambridge: Cambridge University Press, 1911), vol. I, 131-99, pp. 145 and 146—which is faithful to the Latin and French versions, where the plural forms also appear; I notice, however, that a more recent English translation, which replaces "we" by "I" or a passive construction, is much less so—and so makes Descartes' approach seem even more susceptible to Peirce's criticism than it really is. Descartes, *Meditations*, trans. John Cottingham (Cambridge: Cambridge University Press, 1986).

[44] CP 5.265 (1868).

[45] As is very nicely articulated by Aaron Wilson in his *Peirce's Empiricism: Its Roots and Its Originality* (Lanham, MD: Lexington Books, 2016).

[46] CP 6.33 (1891); 6.604 (1893); 6.612 (1893); 1.176 (c.1896); 5.5 (c. 1905).

God exists and is not a deceiver, Descartes argues; and so, since God made him and his faculties, what he clearly and distinctly perceives is true. But then how is it that he is ever mistaken, that he ever misperceives or miscalculates? Because, Descartes replies, the will is inherently unlimited, and so inevitably exceeds our limited human intellect; which tempts us to reach further than our intellectual grasp permits, and so leads us into error. But why did an omnipotent, omniscient, and benevolent God not give human beings an intellect as broad in scope as their will? It's a mystery, Descartes answers; we cannot hope to fathom God's reasons.

Appealing to the inexplicable, Peirce objects, is unacceptable —to borrow a word he uses elsewhere, it is "unphilosophical."[47] The point, I take it, isn't that there couldn't be some things beyond human powers to explain —no doubt there are; but that simply to declare this or that inexplicable is to *guarantee* that, even if an explanation *is* within our powers, we will never find it. This is why, as we later learn, appealing to inexplicables violates that cardinal principle, "Do not block the way of inquiry."[48]

Peirce once wrote that he had "found the combustion of a man of straw one of the best means of stopping my logical chimney from smoking";[49] and his critique of Descartes, even if it isn't quite scrupulously fair in every respect, certainly serves this purpose —it clears the way to a very different, and much more fruitful conception of inquiry than Descartes ever dreamt of. In fact, the metaphors to which "Some Consequences" leads us —living doubt versus paper doubts; the cable of argumentation versus a chain of argument; the conceited young man; the prohibition on inquiry-blocking —already constitute a fine introduction to Peirce's theory of inquiry.

3. The Open Road of Inquiry

—But *only* an introduction. For as Peirce's philosophy develops and he articulates key ideas about the "scientific attitude,"[50] the role of experience and of reasoning, the community of inquirers, the nature of truth and reality, etc., he deploys many other important metaphors: the inquirer as drawing the bow upon truth; the community of inquirers as storming the fortress of knowledge; science as walking on a bog rather than as based on firm ground; and a whole array of nautical images,[51] of philosophy as a ship propelled by experience and guided by logic through the ocean of thought.

47 CP 7.322 (1873); 5.409 (1878); 6.427 (1878); 7.322 (1873); 7.492 (c.1898).

48 CP 1.135, RLT, p.178 (1898).

49 CP 5.503 (c. 1905).

50 CP 7.134 (c.1866); 1.43 (c.1896); 7.604 (1903).

51 Nautical metaphors reminiscent of Plato's extended nautical simile in *Republic* VI, 488a.

Peirce's metaphors are as remarkably various as they are philosophically rich. But while deploying several different metaphors, as he often does, is sometimes simply a way of exploring a question from many angles, when one metaphor suggests one approach or conception and another suggests a different and perhaps incompatible approach or conception, this can create a tension. When both of two apparently-competing metaphors seem apropos, the apparent conflict must, somehow, be resolved; and such clashes often mark a point where Peirce realizes that some earlier formulation of an idea stands in need of amplification, refinement, modification. So we see him distinguishing naturalistic and normative elements in his account of the motivation for inquiry, the work of an individual and the work of a whole ongoing community of inquirers, the percept and the perceptual judgment in the percipuum, the short and the long run. But now I'm getting ahead of myself.

Peirce's repudiation of the Cartesian mistake of "taking a paper-doubt for the genuine metal,"[52] and his insistence that "[d]efense against sham doubt is but a blank-cartridge action… of no use,"[53] suggest a thoroughly naturalistic picture. *Real* doubt, as opposed to Cartesian pretend-doubt, is an uncomfortable condition that arises when an existing belief-habit is disrupted; and it is just this discomfort that provokes inquiry. "Genuine doubt always has an external origin, usually from surprise."[54] And "[l]iving doubt is the life of investigation. When doubt is set at rest, inquiry must stop…";[55] "[t]here must be real and living doubt and without this all discussion is idle."[56]

But elsewhere Peirce offers what seems on its face to be a very different understanding of the motive for inquiry. "Real [intellectual] power… is not born in a man," he writes; "it has to be worked out; and the first condition is that the man's soul should be filled with the desire to make out the truth…"[57] "[I]n order to reason well," he tells us, "it is absolutely necessary to possess…

[52] CP 5.445 (1905). The first issue of paper money in what is now the U.S., initially as a temporary measure, was by the Massachusetts Bay Company in 1690. More relevant to Peirce's use of this metaphor, however, are the controversies over gold vs. silver vs. paper currency that began in the 1870s. In 1873 the silver dollar had been dropped from the coinage; and in 1879 surviving "Greenbacks" [older paper dollars] were made convertible into gold alone. This led to a counter-attack by the supporters of silver; with the result that Congress authorized such liberal purchases of silver that it began to push out gold; and in the 1896 presidential election William Jennings Bryan (who, however, lost to President McKinley) had tried to make "the silver question" the main issue. See John K. Galbraith, *Money: Whence It Came, Where It Went* (New York: Houghton Mifflin, 1975), pp. 51 and 84-100.

[53] CP 2.196 (1902).

[54] CP 5.443 (1905).

[55] CP 7.315 (1873).

[56] CP 5.376 (1877).

[57] Peirce, in Carolyn Eisele, ed., *The New Elements of Mathematics* (Mouton: The Hague, 1976), vol. 4, p. 977 (from a letter to Francis Russell, January 1st, 1909).

such virtues as intellectual honesty and sincerity and a real love of truth."[58] And in line with this he introduces a new metaphor. Declaring that "the spirit is the most essential thing, the motive," he describes the genuine inquirer —the inquirer with the "scientific attitude"[59]— as "drawing the bow upon truth with intentness in the eye, with energy in the arm."[60]

Every word of this splendid metaphor is doing real philosophical work. "Intentness in the eye" requires that inquirer not lose focus, not settle for some easy and convenient conclusion; "energy in the arm" requires that the inquirer not slack off, not give up just because the task proves difficult and demanding. But the new metaphor also presents a problem. For if you think only of his critique of Descartes' method and of his metaphor of living doubt, it might seem that Peirce conceives of inquiry simply as a homeostatic cognitive process in which we rest content with each new equilibrium until it is in its turn disturbed. But the metaphor of drawing the bow on truth suggests a very different, normative picture —of inquiry as much more than simply scratching a cognitive itch, much more than just struggling to get from an uncomfortable state of doubt to a more comfortable state of settled belief.

In fact, this doubleness was already present as early as 1877, in "The Fixation of Belief," where Peirce writes:

> …with the doubt, the struggle begins, and with the cessation of doubt it ends. Hence, the sole object of inquiry is the settlement of opinion. We may fancy that this is not enough for us, and that we seek, not merely an opinion, but a true opinion. But put this fancy to the test, and it proves groundless; for as soon as a firm belief is reached, we are entirely satisfied, whether the belief be true or false.[61]

But only a few pages later, arguing for the superiority of the "scientific" method of fixing belief, he adds:

> A man should consider… that, after all, he wishes his opinions to coincide with the fact… [and] to bring about this effect is the prerogative of the method of science.[62]

How can these two apparently very different pictures, the naturalistic and the normative, be reconciled? In "Fixation," the reader is left to his own devices: my best guess is that what Peirce is thinking is that, since beliefs fixed

58 CP 2.82 (1902).

59 CP 1.43 (c.1896).

60 CP 1.235 (1902).

61 CP 5.375 (1877).

62 CP 5.387 (1877).

by the method of science are determined by "some external permanency,"[63] they are likely to prove *permanently* settled,[64] while those fixed by the other methods are —at least for any minimally reflective inquirer who doesn't isolate himself entirely from the possibility of recalcitrant experience— always vulnerable to being *un*settled.

But by the time of Peirce's articulation of his Critical Common-sensism we begin to see how he reconciles these apparently competing conceptions, the naturalistic and the normative. "[A] man wraps himself up in silly paper doubts if he undertakes to throw common-sense, i.e., instinct, overboard and be perfectly rational,"[65] he writes. But all the same, the Critical Common-sensist "has a high esteem for doubt," even hungers for it; only, Peirce continues, "his hunger is not to be appeased with paper-doubts; he must have the heavy and noble metal…"[66] According to Peirce's naturalistic picture, the usual human tendency is to struggle to get *out* of a state of doubt; but the Critical Common-sensist, we now see —the scientific inquirer, in Peirce's broad sense— has realized that, uncomfortable as it may be, doubt is actually to be valued and even sought out: for this is what motivates you to inquire. And so he will be *proactive*: not just sitting waiting for experience to disrupt a belief, throw him into doubt, and get him inquiring, but actively *seeking out* the circumstances in which he might encounter such disruptive experience, or even getting his cognitive juices flowing by *imagining* those circumstances; for this will hasten the process of inquiry.

"Feigned hesitancy," Peirce tells us, "plays a great part in the production of scientific inquiry," by stimulating the mind into activity, "slight or energetic, calm or turbulent."[67] At first blush, this acknowledgment of the role of feigned hesitancy —i.e., imagined doubt— may seem suspiciously like a reinstatement of the Cartesian method of which Peirce had earlier been so dismissive. But it is really quite different. There is absolutely no suggestion of the kind of wholesale suspension of belief Descartes had proposed, let alone of the infallibilist foundationalism to which it led; rather, the Peircean inquirer imagines possible circumstances that would give him *reason* to doubt some *specific* belief of his, and as a result finds himself in a state of real doubt, and so is prompted to inquire.

63 CP 5.384 (1877).

64 I'm not sure this is true; Peirce may have forgotten that, in our state of always-imperfect knowledge, in the short or even the medium run a true belief may be unsettled by evidence that we don't realize is misleading. Interestingly, this topic —misleading evidence— seems to have been explored more fully by novelists than by epistemologists. See, e.g., Michael Frayn, *Headlong* (New York: Picador/Henry Holt, 1999); Scott Turow, *Reversible Errors* (New York: Warner Books, 2002).

65 CP 6.500 (c.1906).

66 CP 5.514 (c.1905).

67 CP 5.394 (1878).

Turning now to the role of experience in inquiry, we find Peirce using a suite of nautical metaphors:

> [I]nquiry must react against experience in order that the ship may be propelled through the ocean of thought.[68]
>
> Precisely how does [the] action of experience take place?… At one time a ship is sailing along in the trades across a smooth sea, …when suddenly she strikes upon a rock.[69]

But in a passage that brings the "cable" metaphor vividly to mind, where he writes of the translation of the cuneiform inscriptions,[70] Peirce uses an apparently competing image. The translation process began, as he observes, in sheer speculation; but eventually the translations were well supported by a whole, dense mesh of interwoven arguments —and so firmly established that it would hardly be appropriate to describe them any longer as a "theory." Science, he continues, "is not standing upon the bedrock of fact. It is walking upon a bog, and can only say, this ground seems to hold for the present"[71] — as it was the dense mesh of interlocking evidence, not a bedrock of fact, that established the legitimacy of those translations. But, again, the new metaphor presents a problem; for it seems to be in tension with the image of experience as the rock the ship strikes, the rock that provokes doubt, stimulates inquiry, and moves the ship forward.

This tension is resolved in Peirce's mature theory of perception, when he distinguishes two distinct-but-inseparable elements of the percipuum: the percept, and the perceptual judgment it prompts. The *percept*, which is an

[68] CP 8.118 (1902).

[69] CP 5.51 (1903).

[70] There are different types of cuneiform (Old Persian, Elamite, and Babylonian); Old Persian was the first to be deciphered. The story begins in the eighteenth century, with travellers visiting the ruins of Persepolis; and many people —including Carsten Niebuhr, c.1774-78; Olaus Gerhard Tychsen, c.1798; Friedrich Christian Karl Heinrich Münter, c.1800; Rasmus Christian Rask, c.1827; Eugène Brunouf, c.1836; and Christian Lassen, c.1836 —contributed to its eventual decipherment. Ernst Doblhofer, *Voices in Stone: The Decipherment of Ancient Scripts and Languages* (New York: Viking, 1961), pp. 93-96 (Nieburh), 97-98 (Tychsen), 98-99 (Münter), 100-106 (Grotefend), 106-07 (Rask), 116-117 (Lassen). But the main contributors seem to have been Georg F. Grotefend, around 1803-1805; and, from 1838-39 and 1844-49, Henry Creswicke Rawlinson, who realized that longer inscriptions from different context were needed (apparently it took him ten years to copy 414 lines of text, since they were carved into a steep cliff!). Doblhofer, *Voices in Stone*, pp. 100-106 (Grotefend) and 108-119 (Rawlinson). C. B. F. Walker, "Cuneiform," in J. T. Hooke, ed., *Reading the Past: Ancient Writing from Cuneiform to the Alphabet* (Berkeley and Los Angeles: University of California Press/British Museum, 1990), 15-74, pp. 58ff.

[71] CP 5.589, RLT, pp.176-77 (1898). It was William Whewell, not Peirce, who invented the neologism, "consilience." But, as these comments reveal, Peirce certainly had the *concept* of consilience, if not the word. William Whewell, *Philosophy of the Inductive Sciences* (1840), in *Selected Writings of William Whewell*, ed. Yehuda Elkana (Chicago: University of Chicago Press, 1984), 121–259, 257.

event, not a proposition, can be neither true nor false, neither fallible nor infallible. But the *perceptual judgment* —though it is, Peirce says, involuntary, forced upon us by the percept— is propositional, true or false and so, like all judgments, fallible.[72] The metaphor of the ship striking a rock captures the brute, surd Secondness of the percept and the involuntary nature of the judgment it prompts; the metaphor of science as walking on a bog captures the fallibility of the perceptual judgment.

In a charming mini-fable that recalls his strictures about Descartes' individualism, Peirce observes that what a person perceives depends both on his circumstances and on the peculiarities of his perceptual apparatus:

> Suppose two men, one deaf, the other blind. One hears a man declare he means to kill another, hears the report of the pistol, and hears the victim cry; the other sees the murder done. Their sensations are affected in the highest degree with their individual peculiarities …but their final conclusions …will be identical and free from the one-sidedness of their idiosyncrasies.[73]

And in the same passage he connects this thought with his distinctive conceptions of truth as the Final Opinion and reality as the object of this opinion:

> All human thought and opinion contain an arbitrary, accidental element, dependent upon the limitations in circumstances, power, and bent of the individual; an element of error, in short. But human opinion universally tends in the long run to a definite form, which is the truth.[74]

The last sentence, however, poses a new problem. There can be no guarantee that even the most honest, focused, and diligent of inquirers will succeed; and you are left wondering why, if there is indeed this universal tendency towards the truth, it *matters* whether the individual really draws the bow on truth, or just waits until experience blindsides him. Peirce begins to reconcile these two ideas when he writes:

> [T]he only kind of predestination of the attainment of truth by science is an eventual predestination… Sooner or later it will attain the truth, nothing more. …[I]t is entirely uncertain *when* the truth will be reached.

In this context he calls on a new metaphor, this time a military one:

[72] "Telepathy and Perception," CP 7.597-688 (1903). See also Susan Haack, "How the Critical Common-sensist Sees Things," *Histoire, épistemologie, langage* 6, no.1 (1994) 9-33.

[73] CP 8.12 (1871).

[74] CP 8.12 (1871). The idea was already foreshadowed in "Some Consequences." CP 5.311 (1868).

> …the idea of science is to pile the ground before the foot of the outworks of truth with the carcasses of this generation, and perhaps of others to come after it, until some future generation, by treading on them, can storm the citadel.[75]

This vividly illustrates Peirce's theme that inquiry is inevitably the work, not just of an individual, but of a whole ongoing community. But to explain why —even though it can never guarantee success or even progress— the motive for inquiry really matters, Peirce returns to his nautical imagery:

> Imagine a derelict vessel to be floating about on the ocean; and suppose that it will be driven hither and thither until it chances to cast upon a shore. Then, a vessel which should take that derelict in tow and deliberately strand it upon the nearest shore, would be "expediting" the destiny of that derelict…[76]

You may wonder why Peirce puts "expediting" in quotation marks. Well, he had already used the word earlier in the paragraph, and now he's indicating that the idea he's trying to express isn't quite what "expedite" would ordinarily suggest. There can be no guarantee that even the best-motivated inquirer will get to the truth sooner than someone who lacks the true spirit of inquiry, or fails to grasp logical principles, or both; and neither can there be any guarantee even that a community of such inquirers will get there sooner. But the metaphor of the derelict ship suggests the special, restricted sense in which the right motive and the right logical principles *do* "expedite" inquiry. True, though left to itself it might drift for much longer, the derelict ship *might* drift to shore even sooner than it would get there if we towed it. Nonetheless, towing it has real advantages: for we can be sure that this will get it to shore in limited time.

Similarly, well-conducted inquiry won't *necessarily* get us to the truth of a question sooner than we might hit on it if we just waited for recalcitrant experience to push us along. But it's a better bet, because it should get us to the truth of the question that concerns us within a limited time —as Peirce had written elsewhere, "[t]he more voraciously truth is desired that the outset, the shorter by centuries will the road to it be"[77]— while otherwise we might have to wait indefinitely.

I have spoken, as Peirce does, of inquiry conducted in the right spirit and guided by sound logical principles; but what, more exactly, is the role of the

[75] CP 6.3 (1898).

[76] CP 7.78 (n.d.). According to Arthur Burks (the editor of volumes 7 and 8 of the *Collected Papers*), it appears from internal references that these paragraphs were written after 1900.

[77] CP 5.582, RLT, p. 170 (1898).

latter? Rational methods of inquiry, Peirce writes, will bring the ship to shore, inquiry to true answers, as speedily as possible[78] —"rational methods," because the "method of science" that he recommends over the other methods described in "Fixation" is the method of experience *and reasoning*. As he explains, extending his nautical metaphor, the two work together: it is experience that propels inquiry forward, but what enables us to steer the ship is logic, the principles of reasoning. A man ignorant of those principles, he tells us, is "like a ship on the open sea with no one on board who understands the rules of navigation."[79] Indeed, the "derelict ship" passage begins: "the precise practical service of a sound theory of logic is to abbreviate the time of waiting to know the truth, to expedite the predestined result…"

"Logic," here, should be understood broadly, as "theory of whatever is good in the way of reasoning." Why so? In part because, by Peirce's lights, logic includes abduction and induction as well as deduction; but also in part because, by his lights, good reasoning is not restricted to formal, syntactically valid forms of inference. Rational methods of inquiry may well require something more: the development of new, and better, vocabulary —as Peirce puts it, now calling on a biological metaphor, the "growth of meaning."[80]

Like the guidance of sound logical principles, I take it, observance of the principles of what Peirce calls the "economy of research" [81] —a quasi-metaphor, since he is at least as much concerned with economy of time and mental effort as with economy of money— also "expedites" the process of inquiry. By contrast, those "dilettanti" of whom Peirce complains, who so much enjoy arguing over a question that they would regard any positive solution with "ill-concealed dislike,"[82] and those who set up barricades of "empty books and embarrassing assumptions"[83] hinder the progress of inquiry, slow it down. But the worst sin is blocking the progress of inquiry altogether. In 1868, Peirce complained about Descartes' last-ditch appeal to the inexplicable. By the time of the Cambridge Conference Lectures of 1898, where Peirce lists four such maneuvers, we learn that this is only one of several ways to block the road of inquiry:[84] making absolute assertions, i.e.,

78 7.78 (n.d) (but see note 77 above).

79 CP 5.368 (1877).

80 CP 7.587 (1866-67), 2.302 (c.1902). As we saw earlier, Peirce takes metaphor to play a key role in this growth. See also Susan Haack, "The Growth of Meaning and the Limits of Formalism, in Science and Law," *Análisis filosófico* (2009) 5-29.

81 CP 1.122 ff. (c.1896).

82 CP 5.396 (1878).

83 CP 1.645, RLT, p. 114 (1898).

84 I have explored the ramifications of this marvelous metaphor in detail in "Do Not Block the Way of Inquiry," *Transactions of the Charles S. Peirce Society* 50, no.3 (2014): 319-339. See also Susan Haack, "The First Rule of Reason," in *The Rule of Reason: The Philosophy of C.S. Peirce*, eds.

claims to infallible knowledge;[85] claiming that this or that is unknowable;[86] claiming to have the perfect, final formulation of some idea;[87] and —the Cartesian way— appealing to the inexplicable.[88]

Peirce's philosophical approach, he says, grows out of "a contrite fallibilism, combined with a high faith in the reality of knowledge, and an intense desire to find things out";[89] and, in line with this, two of the four inquiry-blocking moves he lists (assertions that this or that is unknowable, appeals to the inexplicable) are violations of that "high faith in the reality of knowledge," and the other two (absolute assertions, claims to have the perfect formulation of some idea) are violations of fallibilism.

"Fallibilism," Peirce also says, would be a good name for his philosophy as a whole;[90] and I will conclude this section with two metaphors he uses to explain what fallibilism amounts to. The first is straightforward enough: "no blight can so surely arrest all intellectual growth as the blight of cocksureness."[91] And, indeed, there is nothing more deadly to serious inquiry than a firm conviction that you know already; nor, as Peirce aptly adds, than "the vanity of cleverness."[92] But another of his fallibilist metaphors needs more careful handling: "[T]he scientific spirit requires a man to be at all times ready to dump the whole cart-load of his beliefs, the moment experience is against them."[93] This is potentially misleading, because it seems to suggest that an inquirer might have to repudiate *all* his beliefs —which not only sounds suspiciously Cartesian but, worse, seems to be incompatible with Peirce's recognition that that it is impossible to jettison your beliefs wholesale, that without *some* beliefs you couldn't even begin to inquire. What he meant, I conjecture, was that the scientific spirit requires you to be ready to dump whole swaths of your beliefs in the face of contrary evidence —as Copernicus' discoveries obliged astronomers to dump all the beliefs implied by the idea that the earth is the center of the universe, or Oswald Avery's discovery of the role of DNA required molecular biologists to dump all those implied by the idea that protein is

Jacqueline Brunning and Paul Forster (Toronto: Toronto University Press, 1997), pp.241-61— which I now think of as a kind of dry run for the 2014 piece.

85 CP 1.137; RLT, p.179 (1898).

86 CP 1.138; RLT, p.179 (1898).

87 CP 1.140; RLT, p.180 (1898).

88 CP 1.139; RLT, pp.179-80 (1898).

89 CP 1.14 (c.1897).

90 CP 1.13 (c. 1897).

91 CP 1.13 (c. 1897) —a comment reminiscent of Plato's *Meno*, 84b3-c1.

92 CP 1.31 (1903). See also Susan Haack, "Serious Philosophy," *Spazio filosofico* 18 (2016): 395-407.

93 CP 1.55 (c.1896).

the genetic material[94]— i.e., that you might have to abandon, not *the* whole cart-load, but *a* whole cart-load. But this is the only loose end I have found in Peirce's rich tapestry of metaphors.

4. A Way Forward

Peirce disliked the word "epistemology" —"an atrocious translation of the German *Erkenntnislehre*."[95] And he stressed that the Greek word "*episteme*" is better translated as "comprehension" —the ability to define a thing in such a way that all its properties are corollaries of the definition— than as "knowledge."[96] But this doesn't mean he doesn't do what would today be called epistemology; on the contrary, both his theory of inquiry and much of what he calls "logic" surely fall squarely within this field.

For many decades now, however, epistemologists in the analytic and neo-analytic mainstream seem largely to have been preoccupied with "refuting the skeptic," defining knowledge, articulating the difference between knowledge and mere true belief, and —since 1963, in response to the so-called "Gettier paradoxes" and their progeny— the difference between knowledge and even justified true belief. These are not questions that preoccupied Peirce. Indeed, he writes that it's pointless to argue with a skeptic, since his skepticism precludes his being moved by any argument;[97] and that skepticism simply blocks the way of inquiry.[98] Moreover, Peirce uses the word "knowledge" in a wide variety of ways, writing of "falsified knowledge,"[99] "fallible knowledge," [100] "satisfactory knowledge,"[101] "perfect knowledge."[102] And, of course, living when he did, he was in no danger of being sucked into the black hole of Gettierology: to which his scathing observations about those "whom any discovery that brought quietus to a vexed question would evidently vex"[103] because it would spoil the fun of arguing around and about and over it seem startlingly apropos. But when you consider how much time and energy has

94 Oswald T. Avery, Colin M. MacCleod, and Macklyn McCarty, "Studies of the Chemical Nature of the Substance Inducing Transformation in Pneumococcal Types" (1944), in Harry O. Corwin and John B. Jenkins, eds., *Conceptual Foundations of Genetics: Selected Readings* (Boston: Houghton Mifflin, 1976), pp. 13-27.

95 CP 5.496 (c.1906).

96 CP 1.232 (1902).

97 CP 5.318 (1868).

98 CP 6.493 (c.1896).

99 CP 7.376 (1873).

100 CP 2.142 (1902), 2.532 (1903).

101 CP 2.200 (1902).

102 CP 4.62 (1893).

103 CP 5.520 (c.1905).

been wasted on those fruitless efforts to argue with the skeptic, define knowledge, and solve those supposed paradoxes,[104] you may also begin to feel, as I do, that this may be a positive advantage of Peirce's approach.

Perhaps, now, you're thinking that Peirce focuses on theory of inquiry rather than theory of knowledge, on process rather than product, that his work is more in the line of descent from Descartes' *Regulae* than from his *Meditations*. There's some truth in this; but it's hardly the whole story. In fact, Peirce's work throws a good deal of light on important issues in *both* lines of descent. It makes us look afresh at the debate between foundationalism and coherentism, for example, at the role of perception, at "virtue epistemology," and at late twentieth-century critiques of the rationality of science and even of the legitimacy of the epistemological enterprise itself:

- Peirce's insistence that arguments for empirical claims should form a cable, not a chain, suggests —long before Quine spoke of the "web of belief"[105]— a conception of evidence as a mesh, the denser and the more intertwined the better. Moreover, Peirce puts his metaphor far more fruitfully to work than Quine ever did his.
- Peirce's mature conception of perception suggests —long before contemporary debates about whether perception is, or isn't, propositional— that, while every empirical claim is ultimately based in experience, every one of our beliefs, perceptual judgments included, is fallible.
- Long before Kuhn, Peirce had considered the idea that science might proceed by means of revolutionary, "cataclysmic" shifts in theory; and commented that the history of science gives no evidence of this, and that in any case "an emmet" (an ant) is far more competent to discourse upon the shape of the earth than we are to say what future millennia of scientific work will look like.[106]
- Moreover, Peirce's understanding of the way meaning grows as our knowledge grows explains what went wrong in the thinking of radicals like Kuhn, Feyerabend, and Rorty, who imagined that meaning-variance is

[104] Edmund Gettier, "Is Justified True Belief Knowledge?" *Analysis* 23 (1963) 121-23. See also Susan Haack, "'Know' is Just a Four-Letter Word" —written in 1983, but not published until 2009, in the second edition of my *Evidence and Inquiry* (note 34 above), 301-30— arguing that Gettier-type paradoxes are both inevitable and uninteresting given the mismatch between a categorical conception of knowledge and a gradational conception of justification. (Gettierologists, I would now add, seem never to have broken away from a chain-like, Cartesian conception of evidence.)

[105] W. V. Quine, "Two Dogmas of Empiricism" (1951), in Quine, *From a Logical Point of View* (1952) (New York: Harper Torchbooks, 1963), 20-46. W. V. Quine and Joseph Ullian, *The Web of Belief* (New York: Random House, 1978).

[106] CP 2.150 (c.1902).

inevitably an impediment to rationality[107] —even, in Rorty's case, that it's a reason to abandon epistemology and, ultimately, to give up the idea that philosophy is a kind of inquiry and acknowledge that it is "just a kind of writing," just another *genre* of literature, distinguished only by the names it drops.[108]

- And Peirce's reflections on the motives for inquiry could contribute whole new dimensions to what seem to have become, too often, blandly routinized discussions of a short list of somewhat thin and bloodlessly conceived epistemological virtues.[109]

Beyond all these specific contributions, though, is something even more important. Epistemology *ought to be* a discipline of real practical relevance and application —after all, as Jeremy Bentham put it, every one of us, consciously or otherwise, makes judgments of the worth of evidence every hour of his waking life;[110] and, as J. S. Mill added, making such judgments is the professional business of, among others, magistrates, navigators, and agriculturalists.[111] Today, however, epistemology has become an over-professionalized academic specialty —fragmented into a raft of niches and cliques, hermetic, abstract, focused on a limited range of made-up examples, and largely divorced[112] from the real-life problems that epistemology could, and should, illuminate.[113] Peirce's ideas seem, by contrast, startlingly

[107] See, e.g., Thomas S. Kuhn, *The Structure of Scientific Revolutions* (Chicago: University of Chicago Press, 1962), pp.101 ff.; Paul K. Feyerabend, *Against Method: Outline of an Anarchistic Theory of Knowledge* (1975; London: Verso, 1978), chapter 17 (which speaks of conceptual change and its alleged consequence, "incommensurabillity"); Richard Rorty, "Science as Solidarity," in John S. Nelson, Allan Megill, and Donald M. McCloskey, eds., *The Rhetoric of the Human Sciences* (Madison, WI: University of Wisconsin Press, 1987), 38-52. See also the concluding section of Susan Haack, "'Realism,'" *Synthese* 73 (1987) 275-99, where I argue that meaning-variance has no such radical consequences as is often supposed; and "The Growth of Meaning and the Limits of Formalism" (note 81 above).

[108] Richard Rorty, "Philosophy as a Kind of Writing: An Essay on Derrida" (1978-79), in Rorty, *Consequences of Pragmatism* (Hassocks, Sussex: Harvester Press, 1982), pp. 90-109.

[109] Linda Zagzebski's understanding of epistemic virtues (informed by, among others, Aristotle and Dewey) is quite rich; but subsequent discussions seem to have suffered the usual neo-analytic impoverishment. Linda Zagzebski, *Virtues of the Mind* (New York: Cambridge University Press, 1996). See also Susan Haack, "The Ideal of Intellectual Integrity, in Life and Literature" (2005), in Haack, *Putting Philosophy to Work: Inquiry and Its Place in Culture* (Amherst, NY: Prometheus Books 2008, second ed., 2013), pp. 209-20 (text) and pp. 307-09 (notes).

[110] Jeremy Bentham, *Rationale of Judicial Evidence* (1827; New York: Garland, 1978) (5 vols.), vol. 1, p.18.

[111] John Stuart Mill, *A System of Logic, Ratiocinative and Inductive, Being a Connected View of the Principles of Evidence and the Methods of Scientific Investigation* (1843), 8th ed., London, 1970, p. 5.

[112] In the main; there are, of course, exceptions.

[113] Susan Haack, "Epistemology: Who Needs It?" (first published in Danish in 2011), in *Kilikya Felsefe Dergisi* (*Cicilia Journal of Philosophy*) 3 (2015) 1-15; and in *Philosophy South: Filosofia UNISINOS* 16, no.2 (2015) 183-93; "The Fragmentation of Philosophy, the Road to Reintegration,"

and refreshingly *real*: living, informed by his reflections on the history of science, by his own scientific work, and by his extraordinarily catholic range of reading. And they are also, I believe, highly relevant to such real-life issues as the evidentiary procedures of the law and the organization of universities.

For example, Peirce's thoughts about the mesh of evidence supporting those cuneiform translations, and more generally about scientific argumentation as forming a cable of many threads —i.e., to use Whewell's word, about consilience— have an immediate bearing on an issue that regularly arises in court: whether a combination of pieces of evidence, none of them sufficient by itself to warrant a factual conclusion to the required degree of proof, may do so jointly.[114] And his thoughts about the motives for inquiry have a quite direct, and very disturbing, relevance to questions about the organizational structures and procedures of universities. For example: what kinds of incentive structure encourage genuine, serious inquiry, and what encourage, instead, the sham (making a case for the truth of some claim to which the "inquirer" is already unbudgeably committed in advance) and the fake (making a case for some claim to the truth of which the "inquirer" is indifferent, but defending which he hopes will make him famous, or at least get him tenure)?[115] And, with respect to philosophy in particular, what are the perverse incentives that have recently have encouraged philosophers to emulate the external trappings of the sciences rather than, as Peirce urged, their animating spirit?[116]

I could go on —perhaps by observing how often, of late, as friends and correspondents ask me about the recent fashion for talk of "alternative facts" and "post-truth," I find myself quoting Peirce by way of reply. "You certainly opine that there is such a thing as truth. Otherwise, reason and thought would be without a purpose";[117] and "[e]very man is fully satisfied

in Julia Göhner and Eva-Maria Jung, eds., *Susan Haack: Reintegrating Philosophy* (Berlin: Springer, 2016), 1-32.

114 See, e.g., Susan Haack, "Proving Causation: The Holism of Warrant and the Atomism of Evidence Law" (2008), in Haack, *Evidence Matters: Science, Proof, and Truth in the Law* (New York: Cambridge University Press, 2014), pp. 208-38.

115 The concept of fake inquiry is my own, added to complement Peirce's thoughts about sham reasoning. Susan Haack, "Preposterism and Its Consequences" (1996), in Haack, *Manifesto of a Passionate Moderate*, (note 11 above), 188-208, pp. 189-90. See also, more generally, my "Out of Step: Academic Ethics in a Preposterous Environment," in Haack, *Putting Philosophy to Work* (note 110 above), 251-68 (text) and 313-17 (notes); and the last section of "Serious Philosophy" (note 92 above).

116 See Susan Haack, *Scientism and Its Discontents* (Rounded Globe, 2017), downloadable free at https://roundedglobe.com/, especially the concluding section of the second lecture, "Scientific Philosophy, Yes: Scientistic Philosophy, No."

117 CP 2.135 (1902).

that there is such a thing as truth, or he would not ask any question."[118] And for that matter, I add, neither would he make any assertion—including, of course, the assertion that ours is an era of post-truth. But spelling all this out, which would require a whole new paper of its own,[119] is obviously not a task to be undertaken here.[120]

Susan Haack
School of Law
University of Miami
Coral Gables, FL 33124-8087, USA
shaack@law.miami.edu

[118] CP 5.211 (1903).

[119] I have, however, tackled some of these issues from a legal perspective in "La justicia, la verdad y la prueba: No tan simples, después de todo," in Jordi Ferrer Beltrán and Carmen Vázquez, eds., *Debatiendo con Taruffo* (Madrid: Marcial Pons, 2016), 311-336.

[120] My thanks to Mark Migotti (and the students in his winter 2017 seminar on Peirce, with whom he shared this paper) for helpful comments; and to Pamela Lucken for help in finding relevant material.