

Analytic, phenomenological, and pragmatist interpretations of the physics workshop: a comparative hermeneutic in Peircean perspective

Interpretações analítica, fenomenológica e pragmatista da oficina da física: uma hermenêutica comparativa na perspectiva peirciana

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Abstract: With illustrative reference to the “philosophy of physics,” the article parses the differences among Analytic, Continental, and Pragmatist schools as eidetic cultures and competing guild-practices in professional philosophy today. Peirce’s philosophy looms large as not only relevant to the philosophy of physics but also to a comparative hermeneutic of the three schools. His cosmomorphism has vital ties with the history of philosophy, ties that are generally lacking in the contemporary scholastic camps.

Keywords: Analytic, Continental, and Pragmatist schools. Comparative hermeneutic. Contemporary scholasticism. Cosmomorphism. Peirce’s Pragmatism. Phenomenological lifeworlds. Objective Idealism.

Resumo: *Com referência ilustrativa à “filosofia da física,” o artigo analisa as diferenças entre as escolas analítica, continental e pragmatista como culturas eidéticas e agremiações concorrentes na filosofia profissional de hoje. A filosofia de Peirce emerge considerável como não apenas relevante para a filosofia da física, mas também, para uma hermenêutica comparativa das três escolas. Seu cosmomorfismo possui laços vitais com a história da filosofia, laços que estão, em geral, ausentes nos campos escolásticos contemporâneos.*

Palavras-chave: *Escolas analítica, continental e pragmatista. Hermenêutica comparativa. Escolasticismo contemporâneo. Cosmomorfismo. Pragmatismo de Peirce. Mundos de vida fenomenológicos. Idealismo objetivo.*

1 A comparative hermeneutic of three contemporary schools

Robert P. Crease’s recent work *Philosophy of Physics* is a synopsis of three contemporary schools of interpretation of what he calls the “physics workshop.”¹ While accounting for inevitable overlapping of interests, he identifies three such predominant “big tents” of interpretation, namely Analytic, Phenomenological, and

1 CREASE, 2017.

Pragmatist schools, while parsing their essential differences in illuminating sketches. Each of these schools alters the lighting on the philosophical stage. Each draws upon its own narrow-band of iconic figures, each is involved in its own inner networking of significant concepts, each recruits for and furnishes the profession with an identifiable “brand” of technical expertise.

Taking Crease’s work as point of departure, this article will not be concerned with Crease’s wealth of empirical information on the contemporary “physics workshop,”² but rather will concentrate on the conceptual hardwires of these competing interpretations in the academy today. A comparative hermeneutic³ of these “schools”—which can fairly be said to have taken on separate identities almost like medieval guilds in our lifetime—constitute a philosophical subject matter worthy of consideration in itself. Indeed, such a consideration has a wider application, extending to a critical reflection on the variety of specialized “philosophy of” courses that are common practice in the academy today.

As for my own agenda, I will parse the guild-like craft-practices from a perch outside of these contemporary configurations in the profession. In due course, the reader will note a shift to my considered estimation of Peirce’s place and contribution to this discussion. I will suggest that Peirce, though of course the founder of Pragmatism, has to be placed beyond the narrow scholastic practices of that style and the other styles as well. Peirce’s Pragmatism is situated within an architectonic cosmomorphism⁴ that directly *reprises* and *advances* major considerations in the history of philosophy. The strategic agendas of “doing philosophy” in the contemporary guilds are significantly *jejeune* in comparison, their actual accomplishments often riding on the thinnest a-historical fumes.

Peirce should be credited with discerning perhaps the original triangulation of the three contemporary schools. At the turn of the 20th-century he distinguished the philosophical work of the German universities—which he says still had great qualifications but “at present is too musical, too much regardant of sensation”—from that of London—“the natural capital of philosophy” and “centre of independent thought the whole globe over since 1809 at least,” but as now having “become diluted”—and of Harvard, where one finds “both the evidence and the encouragement of original thought all the world over” (MS 1494, 1905). Despite Boston’s narrow-minded provincialism—Peirce continues—“Harvard is today the most important focus of philosophical thought in the world.” He reckoned Josiah Royce as Harvard’s greatest living philosopher and William James as, with the exception of Wundt, the greatest living psychologist. It will be become germane to this present paper that Peirce, after mentioning a few lesser names, conjoins this estimation of Harvard’s place in the contemporary philosophical scene with a tribute

2 See also CREASE and GOLDHABER, 2014.

3 I employ the phrase *comparative hermeneutic* in the sense of an overarching differential comparison of the interpretant schools under discussion. For this term see my *Philosophy in World Perspective: a comparative hermeneutic of the major theories*, 1989. While the prefix *meta-* is frequently encountered in today’s philosophic literature, I hold that there are in fact no meta-philosophies *per se*, each self-privileging claim to being such a meta-theory is just another philosophy in the wider, more substantive, history of philosophy.

4 Adapting the felicitous term cosmomorphism from IBRI, 2017, p. 71.

to “the undisputed greatness” of his Concord neighbor, Ralph Waldo Emerson. In the previous generation—Peirce avers—Emerson did not succumb to the drag of Boston provincialism, but rather “triumphed over it.” Emerson now looms as “one of the several enduring monuments to the shame of the city of Boston.” In considered praise of Emerson he concludes: “We cannot hear the name of Athens without thinking of the death of Socrates, but then we ought not to forget the golden crown that it voted to Zeno the originator of the Stoic philosophy, nor the many other encouragements that the mass of its citizens extended to high thinking.”

Leaving Peirce’s earlier triangulation of the philosophical academy for now, let me start by way of giving background perspective on the “lifeworld” heuristic Crease’s work associates with the Phenomenological (or Continental) group.

There is a classic on the phenomenology of cultures by the Japanese philosopher Watsuji Tetsurō (1889-1960). Under the Japanese title of *Fûdo*—(*Climate and Culture*, written in 1929, and best seller when first published in 1935)—Watsuji featured the phenomenological concept of differing lifeworlds in a global perspective.⁵ He sketched three geographical-cultural matrices of higher world culture: (1) the “monsoon climate” of India and the Far East (in which he considered Japan’s as a special case of “typhoon climate”); (2) the “desert climate” of the Middle East; and (3) the “meadow climate” of Europe and America. *Fûdo* in Japanese translates the Chinese *feng-shui* that has a long history in the lexicon of Chinese idiograms—*fû* standing for the vicissitude of *weather* in general, as for example the “typhoon weather” of Japan, while *do* for Japan’s thousand scenic islands with their mountains, streams, and valleys shaken by a frequency of earthquakes and tsunami. Watsuji perceptively tied the Japanese “cultural spirit” (*seishin*) to his native country’s history of geographical-climatic conditions and proceeded perceptively to write a wider climate-hermeneutic of the lifeworlds of the Middle East and Europe in which he traveled. His perceptions are still very relevant to today’s geo-political arena.

Let me extrapolate from Watsuji’s global purview to the case of the narrower subject of the lifeworld settings of the three contemporary schools Crease’s study advances with respect to the philosophy of physics science. My endeavor will be to “acclimatize,” so to speak—or to “ground,” literally and figuratively—characteristic components of these respective lifeworlds in *geo-historical perspective* with respect to the contemporary scholastic interpretations of the physics workshop.

In such a *geological-historical-cultural* approach, it goes without saying that Analytic philosophy is very British in provenance. A still profitable book on this

5 English translation by Geoffrey Bownas under the title of *Climate: a philosophical study*. Tokyo: Japanese Government Printing Office, 1962. In 1927 Watsuji Tetsurō was sent to Germany on a three-year scholarship. The impressions of his forty-day voyage from Kobe to Shanghai, Hong Kong, and Singapore, became the first phase of his reflections on different global “climate and culture” regions; after crossing the Arabian Sea to Europe, he visited Paris and Geneva, then toured Rome, Naples, Sicily, Florence, Bologna, Ravenna, Padua, and Venice. In Europe he studied at Berlin University, but made various side trips in Germany, France, and England. He read Heidegger’s *Sein und Zeit* immediately after its publication in 1927, and engaged Heidegger’s thought in all the later phases of his career. Watsuji never visited the United States. Watsuji became the prestigious Professor of Ethics at Tokyo Imperial University and is now ranked as one of the most prominent members of the Kyoto School.

provenance is Ralph Waldo Emerson's classic, *English Traits* (1850).⁶ The result of his extensive research on and travels to England, Emerson explores the Viking and aristocratic backgrounds of English history, and goes on to show how the historically evolved British character produced a militant, practically oriented, commercially expansive, and linguistically articulate, nominalist-empiricist, culture. While Emerson's descriptions of the British character stop with his mid-19th-century perceptions, the profile of the inductive/analytic, and somewhat imperialistic (!), epistemological trajectory of contemporary Analytic philosophy seems to fit like a glove as the updated theoretical counterpart to that. After such a centuries-long continuum, including the "Anglo-American" version of it, today's Analytic philosophy has retained its identity as a "logical-empiricist" lifeworld of philosophical practice, one that draws its adherents into a formidable language game that fosters a distinct expertise in "doing philosophy" comprised for the most part by common language realism dialectically engaged in intramural debates.

Analytics congregate and network together at academic conferences, and publish in their own journals. They are apt to teach "philosophy of" courses—such as "philosophy of physics," "philosophy of law," "philosophy of mind" (often in an empirically oriented interdisciplinary formats)—while reenacting their epistemic program that is professedly indebted to the tradition of William of Ockam, Bacon, Hobbes, Locke, Berkeley, Hume, and Mill. As early as 1871 Peirce characterized this long-standing British tradition as predominately nominalistic, while arguing for his own espousal of an extreme form of Scotistic realism.⁷ As such a predominantly empiricist-nominalistic style, Analytic philosophy is somewhat neglectful of the great works and issues of the history of philosophy.

I remember a young British Analytic colleague who took pride in not having read Leibniz: Leibniz and other major names in the history of philosophy he regarded as having provided false answers to out-of-date questions. In their enthusiasm for "doing philosophy" today, Analytics will blithely reinvent the wheel, as for example the contemporary Analytic literature on "The Meaning of Life"—as if that topic were not a front and center consideration of all the major philosophies and religious teachings of the world. *Ex professo*, they tend to look askance at the work of their non-Analytic colleagues such as the Continentals and the Pragmatists. Continentals and Pragmatists tend to return the favor by not being drawn onto the one-way street of the often-prickly Analytic articulations in crisp English language sentences.

Now, in my own lifetime, mainland Continental philosophy has risen to challenge the "linguistic turn" of the Analytic camp. In the universities it too does much of its work in the "philosophy of" style—as for example in philosophy "of" science, "of" the environment, "of" technology, various approaches to the philosophy of gender and other forms of identity politics, and so on. But in contrast to the Analytic craft, it is professedly "genealogical" (Nietzsche) in spirit and orientation. Thus, its trajectory conspicuously competes with Analytic

6 Harold Bloom has described *English Traits* as Emerson's greatest work. Santayana's *Soliloquies in England, with Later Soliloquies* can be regarded as following in the wake of Emerson's observations.

7 See EP 1:83-109.

linguistic analysis in that it features “regulative” inquiry into underlying cultural presuppositions of logical empiricism and, in various registers, expands such lifeworld interests to sociological and existential biography of major figures set in geo-political environments of perception.

More generally, in making the “perceptual turn,” Continental philosophy draws upon its European traditions of transcendental reflection. It carries forward the momentum of Cartesian, Kantian, Hegelian, and “revolutionary” (French and Marxist) strains of “reflective” thought, explicitly to “critique” empiricist (e.g., British) and other claims to foundations of human certitude and authority. Rousseau should be recognized as one of its key founders. Variations on Rousseau’s *volunté general* can be traced in Kant, Fichte, Hegel, Marx, and continue in strains of Continental ethics and politics. Other strains of post-Kantian “critical” agendas appear in certain kinds of “ethics of suspicion” indebted to Nietzsche’s “transvaluation of all values” or to the reductive psychoanalytical researches of Freud. 20th-century “hermeneutical” figures such as Husserl, Heidegger, Jaspers, Arendt, and the French post-moderns have inherited these traditions in various trajectories of eidetic *epoché* and of negative political-institutional criticism while articulating founding concepts of “existential authenticity” and of communal welfare in the “public living space.” Leftwing Hegelian/Marxist critical theorists go the full length of prioritizing political “praxis” as the authoritative arbiter of the sciences and the arts. These various kinds of Continental hermeneutics do not focus upon abstract linguistic analysis and logical coherence pertinent to the contemporary physics workshop as featured in the epistemological projects of the Analytic type. Rather, as Crease indicates, their critical focus targets “the pre-scientific metaphors, images, and culturally embedded habits of thought” that shape thinking in general in the public space of the contemporary cultural lifeworld.

But now, in contrast again, American Pragmatism’s sense of proactive consequential intelligence originated as a “continental” idea of its own. While having the advantage of drawing upon its British and European heritages, it has had a breakaway character rooted in its own history. The “New World” North-American experience has first of all been a *risk-taking experience*, symbolized by the brutal challenges undertaken by the earliest settlers in Massachusetts and Virginia and by the bloody break with colonizing English rule in the eight-year-long Revolutionary War. The subsequent “pioneering” and “settling” (and constant “re-settling”) edges of continental American expansion—from the boundaries of the original Thirteen Colonies to the Rockies and golden shores of the Pacific—fostered a strenuously pragmatic character rooted in the twin motives of freedom and opportunity.

Every sustaining sovereign nation, to be sure, has its own history of acquiring a labor force to survive the brutal exigencies of its wars and to prosper during times of peace. The difference was that the post-Revolutionary War risk-taking inhabitants of the North-American continent were a historically new kind of self-reliant citizenry. Based on such foundational documents as the Declaration of Independence and United States Constitution, they became a self-reliant work force enjoying liberty and opportunity under the law, in contrast with the aristocratic governments of England and Europe still controlling minority pools of skilled craft workers as well as oppressing the majority of peasant classes. The same top-down hierarchically

stratified conditions prevailed in the centuries-old non-progressive civilizations of India, China, and Japan.⁸

It is worth further expanding this “New World” historical account in view of the *de facto neglect of its philosophic implications in the Analytic and Continental playbooks*. In the generation following the American Revolution, figures such as Emerson and Walt Whitman came to articulate this newly forming, and future-oriented, “American dream” experience in which each free generation has the potential of excelling its previous generation. Along with his inaugural work *Nature* (1836), Emerson’s early essay “The Young American” describes how the young Americans were facing the “prospects” of a vast geographical landscape replete with new resources for the risk-takers.⁹ Walt Whitman’s “Leaves of Grass” (1855) inscribed the classic poetic version of this New World experience, as he did again in his “Democratic Vistas” prose work.

Such was the *pragmatically consequential* New World spiritual climate of the North American continent—arguably requiring, and fostering open-ended experimental intelligence that reversed the direction of the centuries-old conservative and hierarchical *stasis* of most if not all of the contemporary “climate and culture” conditions of Europe, Mexico and South America, and the Middle East (of the sprawling Ottoman Empire), as well as the still tradition-dominated landmasses of India, China, and Japan. (An illuminating case in point, when Commodore Perry sailed into Tokyo Bay in 1853, he encountered an almost 300-year Tokugawa shogunate regime comprised of 250-odd feudal territories with centuries-long patterns of unchanged social hierarchy of non-citizens—even the daimyo-dependent samurai class did not have citizenship in the Western social contract sense.) By contrast, the constitutionally democratic, pioneering, and westward-expanding generations of New World citizens engendered a new “work ethic”—namely, in Emersonian terms, the historically unparalleled American sense of pragmatic affinity with the plenteous natural resources of a sprawling continent.

In due course the 19th-c continental American lifeworld of such a free entrepreneurial milieu excelled in its technological inventions: and in due course it produced a distinctly new generality of philosophical expression in the form of the proactive, pluralistic, exponentially proliferating, epistemological and ontological Pragmatisms of Peirce, Wm. James, and Dewey.

Though Peirce was the heavier theorist—who enshrined risk-taking in his unprecedented ontology of “absolute chance” (tychism) and in his corresponding epistemology of “uberous” abductory scientific inference—the writings of William James, a world-famous leader in the field of empirical psychology who was himself an inveterate traveler to England and the European continent—can be cited as distinctly recognizing the differences between an American-styled “radical empiricism” and the “ordinary empiricism” of the British tradition; at the same time, James came to draw

8 Fukuzawa Yukichi’s *An outline of a Theory of Civilization* (1875) was in its day (the early years of the Meiji Restoration in Japan) and still remains today a perceptive expression of the backward-leaning cultural *stasis* of the countries of Asia, the Middle East, South America, and even of Europe, in contrast with the forward trajectory of 19th-c. North-American civilization.

9 Cf. Emerson’s powerful essays “The Method of Nature” (1839), and “Nature” (1844).

a sharp contrast between his philosophy of “pure experience” and the deterministic “noetic monist” systems of the Cartesian, Kantian, and post-Kantian strains of Continental transcendentalism. And here it is important to observe that neither Peirce nor James were culturally chauvinistic; they participated in the international networks of science and philosophy of their day, and did not philosophize under any partisan nationalistic identity; but their writings carried on the new “continental American” sense of experiential prospects in theoretically unprecedented registers.

Well then, all history is contemporary history. Historical formations are not just discontinuously linear. To a recognizable extent—I am arguing here—the “climate and culture” backgrounds of British, Continental-European, and continental-American history continue to subtend the habits of thought of the contemporary Western academy—just as quite distinctly other traditions, other habits of thought, continue to subtend, for example, Islamic, Indian, Chinese, or Japanese schools of thought. Such a consideration of the evolving continuities of historical mind is a special application of Peirce’s concept of synechism (“the one law of mind”), as we will see below in due course.

Much more can be said of each of the contemporary schools of thought; and, of course, certain nodes of the three scholastic tendencies overlap in minor figures. (Rorty and Quine are examples.) Adherents of the three schools may replicate the teachings of the iconic figures or depart from their sense-making paradigms in various degrees of intent or competence. Suffice this much for the present moment. The purpose of this brief statement is to lend credence to Crease’s descriptions of the “three wings” in contemporary philosophic practice. British-Analytic and Continental European “styles” carry on time-honored logical-empiricist and reflective-hermeneutical traditions, respectively, while the American tradition has produced new emphases on Transcendentalist life-in-nature and consequential-futuristic pragmatic orientations of thought. Given the “business” pressures of the contemporary philosophy profession, the new generations of scholars tend to opt into one of these styles, become trained in them, and often pursue “slotted careers” while remaining blinkered technicians in their chosen craft. In their *business* of hiring, publishing, conferencing, and networking, these three meta-styles become *marketplaces* of first principles, privileged methods, ontological Archimedean points, and authorial perspectives.

2 Recurrent directions in the physics workshop

Robert Crease first pursues his comparative account with reference to current directions in the physics workshop, then to corresponding themes of physical time and space, of the nature of quantum mechanics, and of interpretation of scientific method. I will follow his lead here.

As to current directions, Crease indicates that the Analytics have dominated the field, generally focusing on meta-issues of conceptual logic in the philosophy of physical science. They take their analyses directly *inside* the physics workshop—Crease says—whereas the Pragmatists and Continentals work *outside* of it.

Thus, in contrast with *insider* Analytic meta-physics, the *outsider* Pragmatists frame *emergent* cosmological and historical trajectories of the sciences and the arts. As inspired by Emerson and exemplified in Peirce, they focus on the continuum

of mind and nature, postulating the instinctual foundations of our human share in evolutionary DNA, so to speak, through which experimental discovery is achieved by competent inquirers in the special fields of research as well as in the array of technological and entrepreneurial practices of society. The iconic Pragmatists ring many changes on the theory of *inventive* exploration, which has its provenance in *the theory of the imaginative genius* that traces back to Kant's third *Critique* and like transmissions through the writings of Goethe, Schiller, Schelling, and others. In point of historical fact, this post-Kantian development became a trans-Atlantic paradigm of thought as it was received by Emerson and imparted to Peirce in due course. It remains under-reported and under-appreciated in the Analytic and Continental literatures.¹⁰

As for the Continentals, they also engage the physics workshop from *outside*; they too posit the larger trajectories of lived experience; but, in contrast to the Pragmatists, their tradition of "critical reflection" tends to run in the direction of formulating liberating evaluations of contemporary scientific practice rather than the Pragmatists' endorsement of prospective-emergent approaches to Nature itself. They draw upon the legacies of Continental moralism (as in Rousseau, Fichte, Hegel, and Marx) and of decreative and world-fleeing strains (as in Schopenhauer, Kierkegaard)—as well as of Nietzsche's genealogical program of the "transvaluation of all values" or of Jaspers' peri-ontological "shipwrecking" of the empirical world. While drawing upon their own Buddhistic heritages of Asia, the Japanese Kyoto School has basically aligned itself with the existentialistic impetus of one or more of these European Continental strains.

In contrast to such transvaluating Continental traditions, Emerson wrote the script for a distinctly positive experience of self-reliant intelligence in his maiden classic *Nature* (1836), which called for "an original relation to the universe" by way of advancing the concept of the "consanguineous" sign-languages of Nature's resources for co-respondent human opportunity and prosperity. Peirce, James, and Dewey carried on the new lifeworld experience of Nature framed by Emerson as commodity, as discipline, and as semiotically prospective universe. They were Emersonians promoting the potentials of the democratically free inquirer and risk-taker in Nature and History. Thus, while each had high professional credentials—Peirce in mathematics, physics, chemistry, and metrology, James in empirical psychology, Dewey in social science, respectively—they each developed melioristic frameworks of Pragmatism at more encompassing levels of pluralistic epistemology and evolutionary ontology pertinent to the gamut of the burgeoning special disciplines of their day.

Once again, the Continental approach to the discipline of physics and the other special "workshops" of our times has continued to run in a different direction. If I may indulge in an extravagantly broad term, I will call this the Hegelian Octopus that has subtended the various strains of Continental thought. Hegel, the Marxists

10 The notorious situation has been that the first wave of Peirce studies has been dominated by Analytic interests which have concentrated on epistemological issues in the early Peirce to the neglect of the blossoming of Peirce's metaphysical writings in the second half of his long career. Here again, let me cite Ivo Ibrí's *Kosmos Noetos* as an authoritative antidote to this early trend in Peirce studies.

say, *rationaly understood* the world in the imploding circle of his dialectical system of absolute Idealism; but they—leftwing Hegelians—are out *to change* it, *to redeem* it now in their secularized-messianic model of political revolution and regulative control. This *activist* direction still engages a conspicuous form of “dialectical reflection” on the public lifeworld where the gamut of the sciences and the arts are re-set within the model of the primacy of moral-political praxis. Another version of liberative praxis has taken the form of the postmodern version of “difference,” which, as in Foucault’s or Derrida’s rhetorical strategies of presence and absence, inscribes a hermeneutics of suspicion with regard to the public spaces of all institutional constraints, including the ‘hegemonic,’ i.e. authoritative, signifiers of the physical, social, the humanistic sciences. Hannah Arendt, working with the presuppositions of the hermeneutical tradition of Bergson, Heidegger and Jaspers, inscribed this “reflective” attitude in the form of a dismal critique of the physic workshop’s putative “world-alienation” and “earth-alienation”—with skeptical overtones as to modern science’s causal links to totalitarianism and, somehow, even to democracy—together with her own call for a new kind of “authentic” political praxis.¹¹ Leftwing feminism has also aligned with and gained traction within the Hegelian Octopus.

Thus, once again, to paint with the broad brush of comparative hermeneutics, the historical momentum of this Continental trajectory tends to feature degrees of crisis-management skepticism with regard to all forms of authoritative scientific analysis in comparison with the sense of affinity with nature in evolutionary engagement featured in the Pragmatist authors. The Pragmatist tradition, to be sure, has its own form of *reforming* intelligence in its front and center doctrine of Peircean *fallibilism* and subsequent emphases on experimental intelligence in James and Dewey. Peirce’s procedural dictum, Do not Block the Road of Inquiry, is the classic orientation. The impetus of Peirce’s sense of inquiry is not “methodically” skeptical as in Descartes’ “paper doubt” and its epistemic consequences in the history of modern European thought; it rather opens the door toward progressive, pluralistic, *self-correcting* factual inquiry, and thus again not toward forms of morally regulatory political oversight.

Peirce’s “affine” and “congenial” sense of the human mind’s semiotic relation to Nature has a clear provenance in Emerson’s writings, and is carried on in James’s “melioristic” Pragmatism and the generously affirmative implications of his theory of “pure experience.” Peirce, for his part, excelled in featuring the “uberous” instinctive bases of “qualitative induction” (which is to say, “qualitative abduction”) in Nature’s and History’s forward-moving “mellonization.”¹² James described the horizons of the “ever much moreness” of experience’s “novelties always leaking in.” But as well, the founding texts of Pragmatism are remarkably un-nominalistic in emphasizing the objective causalities and fatalities of Nature and History along with their positive resources for human intelligence *in futuro*. But, once again, this American heritage of forward-moving scientific intelligence has been put under erasure by the a priori temperamental rationalisms (in Peirce’s phrase) of both the Analytic and Continental camps.

11 CREASE, 2017, p. 44.

12 On Peirce’s sense of qualitative abduction, see DILWORTH, 2015, p. 233-258; and IBRI, 2017, p. 77-98.

The orientation toward fallibilistic, self-correcting, experimental heuristics of scientific method was the epistemological side paralleling Peirce's ontological cosmogony in his pivotal mid-career writing "A Guess at the Riddle" (1887-88); he further framed these progressive trajectories in "The One Law of Mind," "Evolutionary Love," and other ground-breaking metaphysical essays of the early 1890s. Then, in later writings on the place of theoretical *normative sciences* in an overall classification of the sciences of discovery—namely Esthetics, Ethics, and Logic—he prioritized Esthetics as the *summum bonum* of the universe's "esthetic admirableness"—a cosmic ideal of "concrete reasonableness," that is to say, of "energetic reasonableness—over the normative sciences of Ethics and Logic. With regard to the contemporary physics workshop, such components of an esthetically-normative architectonic system have no parallels in the Analytic and Continental camps. In effect, Peirce continued to elaborate the theory of the inventive genius that is basically absent in the Analytic and Continental literatures.

Continental philosophers—as Crease sums it up—tend not to be interested in questions of *reduction*, as found in Analytic philosophy, nor of *emergence*, as in the Pragmatist tradition. While he cites Bergson as a proto-Continental philosopher, Bergson could also be regarded as a bridge figure to Pragmatism. In *Process and Reality* Whitehead conjoined Bergson's theory of creative evolution with the Pragmatist worldviews of James and Dewey. The representative contemporary Continentals (Crease cites Husserl, Heidegger, Merleau-Ponty) more emphatically carry on the shaping of the human workplace's activity in registers of "authentic" lifeworld *critique*. Suffice to say here that neither Husserl's neo-Cartesian point of departure in the *epoché* required for eidetic intuition nor Heidegger's existential analytic of Dasein issue in a Bergsonian or Whiteheadian sense of creative evolution; even less so do they carry on Peirce's cosmogonic sense that underwrites the possibilities of an uberous plasticity of intelligence within the wide array of the sciences and arts.

3 Re: physical time and space

Einstein, according to Crease, rejected Bergson's sense of the *élan vital* as subjective and psychologistic. (The Japanese philosopher Nishida Kitarô (1870-1945) lodged the same criticism in several of his writings.) There is a longer story here, but it must fall outside of the present discussion. Of immediate interest is that, for their part, Continental philosophers profess to be Bergsonian in propounding a "durational" sense of time by way of "temporalizing" the new in the wave-flow of past perceptions and future protentions. In Crease's terms, "The time of the clock depends on the time of the clockmaker," who so acts through a Bergsonian sense of time-consciousness. This is not the ordinary *scalar* sense of time—(implicating "the fallacy of simple location" as critiqued by Whitehead in *Science and the Modern World* and hugely anticipated in many passages of James's *Some Problems of Philosophy* on the "drops or buds of perception"¹³)—but predominately again the Continental sense of the "durational time" of what Crease calls the "big world's" temporality outside of the physical laboratory. Such a "public space of time" again inherit and carry forward the critically reflective projects of Fichte, Hegel, and others

13 William James, *Some Problems of Philosophy*, ch. 9-10, in *Writings 1902-1910*, 1987.

who constituted the externality of the world within transcendently governing dialectics of encompassing human community.¹⁴

For its part in our comparative hermeneutic, the Emersonian, Peircean, and Jamesian “world-shop” can again be thought to be more ontologically comprehensive. Peirce especially frames the scientific workshop within a more panoramic worldview.¹⁵ He valorizes an evolutionary lifeworld for any and all of the progressively discovering sciences and arts by modeling Nature and History in the co-valently ontological-semiotic terms of an objective, resistant, physical world (categorical Secondness), having indecomposable “variescent” edges of spontaneity, randomness, novelty, or “absolute chance” (categorical Firstness, tychism), together with developmental habit-expansions and their exponential complexifications (categorical Thirdness, synechism). It would be a reductionistic category mistake to convert the pluralistic, open-ended trajectory of Peirce’s trivalent categories and their normative applications into any form of reductive materialism or nominalistic sociopolitical *praxis*. Peirce shares with his New England Transcendentalist neighbor Emerson a sense of cosmic worldview that prioritizes Esthetic normativity over the Ethical and the Logical, set in an ontological framework of Objective Idealism (indebted to Schelling).¹⁶

But then, in Peirce’s terms, the Analytic meta-physics features a much tighter contemporary workshop dominated by its empiricist-inductive method of determinant Secondness.

For its part, the Continental may be thought to have an historical sense of habit-formation, but Hegel’s exemplary articulation of history turns out to underwrite be an “anancastic” (necessitarian) framework, which in Peirce’s analysis of it is an encompassing rationalistic system of categorical Thirdness in the form of an discursively immanent, deductively unfolding, of an Absolute’s self-consciousness.¹⁷ Peirce’s cosmomorphism traverses both the Analytics and Continentals in having a more general orientation toward unfolding noetic intelligibility that valorizes the evolving array of heuristic sciences and arts in fallible, open-ended possibilities of inquiry. He refers to his worldview as hyperbolic in distinction from elliptic or parabolical worldviews, the latter (such as Hegel’s) repossessing the traditions of pre-determined rationalism. In his own way James continued, and in fact excelled, in rejecting the forms of “noetic monism”¹⁸ and in expressing the panoramic, multi-functional, pluralistic universe that Peirce evolved in the terms of his Objective Idealism as “a universe perfused with signs.”

How, then, to account for the Pragmatist tradition’s more panoramic and open-ended trajectory of inquiry, indeed especially for its anticipatory relish for the Schellingian “positive philosophy” of the *unvordenkliche*? First, going back to my

14 On Fichte’s transcendental constitution of externality and its parallel in Hegel. See VATER and WOOD, 2012.

15 See IBRI, 2017, p. 57-67.

16 On Peirce’s relation with Emerson, see especially GUARDIANO, 2017. On Peirce’s Objective Idealism, see also IBRI, 2017, p. 45-56.

17 See DILWORTH, 2015, p. 57-86.

18 See JAMES on noetic monism, 1987, p. 1040-1078.

earlier comparison of the *geographical-historical* landscapes (lifeworlds) of British, Continental European, and American heritages, I am inclined to see a reason for the more dynamically pluralistic sense of a “*vorgefundenes* world”¹⁹ articulated in the Pragmatist’s “continental” lifeworld. As indicated above, the Revolutionary War, the War of 1812, and Civil Wars were bloody markers of heroic physical efforts along the way of realizing a new historical saga of open possibilities for *free citizens* competing for the spiritual as well as material resources of the continent (as distinguished from the still slumbering cultures of 19th-century Mexico, Central and South America, of the Ottoman Empire, of India, China, Japan, and of many other such aristocratically controlled lands of western and eastern Europe). In the Old Worlds the lands were already owned, the money made and monopolized, whereas the new North-American populations, often amidst excruciating hardships and brutal internal conflicts, continued to enact its New World destiny as a self-reliant, risk-taking, fortune-hunting, opportunity-probing, *free* populace. It “settled”—and “resettled”—a myriad of different recalcitrant landscapes as it pioneered westward along with the expansion of the trans-continental railroad and other newly opening access routes. Despite the myriad of setbacks and abuses (as in the horrific sagas of the Civil War and the “Wild West”), these hard-fought expansions created further phases of a *national psychology* that lived and died by venturesome, sometimes perilous, experimental intelligence required to *work* (and to *fight*) within a *democratic constitutional framework*. (The fate of the native American Indian populations and the history of slavery before the Civil War do not make for a pretty picture, but are part of the larger story.)

In the very midst of such a timely upturn in opportunity for the expansion of human energy, on a personal scale, Emerson wrote the philosophical script for the 19th c. American sense of democratic freedom, self-reliance, and hard work. “Work is victory!”—Emerson wrote—and his articulations of the American character were grounded in his own lecture-travels to over 1400 cities in the northeast and midwest of the United States and Canada.

My argument here is that the tri-dimensionality of Peirce’s semiotic ontology—involving the three co-valent variables of absolute chance, brutal resistance, and open-ended possibilities of re-interpretant representation and conduct—as well as the multi-functionality of conjunctive and disjunctive relations in James’s dynamic concept of “pure experience”—captured and crystallized the Emersonian *work-ethic psychology* of the efficaciousness of experimental intelligence and entrepreneurship, in philosophically symbolical forms. This was, again, in contrast to the smaller regional identities and settled cultural lifeworlds of the Old World’s feudalistic, aristocratic, and nationalistic ideologies.²⁰

But now, to my estimation of this *geo-historical* consideration of the climate and cultural lifeworld of 19th-century Pragmatism, I have another tipping point—one

19 JAMES, 1987, p. 1006.

20 Emerson has been consistently put under erasure by Analytic and Continental schools as a major American *philosophical* figure. This happens to be another sign of the a-historical blinkered attitude of both camps. I have previously cited how Peirce, for his part, and in witness to his historical sense, in a manuscript (MS 1494) of 1905 regarded Emerson as having the epoch-making breakthrough stature of a Socrates and a Zeno the Stoic.

must always influence our mind as historians of philosophy. It is that we should honor novel breakthroughs of ideas—the paradigm changes and other uberously disclosive works of individual geniuses and of the *Zeitgeist* inventions of epochal communities—in their *first* strategic points of historical origination. In that respect, the Pragmatist *Weltanschauung*, which goes *beyond* traditional British “ordinary empiricism” with its more “radical empiricism” (in James’s words), proves to have come before the Continental in time sequence. Husserl may have been a contemporary of Peirce and James, but Peirce and James wrote a full gamut of Pragmatist “world” descriptions well in advance of the transcendental noesis of Husserl or the “existential worldhood” analytics of a Heidegger or a Merleau-Ponty. And let us not forget how Emerson influenced the proto-Continental Nietzsche as well as lighting the stage for Peirce, James, and Dewey.

Much of this historical story is kept under erasure in the self-aggrandizing Analytic and Continental schools, which filter the interpretive variables for their own purposes. One continues to encounter Continentals basically ignorant of Emerson (despite his important influence on Nietzsche) as well as of Peirce (even among many contemporary Pragmatist scholastics). While now achieving a foothold on North-American academic soil, contemporary Continental scholastics can be said to be advancing an “offshore model,” in some cases even a retrogressive model of current European socialism, in significant contrast to the Pragmatist melioristic strains. The Continental is a culturally querulous model, and has generally aligned itself with neo-Marxist critical theory and is flourishing in the over-regulative, activist p.c. politics in leftwing academia. The Analysts have another “offshore model” in the form of variations on the nominalistic prototypes of traditional British empiricism.

4 How to interpret quantum mechanics?

Robert Crease’s approach, while ostensibly promoting certain nuances of the Continental hermeneutical reading of contemporary physics science, provides a “fair and balanced” access to the issues; if anything, in working out the *significant implications* of the directions of interpretation of the three schools his approach can fairly be regarded as illustrating a Pragmatist method of clarification of meaning. He shows how each school moves the goal posts through experiential and theoretical consequences.

Be that as it may, Crease’s *Philosophy of Physics*’s next section of consequential interpretations of the physics workshop starts with a discussion of the dauntingly difficult *quantum physics workshops* of Plank, Einstein, Heisenberg, Bohr, and others, while indicating that a “true philosophical solution” to the ontological problems quantum mechanics raises has not been achieved.²¹ But of course, it will not be physicists qua physicists who achieve such a philosophical solution. The three contemporary meta-schools address the problems as competing *philosophical* orientations; and their situation is that they are only *contemporary* schools speculating on the dark matters of quantum physics. In broader perspective of the radiating life of philosophic mind we must ever return to the theoretical accomplishments of the great, first-tier, philosophers who have made the history books for having produced

21 Cf. CREASE and GOLDHABER, 2014, p. 74-75.

enduring resources of ontological paradigms to date. Some are more historically venerable, others more contemporarily viable, but none entirely fades away, having bequeathed archetypal expressions of the possibilities of philosophic thought. What is merely contemporary, on the other hand, is liable to fade away in its too short-lived ephemerality.

Peirce's system of objective Idealism, as we have seen and will further see, is not so merely fashionable: it has deep roots in the mainstream history of philosophy and commands attention for its shedding new light of perennial issues pertinent to the consideration of quantum physics.

Crease and Golhaber's *The Quantum Moment* is an example of under-reporting Peirce's philosophic contribution here. They take note that at the end of the nineteenth century, "the American philosopher-scientist Charles S. Peirce proposed that randomness lay at nature's very core; this, he felt, would prevent scientists from coming up with one final set of laws valid for all scales and disciplines, and require them to keep producing new laws." "But"—they continue—"as the twentieth century began, this was still idle metaphysical speculation, and looked like philosophical meddling."²² They go on to credit Einstein for having "transformed statistics and probability ... into a structural element of the world" in a series of papers on quantum theory written in 1916-17.

The more consequential point I am making here, however, is that, in the historical life of the human mind, Peirce's philosophical speculation should be accorded a greater weight for its *vorgefundenes* achievement. It was Peirce who most conspicuously overthrew the classical Newtonian physical paradigm in the generation before the 20th-century physicists workshop, attacking it at its root source not only in the "Newton moment" but even more foundationally in Descartes and the ensuing Continental rationalist and British empiricist traditions' dichotomies of subject and object, mind and matter. In tandem with that, Peirce conspicuously overthrew the "corollarian" (axiomatic-necessitarian-deductive) presuppositions of Euclidean mathematics as well as of axiomatic mathematical physics, whereas the contrarian Einstein, who was a kind of religious Spinozist, in the long run proved to remain a "necessitarian" as to the structural randomness of nature.

We can address the same point in regard to the scope in theoretical generality of the three contemporary schools. As noted above, the necessity of taking the growth of ideas in the history of philosophy as strategic bedrock is not the strength of the Analytic school, which has rather preoccupied itself with its own self-reproducing a-historical linguistic turn in the contemporary marketplace of philosophic debate. And yet, as Crease records, the Analytic guild has dominated the contemporary philosophic discussion of quantum mechanics, focusing on the interpretive problems in its playbook of rigid logical and semantical rules, and engaging in current intramural debate in such terms.

For the alternate Pragmatist approach, Crease cites Dewey as declaring the Pragmatist tradition is a forerunner to quantum physics in its doctrine of active experimental observation playing a necessary part of what is finally known. By itself, this is too little: Dewey's statement is too blandly anthropomorphic to satisfy the rigorous problematic of quantum mechanics. And for its part too, Continental

22 Idem, p. 74-75.

philosophy—which begins with Husserl’s bracketing out of the natural attitude that is still operative in classical Newtonian physics—investigates “the raw data, so to speak” of “how things appear to us.” The Husserlian phenomenologist, Crease continues, “describe[s] the being, the ontology, of things that are revealed piecemeal in the world via profiles to embodied observers.” The quantum phenomena show themselves differently not by naked perception but as mediated through “profiles” of instrumentation, and thus in asymmetrical paths “dependent on the order of decisions that take place”—or are “made present by experimental contexts”—in the physicist’s workshop, with respect to the present moment and for the future. By itself, this sounds too nominalistic as well.

With respect to Heisenberg’s uncertainty principle in competition with classical Newtonian assumptions as to the wave- and momentum-position of particles, Einstein remained a contrarian until he died. In that limited respect, despite his declared physical determinism, he was a kind of Peircean fallibilist in keeping the road of future inquiry open. In its description of “profile instrumentation” it appears that the Phenomenologist’s method, to some degree, trades in the currency of contemporary activities of the scientific observers engaged in quantum experimentation. Is this a variation on a subjectivist interpretation of the Bergsonian type, or just a “matter of taste,” as Einstein critically remarked? Husserl’s approach explicitly drills down into the transcendental depths of *noesis*: the *noema* is the objective end of the intentional structure of *noesis*. Dewey’s Pragmatism appears to be in the same case, though in its quasi-nominalistic form of a twentieth-century “consensus science” sociology of knowledge. The Analytic approach appears to be even more nominalistic in its emphasis on conceptual *meta-rules*, rather than on the energetic forces of the metaphysical cosmos that generates physical and philosophical intelligibility in Peirce’s sense.

So then, bringing Peirce back into the discussion, his late 1880s and early 1890s metaphysics essays fully anticipated—wrote the philosophic script for—the indeterministic model of physics later formulated by the quantum theorists of the twentieth century. But, once again, philosophy is not physics; it thrives in its own register of greater generality. Peirce’s 1903 architectonic classification of the sciences sets the “heuristic” (truth discovering) sciences of mathematics and of metaphysics (a branch of coenoscopy) in orders of logical apriority over the special sciences (idioscopy), whether of the physical or psychic types and sub-types (the hard and soft sciences). His cosmogonic metaphysics predicates epistemological and ontological indeterminism *in the nature of things*. It is not directly a quantum mechanics at the level of instrumentation and observation in the contemporary physics workshop; it is rather designed to open the philosophic door to any kind of future indeterministic theory at the level of the physics workshop, while its guiding principle of fallibilism requires that all such physicist narratives of an idioscopic kind will not reach the bottom of the tychistic “universe perfused with signs.”

Peirce’s classic statement of his objective Idealism is that “the one intelligible theory of the universe” is that “matter is mind hidebound with habits”: mind does not emerge from matter, rather matter is partially deadened mind. Peirce’s metaphysical indeterminism guarantees the epistemological open-endedness of inquiry along the entire spectrum of the exponentially complexifying sciences and arts and across the generations and epochs to come, while putting to bed all “necessitarian” or

“anancastic” theories (e.g. whether Newtonian in physics, or Hegelian in rationalist philosophy, or Marxist-utopian in liberative praxis, or reductive in empiricist-logicist modes). Revising Aristotle’s, Kant’s, and Hegel’s categories, Peirce accomplished such a new Copernican revolution at a higher level of philosophic generality while suggesting the possibility of further Copernican revolutions *in futuro*.

5 Is there a scientific method?

Here Crease’s text on the philosophy of the physics workshop goes on to raise the question: *Is there a scientific method?* The question is strangely belated, in that the discussion of the three schools has all along been about methodic procedures in considering the activities of the physics workshop.

Given the diversity of sciences and sub-sciences—mathematical, philosophical, and the idioscopic (the hard and soft sciences)—this is not the question of a single cast-iron scientific method; rather—shades of Aristotle’s doctrine concerning the variety of subject matters and their corresponding methods—it comes down to each and every workshop of scientific activity having its special goals and procedures. But the question can and should be addressed on the general level of philosophic inquiry. Peirce addressed that as *the logic of inquiry in general*.

Here, in passing, it becomes a fair question to ask whether, following after Nietzsche, postmodernism’s anti-scientific, fractious, deconstructive trajectory—itsself reacting internally against the sublational method of Hegel and other transcendentalists—has been one of the hallmarks of the Continental rhetorical style of our time. Peirce definitely come backs into the picture here in ways spot-on relevant to the discussion of *scientific method*. Here it is perhaps relevant to recognize the sense of lifeworld in Peirce’s own biography whose career consisted of polymathic activities in mathematics, in the hard sciences (e.g. physics, chemistry, astronomy, metrology), as well as in acquiring considerable expertise in the emergent soft sciences of his day (e.g., psychology, which he shared with James). He perhaps operated in and out of more “workshops” of scientific expertise than the “rest of the bunch” of modern Analytic and Continental philosophers combined. But not to indulge in invidious comparison here. It will be more fruitful simply to re-emphasize that Peirce’s long neo-Aristotelian career—fortunately conducted almost entirely outside of academia which would have crimped his freely ranging genius—had as one of its consistent motivations to clarify *the logic of scientific inquiry in general*.

The first signs of Peirce’s categories with regard to the logic of inquiry are traceable to his early Kant-revising epistemological writings; his initial effort of revising Kant’s categories then blossomed into ontological and semiotic categories that subtended his interpretation of “scientific method” along the gamut of the sciences of discovery. Thus after “Some Consequences of Four Incapacities” of 1868, Peirce wrote the script for distinguishing the *methods of non-scientific* ways of settling belief or opinion (the *methods* of tenacity, authority, and a priori temperamentalism) from *the scientific method*. He formulated the scientific method as the democratic, ongoing and open-ended, fallible yet self-correcting, pursuit of the objective truth that transcends any individual, community, generation, epoch, of inquirers. In two essays, “The Fixation of Belief” and “How to Make Our Ideas Clear” (both in 1878), he famously produced his initial definition of Pragmatism. At the

same time Peirce began to underwrite the epistemological, ontological, and semiotic formulations of the logic of inquiry by determining the three possible forms of *valid inference* (deductive, inductive, and abductive) that function in all the modes of methodic reasoning (mathematical, coenosopic, and idiosopic). His variations on Pragmatism constituted the Objective Logic of his Objective Idealism.²³

But then, Peirce's many clarifications of the three valid forms of synthetic inference (deductive, inductive, and abductive) are the smoothly fitting keys to answer Crease's query, *Is there a scientific method?* Accounting for all the logically valid forms of necessary and probably inference, Peirce particularly places inductive and abductive forms of inference at the heart of open-ended fallible progressions of scientific intelligence. They go far beyond Kant—rejecting Kant's thing-in-itself and quest for apodictic certainty—while satisfying Kant's initial query as to how mathematics and natural science are possible. The trajectories of Peirce's epistemic-ontological formulations expose the concept-bound nominalism of the Analytic characterizations of scientific method. But again, Peirce's characterizations of the logic of prospective, self-correcting, and ramifying scientific intelligence in a cosmogonic universe that is “perfused with signs” for open-ended possibilities of sign transferences, can be recognized as traversing the Continental's often politicized, regulatory or dismissive, transvaluational trajectory of hermeneutical reflection, and collides particularly with the anti-scientific rhetorical programmatics of postmodern “difference” and its fractious language games of identity politics.

Though a minor point, this might be the place to query Crease's characterization of the Pragmatist method as engaging in “puzzle-solving.” The term sounds foreign to my ear. Does that term appear in the writings of the epigones of Pragmatism, Peirce, James, or Dewey? Is Pragmatism another nominalistic “language game”? To the contrary, James takes on such questions as the One and the Many, the Existence of a Provident God, the Varieties of Religious Expedience, the Meaning of Truth, the experiential matters of “novelties forever leaking in,” in so many serious ontological contexts; to James these are foundational questions not easily grasped in the minor key of “puzzle-solving.” Dewey proceeded in the same over-arching way in his many-sided agenda of overcoming the embedded dualisms in theory and cultural practices. “Puzzles” seems too thin a word for Dewey too. As for Peirce, his turning-point work “A Guess at the Riddle” (1887-88) tackles the “riddle of the Sphinx” (inherited from Emerson and reaching back into a similar language of Kant, Schelling, Schopenhauer)—namely, the mystery of Nature and History, of the Universe, of Reality. In a “Guess,” Peirce designed his three categories of Firstness, Secondness, and Thirdness as abductory-hypothetical concepts for heuristic inquiry into the entire gamut of mathematical, metaphysical, and special sciences (such as psychology, physiology, biology, and cosmological physics), and went on to expound them further in his five *Monist* metaphysical essays of 1891-1893. “Puzzle-solving” is far too tame for his self-proposed “Neo-Aristotelian” breakthrough in the logic of inquiry, which he himself mused would be “one of the births of time.”

But to cut back to the chase. In contrast to the *short run* Analytic debates over logistic-semantic aspects of quantum mechanics and other concept-trains of contemporary physical science, Peirce formulated a *philosophy of physical qua*

23 See IBRI, 2017, p. 77-89, and p. 99-103.

cosmical science for the objective long run. And this was part and parcel of his declared “Schelling-fashioned” objective idealism, “the one intelligible theory of the universe” which posits that matter is partially deadened mind, mind that has become hide-bound with habits. His pragmatistic formulation of the far-ranging radiations of the impetus of scientific enterprises promotes the teleological efficacy of ideas as illustration of his “one law of mind” that is the synechistic law of all *mental life*, through which new ideas tend to spread, losing in intensity while gaining in generality and melding with other ideas in patterns of connatural complexification in Nature and History. Such is his “heuristic” or “discovery” sense of the laws of nature in the habit-forming evolutionary Reality. His essay on “Evolutionary Love” (1893) captures theological and Darwinian aspects of this self-expansive teleology of mind in the universe. His “one intelligible theory of the universe” accordingly postulates a universe “perfused with signs” co-valently comprised of iconic qualisigns, physical indices, and open-ended interpretant and re-interpretant features.

Now, I would again note here that Peirce’s architectonic formulation of the *long-run* developmental plasticities of objective mind in general, including the methods of scientific intelligence in any narrower sense, has been grossly under-reported in the contemporary scholastic camps. It is an ontological heuristic surpassing the Continental focus on hermeneutical lifeworld which works its reflective critique of science in a lower register of existential-political-moral considerations of the contemporary physical workshop. Notoriously in such epigones as Husserl, Heidegger, Jaspers, and Arendt, the Continental lifeworld concept has taken the course of rendering querulous moralizations of the contemporary physics workshop’s putative “world-alienation.” The Continental “critique” is dyadically conceived, in a logic of presence and absence, subjectification and objectification, concrete and abstract dimensions, as distinguished from Peirce’s triadic ontological semiotics of the panoramic, prospective, self-correcting, eidetic universe of “concrete reasonableness.”

On a smaller scale this difference was already played out in Nietzsche prior to the scholastic development of Continental philosophy. Nietzsche was first strongly influenced by the pessimism of Schopenhauer; in due course he discovered Emerson’s affirmative worldview, which turned Nietzsche’s text into a *mélange* of affirmations of the “will to live” and criticisms of “the Germans of the old stamp.” But his “transvaluation of all values” hammered against the authority of scientific objectification as well as all other authoritative claims to the same effect, without achieving anything like Peirce’s sense of the eidetic unfolding of the objective universe. Bergson’s error of conceiving scientific concepts in static a-temporal terms, instead of conjugating them with percepts in the creative evolution of experience, also fell short of the triadic semiotics of Peirce and James.

In the implication of such terms, the Analytic interpretation of scientific method trades in the currency of logicist-quantitative induction; the Pragmatist in that of qualitative (abductive) *and* quantitative (inductive) *as well as* synthetical, or analogical deduction (combining qualitative and quantitative in *in futuro* representational propositions); while Continental lifeworld reflection tends to dichotomize the quantitative and the qualitative, ala Bergson, thus forcing a moralistic critique of “world alienation” in reconstructed synthesis of “concrete universal” or “praxis” of the putative “authentic community.” Such a reconstructed critique of “world alienation” can be regarded as redolent with Rousseauian, Hegelian and Marxist senses of

dialectical-sublational synthesis—as distinguished from the indecomposable covalences of Peirce’s Firstness (tychism, absolute chance), Secondness (the outward clash, experimental facticity, brute otherness), and Thirdness (self-correcting growth *in futuro*).

In the corresponding terms of Crease’s account of the three schools, the Analytics outline criteria for the scientific method that rigidly require methodic confirmation of the logicalist-inductive sort of conceptual reduction; it focuses on theorizing and confirmation rather than experimentation and practice, while, as Crease indicates, it “screens out other aspects, such as conjecturing, imagination, and discernment” (which are precisely the qualities of Peirce’s abductive inference!), “relegating these to psychology and sociology.” The Continental playbook emphasizes what is crossed out by the Analytics, but in the service of dualistically conceived psychological and sociological critique of scientific objectification in an encompassing “concrete universal” (read: “politically authentic”). The two sides of Husserlian neo-Cartesian and of Heideggerian Dasein transcendental constitution work together to achieve such lifeworld critiques of science. And in its post-Heideggerian (French) postmodern strains, some of the more current Continentals relish in a truth-unhinging, ironically “ludic” literary play of “signifiers without signified.”

Pragmatic approaches to scientific method—Crease avers—are more inclusive than Analytic approaches; they tally with actual scientific practices in the form of advocating experimental methods of real signifieds. But as well, I am suggesting here that a comparative hermeneutical estimation of Pragmatism’s realistic trajectory outdistances the politicizing meta-ethics of the Continental playbook. Crease accurately portrays Peirce in terms of his personal laboratory training and participation in the physical sciences and scientific conferences of his day. In due course Peirce’s signature metrological expertise blossomed in his epistemology and ontology of the tychistic universe that is engaged by the communities of scientific inquirers, those “heuretics” who pursue the objective truth for its own sake as well as adding to the agapist trajectories of the universe.

For the Pragmatist—Crease goes on accurately to say—“Knowledge grows, not in staccato-like way in which one representation replaces another, nor even in which one paradigm replaces another, but in a continuously expanding process in which a concept’s meaning is not an abstraction or picture, but the totality of its effects on the world.” Crease’s description here, though perhaps somewhat nominalistic, will be seen to characterize not only Peirce’s Pragmatism (and his later more robustly realistic Pragmaticism) but also to apply word-for-word to James’s discussion of the melioristic complexifications of percepts and concepts in *Some Problems of Philosophy*, and to Dewey’s many characterizations of experimental intelligence featuring the coalescent processes of mind and nature.

Arguably then, Crease is again right on in endorsing Pragmatism’s “proper balance” on the epistemological issues. But, as well, Crease intends to make a positive case for the Continental philosopher, who “seeks a way to get a phenomenon to show itself to an inquirer as what it is.” A Continental approach to method “would not seek to dictate procedures to scientific activity, but to understand the interpretation driving it.” This it is concerned “to make sense of the world,” which is to say the “bigger” lifeworld. Continental re-interpretation thus “makes explicit what scientists already understand, partly but imperfectly, in the light of new discoveries.”

So, it drills down into constructing a “story,” a meta-world narrative comprised, to some significant extent, of the existential biographies and auto-biographies of the workers in the scientific workshop, thereby probing “in a systematic and reflective way” precognitive assumptions about physics that “gives the scientists their sense of what is and is not science.” None of the above description would be foreign to Peirce, whose category of Thirdness accounts for the dicible, or interpretant, characteristics of scientific inquiry (very much indebted to Kant’s discussion of the “reflective Judgment” in his third *Critique*). For Peirce, however, the contextual components of lifeworld narrative pertain to the resistant existential dimension of Secondness—the other (alter), outwardly clashing, resistant physical world together with its factorable biographies of scientists—set within the processes of the world’s unfolding connatural reasonability. Here the Secondness characterizations of what Peirce called the “descriptive psychics” of existential biography play subordinate roles to the momentous epochal discoveries of cosmic intelligibility.

Thus, if the Continental’s critical reflection on “lifeworld” is different in approach from the Pragmatist tradition, it would seem to consist in it filling out our interest in the historical, sociological, psychological, even literary features of scientific work. But history, sociology, psychology, and literary criticism are special, i.e. idioscopic sciences, working at levels of empirical description more narrowly focused than philosophy, the trajectory of which is panoramic in generality. Continental reflection functions philosophically by importing political and moral outlooks of a different order, thereby hermeneutically function as a critique of science practice. The perhaps paradigmatic “reflective” model of this is Hegelianism, and its various transvaluational offsprings. Still, the Hegelian Octopus must enter its moral and political reflection into the hopper of philosophical dialogue with other worldviews. In its own time it was rejected by such contemporaries as Schelling, Schopenhauer, and Kierkegaard. In due course it received a substantial rejection from the epigones of Pragmatism, Peirce, James, and Dewey. The latter were continents apart.

6 Petite conclusion

In working through the segments of Crease’s paper, I have come to the conclusion that Pragmatism appears to *precede* the Continental in historical point of time, and to *encompass* it in its sense-making phases, epistemological, ontological, and semiotic, and in decidedly more positive trajectories of experience. Peirce and James, I submit, covered the waterfront pertinent to scientific (and artistic) intelligence set within humanistic and cosmic parameters. Analytic style has a venerable British history, but compared to the Pragmatist trajectory of panoramic experience it remains rather entangled in narrow registers of ordinary empiricism and of the linguistic turn. Peirce formed more general and vitalistic categories by drawing significantly from the rich wellsprings of the history of philosophy—from the Pre-socratics and Plato (the *Timaeus*), from Aristotle, Epicurus, from Scotistic realism, from Berkeley, Kant, Schiller, Schelling, and others—while polymathically participating in the burgeoning sciences of his day.

But here, to speak again in lifeworld perspective, a hermeneutical problem arises for my observation that the three contemporary schools are kinds of contemporary “guilds”—clusters of networking academics who apprentice and

conduct their scholastic business of advancement in the profession in relatively self-enclosed learning circles, in the worst extremes even in isolation from one another. It is these contemporary practices that should be analyzed sociologically and psychologically and compared against the deeper wellsprings of the history of philosophy. My experience has been that in many instances the card-carrying adherent of one form of fashionable academic identity-politics remains rather unread in the business of the other camps; he or she doesn't *have* to be conversant in the other styles, as long as he or she gains career-advancement in his or her guild. Or one reads the formulations of the other schools (and of the works of the history of philosophy) through the *filter* of one's own meta-school. Expertise in the major works of the history of philosophy tends to be short-circuited by the pressure of such market specialization. Be that as it may, this "business model" of doing philosophy does not qualify as philosophy in the grand and authentic sense. (And Socrates remains the model of the authentic philosopher who rejected the business-minded Sophists.)

Together with his impressive *learning* in the area of contemporary physics, Crease's way of parsing the three philosophical "schools" has a distinct *philosophic* merit in expressing their significant nodes of differences with regard to the physics workshop. But I don't see Crease's parsing of the differences as Continental *per se*, but rather as Pragmatist. Crease proceeds to *conjugate* his subject matter—the workplace activities of the physicists—in a *matter/form* perspective of scholastic differences and therewith to *resolve* specific consequences in the three schools.

But Crease's *methodic* work of parsing scholastic differences takes us back to the epigones, the historically acclaimed philosophers of note, who have strategically forged the foundations of the array of distinct *Weltanschauungen* in immortal works and bequeathed them to their followers in the present-day academy. Placement and evaluation of the legacy of such major *Weltanschauungen* is the work of the historian of philosophy. The so-called "philosophy of" courses in the lifeworlds of the contemporary academy presupposes this substantial legacy, and yet tend to teach philosophy in an a-historicist scholastic strategy of a particular contemporary guild, when the major issues are already significantly found in the texts of the major authors, including Peirce's.

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