The Triumph of Uncertainty

Tauber, Alfred I.

Published by Central European University Press

Tauber, Alfred I.
The Triumph of Uncertainty: Science and Self in the Postmodern Age.
Project MUSE. muse.jhu.edu/book/100052.

For additional information about this book
https://muse.jhu.edu/book/100052

For content related to this chapter
https://muse.jhu.edu/related_content?type=book&id=3207344
Chapter 12

Moral Epistemology

Thoreau practiced an epistemology along a continuum of knowledge that stretched from writing a chronicle of objective observations to recording his subjective reactions to those findings. So, while placing facts within nature’s architecture, this project could not be construed solely as an attempt to capture “reality,” for Thoreau’s depiction emerged from his own imagination. His attacks on a sterile objectivity were both audacious and appealing. A generation later, phenomenological psychologists developed a fully articulated program that began with the premise that the mind did not see the object “as is,” but by integrating related perceptions (see chapter 5). Thoreau qualifies as a proto-phenomenologist.

Phenomenologists maintain that experience is constructed from imperfect and piecemeal data that requires a correcting mind to form the conscious image. On this view, perception is based on an “interactive relationship between subject and object: the object was, in effect, partially ‘created’ by the act of seeing it” (Ryan 1991, 11). Moreover, the object does not exist except with reference to the act of seeing, and conversely perception exists only in reference to its object. Brentano called this relationship, “intentional,” and it served as the origin of twentieth-century phenomenology as expounded by Husserl. The romantic origins of the phenomenological account are not often cited, but for me, this school of philosophical psychology only reinforced my opinion that Thoreau had articulated an important epistemological principle, one embedded in our contemporary understanding of cognition.
Although I was not primarily interested in the psychology of perception and self-consciousness, I did want to explore how values structure cognition. My interpretation subordinated Thoreau’s methods of scientific inquiry to a broader agenda, the second step of perception in which knowledge is processed and integrated into the subjective awareness. Here, aesthetics and existential meanings take hold. Where to draw the line between the objective observation and its processing is not obvious. Humans make choices and thereby assign degrees of importance to one kind of observation over another. Information is weighed, certain details become important within the context in which they are seen, and the observer creates that context for determining the significant.¹ Of course, science may be demarcated within one kind of framework and art within another, but my interest focused on how “facts” are deployed within each domain.

Obviously, orthodox science proceeded without Thoreau, but he showed the value of making objective knowledge his own. The issue is not subjectivity in the confining, prejudicial, solipsistic sense, but rather moving perceptions from the objective parlance to meaningful experience. As Thoreau wrote in his Journal in May 1854,

There is no such thing as pure objective observation. Your observation, to be interesting, i.e. to be significant, must be subjective. The sum of what the writer of whatever class has to report is simply some human experience, whether he be poet or philosopher or man of science. (Thoreau, 1962, 6:236–37)

And this was to be a celebration of life in its fullest deployment. He sought to retain the youthful freshness of experience, for only in the personal would the full significance and beauty of knowledge remain fresh and most intimate: “I suspect that the child plucks its first flower with an insight into its beauty and significance which the subsequent botanist never retains” (Thoreau 1992, 329, February 5, 1852). This vision gripped me with tenacious hooks.

Thoreau, beyond offering an epistemological foil to regard science, also voiced a deeper expression of identity. His communing with nature, his historical pursuits of various kinds, his observations of society and men, were each

¹ Cognitive psychology has shown that humans see discrete objects and their relationships in different ways and while there is a high degree of accordance, discernible differences between Western and Asian subjects has displaced the notions of uniform perception of some singular reality (Nisbett 2003).
organized around a self-image of what he wished to be, and this literary work became an expression of his self-consciously composed identity. For Thoreau, poesis, science, and social commentary became part of a grand moral project that reflected the character of his own seeing and knowing. This grand synthesis was self-willed through the deliberate choice of values that would order a unique vision, namely, his observations were a product of the value bestowed on the object of scrutiny. And the facts of the world, or more simply, the world, only become factual with the values assigned by human evaluation. Thus, the play of facts and values, interacting with varying valences assigned to each, serves as the métier of life experience, ordinary and otherwise. Note the movement in which a circle of relationships is created: an epistemological position is linked to a moral one, which in turn is associated with a sense of personal identity. The three domains are inextricable from each other and how one is developed influences the others.

For Thoreau, authenticity required a self-renewal achieved through the self-conscious process of actively engaging nature and recognizing the beauty and splendor of himself so engrossed. This became a mode of self-discovery (“let me forever go in search of myself— Never for a moment think that I have found myself”) that accomplished the dual purpose of 1) tapping into the reservoir of his vitality for the rejuvenation he sought, and 2) an act of virtue that made his life a “sacrament” (Thoreau 1990, 312, July 16, 1851). Accordingly, Thoreau assumed a moral stance about his own personhood, which depended on an underlying epistemological assumption about how he might know and engage the world, creatively. Given his commitments to individuality, he jealously guarded his own personal ability to direct his efforts. Thus, his assumed autonomy, the sanctity of his own personhood, underlay the entire endeavor.  

Thoreau’s romanticism deeply influenced my thinking. For me, his importance lies not solely in laying the foundations of our contemporary environmentalism, but more deeply in the ways he responded to the challenges of what Nietzsche would later call nihilism. Thoreau fell in line between Emerson and Nietzsche in asserting a self-willed moral universe in which they would conduct their lives. The self-consciousness they so keenly experienced embodied a romantic ethos that might now seem outdated, but its lingering presence un-

---

2 As Thoreau opined, “how to observe is how to behave” (Thoreau 1962, 5:45), a precept later adopted by James, “each of us literally chooses, by his ways of attending to things, what sort of universe he shall appear himself to inhabit” (James 1983, 401). That cognitive lesson, derived from a phenomenological understanding, thus also enshrined an ethics by which to ground identity.
derlies our own preoccupation with identity. While the next two chapters deal
with this topic in detail, its romantic roots exemplified by Thoreau highlights
the Unity of Reason theme that has punctuated this narrative and now focuses
our discussion.

The most immediate lesson learned from writing my Thoreau concerned the
placement of scientific inquiry into the widened setting I had sought. I called
the characterization of science in this broadened view, a “moral epistemology”
to capture the interplay of a bevy of values (objective and subjective) that coor-
dinate to generate personal experience. In my reconstruction of the late-romant-
ic response to positivism, I saw how a personalized epistemology would
account for the search for facts and still endeavor to incorporate the subjective
elements of knowing that form the wider girth of meaning. And, of course, the
rightful jurisdiction of each modality of thought must be respected. After all,
“objectivity of whatever kind is not the test of reality. It is just one way of under-
standing reality” (Nagel 1986, 26). And conversely, the boundary must be pre-
served to guard against the corruption of objectivity by subjective-based bias
and ideology, where facts are inappropriately used to serve political or social
ends. The task is to hold a balanced view with an eye towards finding some rec-
onciliation as opposed to the hegemony of one modality versus the other.

In terms of the post-positivist picture of science, the task is to acknowledge
the role non-epistemic values play in the judgments inherent in scientific dis-
course and interpretation. The point of the exercise is to be self-conscious of
the disguised elements that play into any objective account of nature. These
non-epistemic values compose the “force field” in which facts are constructed.
However, I think we must go further in understanding the value structure of
the non-epistemic as it impacts on the processing of scientific knowledge. This
comprises a second step of integration, one that occurs at the level of the indi-
vidual finding significance and meaning in the world science presents.

Following flexible, poorly defined rules of navigation, this conjoined moral
epistemology highlights how knowledge is structured by, defined through, and
embedded in diverse values, and more to the point, these values include those
established by lived experience and ordered by personal meanings. Note, this

3 “A reconstructed epistemological project has to retain an empirical-realist core that can ne-
gotiate the fixities and less stable constructs of the physical-social world, while refusing to en-
dorse the objectivism of the positivist legacy or the subjectivism of radical relativism” (Code
1993, 21). Lorraine Code notably identifies herself as a feminist philosopher, but she extends
the question of gender to the general epistemological challenge of accounting for the know-
Moral Epistemology terminology, “moral epistemology,” is not the characteristic usage that addresses the epistemic status and relations of moral judgments and principles (i.e., justification of statements or beliefs, in epistemology, or validation of judgments of actions, in ethics). Instead, here “moral” stands for acknowledging the degree to which knowledge is value-laden. Note, moral epistemology captures the collapse of a dichotomous fact/value epistemology and substitutes an enveloping formulation (Putnam 1982; Tauber 2009a, 175–86). So, now I turn to the integrative challenge Thoreau represented as a moral issue, not epistemological.

Twentieth Century Responses

During the early twentieth century, influential commentators (e.g., Heidegger, Husserl, Max Weber) generally agreed that Reason had been divided with dire consequences. The then current expectations of science to provide a comprehensive worldview and a basis by which knowledge might be unified under its auspices remained an unmet challenge. Husserl dramatically posed the task in The Crisis of the European Sciences:

Merely fact-minded sciences make merely fact-minded people.... Scientific, objective truth is exclusively a matter of establishing what the world, the physical as well as the spiritual world, is in fact. But can the world, and human existence in it, truthfully have a meaning if the sciences recognize as true only what is objectively established in this fashion? (Husserl 1970, 6–7)

Husserl’s criticism confronted positivism in terms quite divorced from any technological influence exerted on the wider social domain. As Goethe and Kant before him, Husserl called for a coherent reason, a common philosophical grounding for each sphere of experience. Without such a unification, he lamented the “crisis” of the deeply divided nature of two kinds of knowledge (Harvey 1989).

What began as Descartes’s Dream, became Husserl’s nightmare; a philosophy that sought to describe nature in formal terms (i.e., geometrically or mathematically) has left science as “a residual concept.” On this view, the agenda of technical mastery had isolated science from its original place in the larger philosophical realm. “Metaphysical” problems that should still be broadly linked to science under the rubric of rational inquiry were now separated over the criterion of fact. In a word, “positivism ... decapitates philosophy” by legitimizing
one form of knowledge at the expense of another (Husserl 1970, 9). Husserl was lamenting the loss of humane, personal elements in the scientific view and sought a philosophy that would integrate the subjective and objective ways of knowing. The hegemony of the natural sciences had arrived and he sounded the alarm. An originally unified philosophical foundation had been fractured (Hopp 2008). Diverging ways of thinking (with distinctive rationalities) coupled to a corresponding inability to address human interests as defined in a humanistic framework, left a “vital state of need … [where] this science has nothing to say to us” (Husserl 1970, 6).

Husserl was reacting to the philosophers of the Vienna Circle. They, like Husserl, wanted a form of unified reason, but not on the basis of some parity between the natural sciences and hermeneutical disciplines but rather strictly structured (and adjudicated) by their analytical vision. For them, consilience of knowledge under the banner of science followed the authority of their definition of what constituted truth criteria. And that project was elaborated from deeply held philosophical commitments (see chapter 8).

As discussed, my Thoreau (2001) addressed the matter, but not in the terms of Husserl’s call to make reason whole. Indeed, few have pursued this goal, and, in fact, it has been largely abandoned. Many tributaries have fed into the dismissal of a unifying universal philosophy. To the Anglo-American ear, such speculation seems not only foreign, but strangely whimsical. For this skeptical group, scientific reason is assigned to govern one domain of knowledge, and other kinds of reason are left to matters of value and ethics. Indeed, lines have been drawn precisely on this basis, and those who discard the very possibility of some enveloping philosophy basically ignore Husserl’s project or dismiss it as misconceived. For those in that rejecting camp, “multifocal” reason characterizes human life, and to pursue integration smacks of eclipsed metaphysics. Indeed, the twentieth-century philosophies attempting the Husserlian enterprise—existentialism, Marxism, structuralism, Heideggarian phenomenology—have each proven incapable of the task assigned themselves. Instead, following Wittgenstein, analytic philosophers have sought to show that the very conception of such a venture is misconstrued.

Ironically, this general posture may well be the most enduring of the contributions made by the logical positivists, for while they failed to formalize science, they succeeded in discrediting projects such as Husserl’s…perhaps for the wrong reasons. Note, an underlying scientism served to support the Vienna Circle’s unrealized project to establish the foundations of a “unified science.” They failed and more recent scholarship has explained why the effort was mis-
conceived (Dupré 1993; Galison and Stump, 1996; Cartwright 1999). Contemporary science depicts discontinuities of the world in contrast to the unification of knowledge envisioned by the logical positivists and their forerunners. I take epistemological divisions as given. An irreconcilable difference of competing conceptions of contemporary philosophy translates into divergent intellectual aspirations and different philosophical expectations. Furthermore, different ways of knowing must account for personal experience.

Discarding formalisms and foundations leaves pragmatic modalities directed at the human use of science. This became John Dewey’s mission, whose constructivist philosophy endeavored to establish the integration that evaded Husserl. Dewey pursued a naturalistic epistemology, where instead of a passive assimilation of the world, the mind actively interacts with its environment to construct knowledge or as Putnam later opined, “The mind and the world jointly make up the mind and the world” (Putnam 1981, xi). In Dewey’s Studies in Logical Theory (1903), cognition and knowledge acquisition are dissected as a genetic process in which a problem, confusion or maladaptation 1) promotes a cognitive response, which is then followed by an 2) analytic process in which the parameters of the challenge is gathered and in a 3) reflective phase, the various modalities of inquiry (ideas, suppositions, theories, etc.) are composed into hypothetical solutions to the original problem, 4) whose adequacy is then tested in terms of their pragmatic success. Underlying this epistemological approach resides Dewey’s assessment of the motivations behind traditional metaphysics, whose central aim had been the discovery of an immutable cognitive object that could serve as a foundation for knowledge. The pragmatic theory, by showing that knowledge is a product of an activity directed to the fulfillment of human purposes, and that a true (or warranted) belief is known to be such by the consequences of its employment rather than by any psychological or ontological foundations, rendered this longstanding aim of metaphysics, in Dewey’s view, moot, and opened the door to renewed metaphysical discussion grounded firmly on an empirical basis. (Field 2001)

4 The consilience they prophesized was most “optimistically” argued by Wilson 1998 but failed to find many believers (see Callebaut 1993; Olafson 2001). Note, consilience in the sense understood by Wilson overlaps with but is not the same as the “unity of science” program that dates, at least in the twentieth century, to the Vienna Circle and its descendants. For overview, see Kammenga and Somsen 2016.
I will not further detail Dewey’s epistemology here and instead will only summarize what I term the moral underpinnings of what Dewey called, a “theory of inquiry” or “experimental logic.” Doing so, I realize that in only highlighting his aspirations and over-riding rationale, I leave in abeyance a description and judgment of the philosophy. However, my concerns lie elsewhere than in his specific epistemology tenets (i.e., fallibilism, the lack of incorrigible foundation of knowledge, truth function assessed in terms of human use), which reappeared in pragmatist philosophies of science that have been summarized in chapter 9. Instead I turn to the value structure of his epistemology, the substratum of Dewey’s thought and the theme central to my own endeavor.

In the twentieth century, what Emerson had declared as “peculiarities of the present Age . . . the age of the first person singular” (Emerson 1963, 70), shifted in Dewey’s philosophy with the displacement of the self-absorption characteristic of romanticism to the chores of pragmatic education, politics, and communal solidarity. Dewey thus placed the Transcendentalist’s integrative moral vision into a programmatic scaffold. Dewey recognized and then highlighted that all sciences

are a part of disciplined moral knowledge so far as they enable us to understand the conditions and agencies through which man lives . . . Moral science is not something with a separate province, for physical, biological and historic knowledge must be placed in a human context where it will illuminate and guide the activities of men. (Dewey 2002, 296)

The world so construed is fundamentally moral in the sense of human-valued, human-centered, human-derived, human-constructed, and human-intended. 6

---

5 For discussion of the relationship of the respective epistemologies of Dewey, Pierce and James, see Sleeper 2001, pp. 44 ff. That discussion is useful in placing Putnam, Rorty and other late twentieth-century pragmatists in philosophical perspective.

6 Protagoras of Abdera (c. 490–c. 420 BCE): “Of all things the measure is Man, of the things that are, that they are, and of the things that are not, that they are not” (DK 80B1). Plato accused Protagoras of unsustainable relativism in the Theatetus, where “If what each man believes to be true through sensation is true for him—and no man can judge of another’s experience better than the man himself, and no man is in a better position to consider whether another’s opinion is true or false than the man himself, but . . . each man is to have his own opinions for himself alone, and all of them are to be right and true—then how, my friend, was Protagoras so wise that he should consider himself worthy to teach others and for huge fees? And how are we so ignorant that we should go to school to him, if each of us is the measure of his own wisdom?” (161B). And again, in Plato’s Protagoras, if opinions of Truth differ, how is adjudication achieved? Some have interpreted these passages as an early attack on relativist epistemological assertion and Nietzschean view.
For Dewey, no firm demarcation between moral judgments and other kinds are possible, for “every and any act is within the scope of morals, being a candidate for possible judgment with respect to its better-or-worse quality” (Dewey 1922, 279). Thus, he widened the scope of “morals” to value judgments writ-large: “morals has to do with all activity into which alternative possibilities enter. For wherever they enter a difference between better and worse arises” (ibid., 278). Accordingly, values form the cognitive glue in which experience coheres. And a corresponding agenda is at play: the disenchantment of nature, one devoid of value has been replaced with a reordering that includes human interest and meaning. To segregate the personal from the world as some separate entity defrauds philosophy’s own quest, for a world without human value has lost human significance. Humans live firmly in the world. To fracture that fundamental unity not only distorts our understanding of ordinary experience but introduces alienation, the root of nihilism.

From this point of view, meaning assumes philosophical supremacy through a self-reflexive attitude. As Dewey asserted, “Meaning is wider in scope as well as more precious in value than is truth” (Dewey 1931). Not to demote “truth,” but according to Thoreau and Dewey, truth is in service to meaning. This adage might be easily misunderstood, and rightly rejected, if truth is not included as occupying a central place in the constellation of what constitutes meaning. Let us unpack these claims.

When science is configured within a moral epistemology, the technical mastery of nature is coupled to the humane project of finding meaning in that knowledge. Such an understanding then underscores how science cannot rest solely within epistemological demarcations. For those uncomfortable with the personal aspects (i.e., the aesthetic and spiritual), they still acknowledge that the current debates about the applications of scientific knowledge are tied into the value judgments applied to scientific facts. Interpretation cannot be divorced from the larger ideologies that go into constructing the meaning and use of those facts.\(^7\)

\(^7\) Of morality. Note, I am invoking human-centered, not “man is the measure of all things” as originally formulated, but strictly in the moral sense Dewey intends. If “human measure” is understood metaphysically, a different set of issues arise: Yes, Protagoras correctly placed value in the human domain (within communal restrictions), and yes, the world is the world we know and value (again, qualified by communal consent); but no, we cannot claim some metaphysical primacy. For instance, debates about the biological determinism of complex social behaviors such as alcoholism, homosexuality, or violence have found ideologues using scientific data for their own purposes, but whose rationales cannot be finally decided by such appeals to “scientific objectivity” (Tauber 2009a, 133–51).
On this view, truth not only has an epistemological standing, but it also possesses an ethical one. This claim does not reduce the standing of epistemological truth in any sense, but in this configuration, truth becomes a tool in the moral domain as well, where truth claims constitute a stage on the way towards some meaningful synthesis of scientific knowledge with subjective values. Truth thus functions in the service of meaning-seeking behaviors, which, of course, coincides with the integrative requirements of thought. Reality is thus experienced in an ongoing test of personal knowledge against the world that demands responses that invoke one kind of reason or another. This integrative effort requires a self-reflective attitude about science and how it becomes constitutive to our view of the world and of ourselves. Reflexivity then becomes the heart of the project, where comprehension of an integrated world emerges as epistemology’s object of inquiry. Simply, human-defined significance serves to focus judgment’s function, an arbitration of experience to create human reality. I explicated this nest of issues in an ambitious synthesis, *Science and the Quest for Meaning* (Tauber 2009a), a work that had been dimly imagined decades before.

**Science and the Quest for Meaning**

*Quest for Meaning* reviewed the potency of attacks against positivism launched by Polanyi, Kuhn, and Quine; the role of constructivist thinking in science; the Science Wars depicted in terms of foundational epistemological conflicts between “defenders” of science and their post-positivist critics; the turn to pragmatism to establish a philosophy of science focused on practice as opposed to some logical conceit; and depicting Thoreau as an exemplar of practicing a humanistic science. Putting aside the immeasurably vast direct effects of technology and the social policy generated by scientific understanding, I declared an anthem to a humanism too often neglected:

Beyond how we might understand science as an intellectual enterprise or as a cultural institution….we must consider how a translation occurs between the objective picture of the world and the meanings by which we signify that world. I am referring to an understanding of science’s own rationality in relation to other kinds, and in that comparison describing where we might place the personal, subjective ways of knowing. Indeed, how might we deliberately conjoin human-derived, human chosen, human-centered values with those objective values that we so commonly
understand as irreparably separated from these [humanistic] origins.
(Tauber 2009a, 38)

Rorty said it more succinctly, when commenting on scientism: “there is nothing wrong with science, there is only something wrong with the attempt to divinize it …” (Rorty 1991a, 33–34). That seemed evidently correct to me.

I had travelled a far distance from the positivist ideals of my youth. From my innocent vantage, positivism had seemed the standard of knowledge and the best mediator of reality. As Karl Popper opined, in an authoritative positivist voice, “epistemology I take to be the theory of *scientific knowledge*” (Popper 1972, 108). He excluded everything outside what he considered science from philosophical consideration. For him, and all who followed the positivist program, science was the view from nowhere, and consequently its epistemology left no place for me. His was hardly an idiosyncratic view. He captured the mindset of the period. And here, with Popper’s steadfast subtraction of the epistemological agent, we finally come to the basis of my youthful conundrum and so much of the scholarship that followed.

I understood that the subject, more precisely, subjectivity could not be dismissed from objective ways of knowing. It was not a question of segregation, but rather understanding (and accepting) their unavoidable interplay. Instead of a gap, a continuum connects them, each modality of thinking must be accounted in balance against the other. And if not eliminated, where did the subjective figure in the calculus of my thinking, of my being? And how that agent might become a subject of philosophical inquiry remained an outstanding question. Thirty years after seeking an integrative worldview, I still sought a resting place.

*Quest for Meaning* deliberately echoed the title of my earlier characterization of science described in *Science and the Quest for Reality* (1997b). The second *Quest* presented a philosophical review of positivism’s dominance in the first half of the twentieth century and its demise after World War II and then presented moral epistemology as outlined above. The book formally addressed my collegiate puzzle of how to resolve the dichotomy between objective and interpretive ways of knowing through a Dewey-inspired humanist view. From the vantage of my own scholarship, I realized how the subject-object dichotomy of positivism that provides for the objectivity of science, betrays the irreducibility of perspective. And without a firm epistemological foundation of the knowing subject, both objectivity and subjectivity became “problems.” Despite what I called “the embarrassment of self-consciousness” (Tauber 2009a, 185)—refer-
ring to the lingering effects of Cartesian metaphysics derived from the persistent separation of mind and the world—I used Thoreau as an exemplar of the romantic venture to appreciate nature within a multi-dimensional matrix of facts ultimately signified by an aesthetic-spiritual-moral sensibility.

Although I attended to science as politics, Quest for Meaning’s major theme remained focused on how the demise of positivism during the late twentieth-century changed the place of science within its larger supporting culture (political and ideological) that often put the interpretation of scientific findings into the battleground of policy and resource allocation. The notion of an insular “fact” belies how facts are comingled with the values and theories in which they are embedded. To disentangle the relative roles of these supports becomes a highly convoluted, and sometimes an irresolvable endeavor. Facts, chosen and developed, hardly stand stable. So, no formal, final method exists to define fact/value relationships. And because facts, and the truth claims based on them became subject to dispute about their objective standing, science itself has faced new scrutiny.

So-called value-free science adopts three basic claims concerning the construction and use of facts: objective science never presupposes non-epistemic values 1) in determining what the evidence is or how strong it is; 2) in providing and assessing the epistemic status of explanation; nor 3) in determining the problems scientists address. Each of those assertions, over a wide array of arguments, has been challenged by many commentators. When theory and fact conflict, sometimes one is given up, sometimes the other, and the choice as often as not is made “aesthetically,” by adopting what appears to be the simplest, the most parsimonious, elegant, or coherent—qualities which themselves are values. These are what Putnam calls action-guiding terms, the vocabulary of justification, also historically conditioned and subject to the same debates concerning the conception of rationality (Putnam 1982). The attempt to restrict coherence and simplicity to predictive theories is self-refuting, for the very logic required even to argue such a case depends on intellectual interests unrelated to prediction as such. In short, by dispelling the intellectual hubris of pristine objectivity we are left with a more dynamic, albeit less formal, understanding.

Inasmuch as science is unified neither in its methods, its standards, nor its interpretative strategies, its various epistemologies fail any final standardization. Theories and models evolve from loose creative strategies, and the pragmatic assembly of facts relies on varying degrees of certainty and interpretative facility. This position argues that a relaxation of the rigid fact/value dichotomy
recognizes that science continually evolves its value judgments in regard to its own practice. Standards of objectivity change in response to new demands and contexts. Such flexibility allows investigative findings to find their rightful place as scientific data and their use in theory development. Typically, philosophers of science regard that exercise as placing facts within broader conceptual theories or models. However, the fluidity of the value structure of science opens a broadened theoretical vista. I am less concerned with the more restricted epistemic functions of diverse values than understanding the wider non-epistemic universe in which other kinds of values structure knowledge within the context of what Polanyi called, “personal knowledge.” Polanyi’s concerns focused upon the limits of positivism; I wished to go further.

Highlighting how facts are applied through miscellaneous values and social interests, Quest summarized the science-society exchange. On the one hand, science as a cultural product must be studied in its social contexts, and on the other hand, we must understand how scientific findings contribute to the placement of humans in their natural, social, and existential domains. Whether posed in terms of assessing social policy, defining normative modes of thinking, acknowledging the cognitive role of emotional intelligence, composing the heuristics of rationality, articulating the moral dimensions of knowledge, and so on, all approaches converge on describing the objective-subjective spectrum as a continuum of various kinds of intelligence, broadly construed. Quest for Meaning thus presented a broadly conceived portrait of science as part of the larger Western dilemma of integrating self and other, objectivity and subjectivity, individual belief, and communal knowledge, with each dipole understood as balancing intermediate positions. Specifically, I sought to offset the preoccupation of placing contemporary science in its Baconian tradition of mastering nature with two other considerations: 1) the social use of scientific knowledge, not only for material gain, but also for political agendas, and 2) the older origins of scientific inquiry as an expression of metaphysical wonder. I framed that recalibration as requiring a synthesis of scientific objective findings with personal signification.

When seeking epistemological continuity between different ways of knowing, I imposed a unifying template that became the primary thesis of Quest for Meaning. Instead of the restrictive objectivism of positivist philosophies, I highlighted a view of science that placed subjective elements in scientific practice as constitutive to the ways science works. This was the agenda set by Polanyi and Kuhn. However, I had another agenda as well. I did not advocate Thoreau’s natural history as a valid form of science as evidentiary practice, but
I did maintain that “after science,” when one contemplates the reality depicted by the objective eye, a translation or adaptation of that knowledge completes science’s larger purpose. In other words, beyond technical mastery and exploitation of scientific gains, a humane component remains to absorb the evidence. *What do the facts mean?* Here is the fulcrum linking science and the humanities I originally sought. That effort was inspired by Husserl and most clearly by Dewey, who called for a unified philosophy:

> The problem of restoring integration and cooperation between man’s beliefs about the world in which he lives and his beliefs about the values and purposes that should direct his conduct is the deepest problem of modern life. It is the problem of any philosophy that is not isolated from that life. (Dewey 1984, 284)

While some may discharge such a diagnosis as a misjudgment or even hopelessly naïve, I now understand how my original collegiate query fell into line with a humanism shared by both an American pragmatist (Dewey) and a European phenomenologist (Husserl). In this sense, the common root I originally had sought lay uncovered at last.

I found that Dewey’s philosophical goals addressed my own interests and his pragmatism, grounded in a skepticism of philosophy’s limits, were consistent with my own intuitions. For my purposes, it was enough that he had at least underscored the need for pursuing an integrative approach to the fragmentation of modern life and the displacement of the “self-positing I” that had so dominated romantic thinking (Tauber 2001, 195ff.). He catalyzed the articulation of ill-formed ideas from my collegiate past, but the original intent of my early studies, namely, the various efforts to unify Reason—to discover how to bridge, subjective and objective ways of knowing, proved (as so often occurs in philosophy) a poorly formulated problem. The issue is not necessarily to integrate erklärten (explanation per the natural sciences) and verstehen (understanding, interpretation), but rather to find their proper relation with each other. Both as a philosophical problem and as a haunting personal matter, I have revised my attitude.

---

8 Again, my friendship with Hilary Putnam influenced my gravitation towards James, Dewey, and Rorty. Hilary and his wife, Ruth Anna Putnam, wrote extensively on Dewey (Putnam and Putnam 2017).
Reconsiderations

As those before me, I sought an investigation of the natural world that employed pluralistic reason, where various cognitive faculties receive their just deserts. That project found traction amongst pragmatists and contemporary cognitive scientists, who have sought to capture human intention. But a demurrer cannot be ignored, and a codicil must be added: I recognize the romantic ideological basis of this orientation. To portray a “disenchanted” universe as the inevitable product of scientific inquiry is misguided. This indictment, dropped at the doorstep of the laboratory, is better understood as part of the larger secularism that has taken hold in the post-industrial West. Clearly, my romantic identifications aligned me with those lamenting the human condition so defined. However, “disenchantment” and “coherence” are not necessarily philosophical problems, at least not as I framed my inquiries. Perhaps the search for meaning and the need for coherence is both idiosyncratic to my own romantic inclinations and lacking philosophical import? If the enigma organizing my scholarship is dismissed as lacking analytical import, then I have pursued a quixotic goal, because the motivation for finding integration and coherence lies well beyond analyticity. Accordingly, subjectivity lives in its own domain, independent of analytics and critical judgment. The whisper of this misgiving quietly rang like a nagging tinnitus, persistent but largely ignored for a long time as I doggedly traveled an old trail.

I had written my *Thoreau* with a two-fold agenda: first, as an exercise to meld two ways of knowing, and second, to outline a moral philosophy. Both topics addressed intimate issues with which I was dealing at the time. I lingered on the personal meaning problem and attempted to extend the lessons learned from Thoreau’s example to a characterization of science more broadly. And for another decade, I remained an unapologetic romantic. *Quest for Meaning* attempted a more ambitious synthesis than I had contemplated before, but eventually that agenda would be eclipsed upon bumping against the limits of philosophy presented by Wittgenstein. As explained in the next chapter, I endorsed his views. My presuppositions fell under new scrutiny. My expectations for philosophical solutions required revision. Perhaps there were no solutions? Perhaps I sought a philosophical synthesis where none existed? Perhaps my aspired metaphysics were out of joint with the life I lived? By rejecting Heidegger’s “solution” and accepting Wittgenstein’s circumspective view of such metaphysical adventures, I placed my own problematic in a far different orien-
tation than originally formulated. And coincident to assuming more modest philosophical goals, a resolution beckoned.

For me, philosophy is not prescriptive in any final sense. The process of inquiry itself, in offering tentative solutions and asking anew how problems might be framed, is the philosopher’s work. To break intellectual and existential complacency constitutes the philosopher’s mission. Her endeavor is about addressing questions, interesting questions, without necessarily achieving final answers. Accordingly, the historical tradition has appraised “success” in deepening the inquiry and in generating new interrogations, typically, by moving on.

Old ideas give way slowly; for they are more than abstract logical forms and categories. They are habits, predispositions, deeply engrained attitudes of aversion and preference. Moreover, the conviction persists—though history shows it to be a hallucination—that all the questions that the human mind has asked are questions that can be answered in terms of the alternatives that the questions themselves present. But in fact intellectual progress usually occurs through sheer abandonment of questions ... [as a result of] their decreasing vitality and a change of urgent interest. We do not solve them: we get over them. Old questions are solved by disappearing, evaporating, while new questions corresponding to the changed attitude of endeavor and preference take their place. (Dewey 1910, 19)

I rested comfortably with this view. Indeed, the quest, as a quest, captured my own intent. On that basis, I composed *Quest for Meaning* as a tentative summation.

My views about bridging the humanist-science divide significantly changed since writing *Quest for Meaning* in 2007. I have often thought this book had been composed out of its proper time zone. It aligns most closely with works published in mid-twentieth century, when commentators like Conant, Bronowski, Polanyi, and Whitehead explored this same region. However, for me it represented a synthesis of ideas nurtured over twenty years and thus ripe for harvest. After all, the attempt to find some meeting ground between science and the humanities had perturbed me for a long time. *Quest* did not fully bridge the gulf separating different ways of knowing, but it did show the limits of a philosophy of science that failed to account for the personal elements in both the production of knowledge and its interpretation. Science may then be thought of in its “first-order” manifest (the ordinary doing of inquiry) and a “second-order” agenda in which its findings become part of a universe of per-
sonal meaning. My romanticism thus found its bearings in Thoreau’s synthetic epistemology and Dewey’s humanism. So, beyond the the continued (albeit, revised) credibility of romanticism’s critique of positivist philosophy in terms of framing my understanding of biology, I reaffirmed the credibility of the romantic orientation for addressing my own aesthetic and existential concerns. In this sense, *Quest for Meaning* represented an exercise in scholarship as self-knowledge.9

For me, the objective and subjective remain in their own respective domains and thus the original attempt to find a synthesis of different ways of knowing had instead become the acknowledgement of peaceful “co-existence.” And while I held naturalistic tendencies, no doubt indebted to my biomedical career, I had no patience for those who sought consilience. Addressing the “coherence problem” does not necessarily end in unified knowledge. Such integration is an Enlightenment project that would establish the basis of mind, of ethics, of self-consciousness upon a comprehensive science. I believe such efforts serve a misplaced aspiration. We might well seek a modest coherence, but to recognize the limits of different kinds of thought seems a more appropriate orientation. In other words, I reject scientism, even as an ideal. The universe is a dappled reality and different ways of thinking are required to create the ways of being in that world. Coherence is an unrequited desire of another age.

Where I previously sought integration, a romantic solution as it were, now I am satisfied to accept that each domain may have interchange to mutual benefit, but a coherent amalgamation under some totalizing philosophy, “unified Reason,” now seems a misbegotten venture. Building bridges is important, but to bridge is not to combine. Various legitimate ways of thinking employ diverse forms of reason. Hermeneutics and science function with different logics and divergent goals. Once interpretive modes of thinking attain their just place in the hierarchy of thought and experience, objectivity assumes the rightful position for which it was designed. The matter then becomes recognizing the influence of one domain on the other, not as combatants or even rivals, but as partners in the business of living in a world that requires multiple ways of thinking.

Living in the various worlds in which we are domiciled (whether natural or social) requires different ways of knowing and different types of perception; different modes of reason; different states of consciousness. A “natural epistemol-

---

9 I have also pursued this theme in other self-reflective essays of how I practiced “science as self-knowledge” (Tauber 2006c; 2014a). However, unlike this essay, those summaries were primarily concerned with the conceptual developments of my scholarship, not the underlying psychological elements directing my inquiries as described here.
ogy” governs one’s interactions and choices as determined by such processing to arrive at, what Kant called, understanding. A second kind of “reason” mediates a separate and distinctive way of refereeing how the world is judged. The values governing each domain differ because the demands on reason differ. Just as Kant had observed at the end of his Second Critique, humans live in two worlds—natural and social—and each requires distinct kinds of what he called, reason. It is as if different “selves” are living together in some kind of consortium.

Two things fill the mind with ever new and increasing admiration and reverence, the more often and more steadily one reflects on them: the starry heavens above me and the moral law within me. I do not need to search for them and merely conjecture them as though they were veiled in obscurity…. I see them before me and connect them immediately with the consciousness of my existence. (Kant [1788] 1996b, 269)

The mind integrates disparate forms of human self-consciousness as a fundamental condition of human being. To find the glue, well, that is another matter. In any case, I’ll rest with Kant—coherence might be sought, but different domains of thought reside in their own respective province and must find their balance and rightful jurisdiction.

New philosophical vistas opened after completing Science and the Quest for Meaning. I had enjoyed an exhilarating journey. My review of post-positivist philosophies of science again revived discarded romantic ideas about the personal interpretive elements of scientific method and theory construction. And those issues introduced questions about the knowing ego. I came to regard my own intellectual odyssey as a mirror of modernism’s historical trajectory. How I dealt with competing epistemologies highlighted aspects of the ego’s philosophical fate and thereby illuminated the general problem introduced with the Cartesian model.

Instead of an ego surveying the world, separate and inviolate (and thus capable of exercising radical objectivity), post-positivists acknowledge the imaginative scientific mind joining with its historical, social, and cultural faculties to create the mosaic of reality. And with that expansive view, the knowing agent emerges with new ambiguities. A key theme of romantic science concerned the status of the observing scientist. While Thoreau has become a celebrated advocate of modern-day environmentalism, I saw him fitting more
snugly into “ego-ology” than ecology, because of his preoccupation with an ever self-conscious “me.” And while he was acutely aware of himself as an observer, the characterization of his selfhood remained outside his epistemological interests. Thoreau had identified the conundrum of placing the I in the world, but he did not solve the Cartesian problem of dualism. Thus, my Thoreau and the lessons distilled from that work left an unresolved problem—the unrequited status of the self, whose self-consciousness underlay romantic identity.

If this narrative might be likened to a jazz quartet, then the percussive base must be assigned to the refrain of agency, the topic that ties together the immune metaphor (the conceptual foundation of immunology), the prevailing philosophical themes illustrating the uses of identity, the romantic conception of the knowing agent, and so on. And as the music played on, something sounded amiss, for the drums became muted and then ceased altogether as I began to more fully appreciated that the modernist self had been disassembled and then rejected. With this denouement, a larger meta-theme concerning uncertainty centered on the human subject and, more specifically, the contested place of subjectivity, that sense of the who I am, which again appeared to drive my interests.