Anti Anti "Anti-Science"

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challenges the cosmos is staking a claim about reality as ontologically defined, the meaning of life, death, and the ultimate destiny of the soul:

Be thou [god] undermost.
While I am uppermost.

Such a challenge to Zeus is psychologically compelling not because it is “eventually destined to be crushed,” as Gell believes, the kind of homespun folk theory Aunt Matilda uses to explain Uncle Fred’s compulsive gambling. Contrary to what Gell suggests, tattooing may have been exciting and evocative and empowering precisely because it was a disfigurement. Personal and cosmological meanings are certainly merged in this image; however, the interpretation of such an ontology requires not just the structural gaze provided herein but the subjective study of its subjects and objects. This is the point to begin, rather than to end, a study.

The books under review find in the body a site of cultural activity, representation, and meaning making, with many insights and ideas to follow up. But in their striving for conceptions of culture consensus or culture resistance they have not yet superseded culture theory of the past, in which it was imagined that all elements of desire and meaning issued from within cultural texts or structures, as the case may be. Where the first book is avowedly symbolic and postulates a dichotomy between the natural and the cultural, it does not succeed in obliterating this dichotomy as cultural bound, however much this was sought; whereas the second book is neostructural and examines historical, cultural, and political correlates of tattoo icons for status relations, it creates a barrier between cultural practice and meaning that disables the interpretation of actual events. The anthology perpetuates the tired dualism of “social constructionism” set off against “natural essentialism,” when what is really at issue in contemporary theory is the pragmatics of desire in subject and object ontologies and power relationships. The body remains, nevertheless, a wonderful object for reflection and study, so these scholarly studies are a welcome inch toward further understanding how the whole person is formed through soma and cultural reality.

Anti Anti “Anti-Science”

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The two books under review ought to interest readers of the American Anthropologist generally, and not simply anthropologists doing science studies (to whose work the authors occasionally refer). They delineate the broadest frame within which we might locate our intradisciplinary arguments about science in cultural anthropology and between the four fields. They also exemplify the debilitating impact of the “science wars” on scholarship and public discourse, which we would do well to consider.

Gerald Holton (a physicist and historian of science with joint appointments at Harvard and MIT) has published a collection of interrelated essays about the emergence of 20th-century physics and about alternative models of the scientific enterprise and its future. In Science and Anti-Science, as elsewhere, Holton has sought to define “good” science historically by the analysis of cases, and to understand contemporary “anti-science” movements, also, in a way, historically. Paul Gross (formerly director of Woods Hole, presently University Professor of Life Sciences at the University of Virginia) and Norman Levitt (a Rutgers University mathematician) present Higher Superstition as a comprehensive assessment of academic “anti-science” literatures, in order to alert the science community to the grave threat posed by this work.

Science and Anti-Science and Higher Superstition are instances of scientists’ horror at “postmodernism” (understood as antimodernism) as symptom and cause of widespread science illiteracy and popular “anti-science” movements, from astrology to right-wing fundamentalism. The authors warn that while some of these movements may be harmless, historically they have been associated with assaults on democracy and other liberatory Enlightenment ideals that scientific rationalism nurtures.

In the first three chapters of Science and Anti-Science, Holton tells the story of the turn-of-the-century transformation of physics, particularly the drift from Machian empiricism (the model of “science” many of us still harbor), through Einstein’s conceptual reenvisioning of the world, and then to quantum theory. He makes a nuanced case for the underdetermination of 20th-century physical theory change by experi-
mental evidence: Einstein’s method (and not just his unsettling substantive claims about the character of the physical world) was itself a demonstration of the limitations of empiricism.

Insofar as Holton emphasizes “aesthetic” intuition, the “rhetoric” of scientific papers, and the influence of “world pictures” in scientific change—that is, those aspects of the “real world of the laboratory” which undo its “idealization by many non-scientists” (as he puts it elsewhere)—his work appears consistent with “constructivist” science scholarship. However, Holton clearly wishes to distance himself from the kind of work that claims itself heir to Thomas Kuhn’s study of scientific “paradigms” and “revolutions” (pp. 127–128). His method, a hybrid of what he calls “internalist” (historically relativist) and presentist (hindsight) readings of documentary sources (pp. 82–90), preserves the sense of scientific progress lost in constructivist scholarship. This distancing may account for the disconnection between Holton’s fascinating account of the emergence of the 20th-century physical worldview in the first half of his book and his historical and critical reflections on “anti-science” trends in the second half.

In Higher Superstition, Gross and Levitt blame “the academic left” for these trends. Identifying themselves as “left-wing,” they make their accusation with regrets: their sense of betrayal by erstwhile allies may well account for the no-holds-barred vigor of their counterattack. Using the cruelest of diagnostic instruments, Gross and Levitt pronounce “cultural constructivists,” “postmodernists,” “feminists,” “radical environmentalists,” and “Afrocentrists” to be an enormous, homogeneous malignancy. The authors set about to expose these leftist academic legions’ ignorance of and hostility to science in successive chapters, with impressively specific citations throughout but with such a head-jangling cacophony of half-truth, decontextualization, caricature, and misreading as to make one wonder for whom they are writing.

Its expressions of intent notwithstanding, Higher Superstition is designed neither to encourage the “sharpening” of cultural constructivist analysis nor to stimulate intelligent public “awareness and debate” (p. 15). Instead, like the New York Academy of Sciences-sponsored conference Gross and Levitt organized in May 1995 (“The Flight from Science and Reason”) following the book’s publication, it appears to be designed as a call to arms aimed at fellow scientists hard at work in their labs and either oblivious to their own endangered position or deeply distressed by federal funding cuts and shifts in public attitudes toward science but naive about the cause of “anti-science” sentiment.

Gross and Levitt label the academic “anti-science” forces “professional humanists” and—ominously—warn that if their intellectually and politically irresponsible behavior continues, then scientists (who, they remind us, are often quite versed in the arts) might just have to step in and take over to keep university humanities curricula going (pp. 242–244). Holton seeks to avoid such polemic. Indeed, parts of his book can be read in corrective counterpoint to Higher Superstition. For example, he explains that he will outline how to think about anti-science at the proper level. The term anti-science can lump together too many, quite different things that have in common only that they tend to annoy or threaten those who regard themselves as more enlightened. [p. 146]

Exactly. Unfortunately, Holton’s commitment to a “protean” concept of modernism (p. 164)—a grand opposition between a traditional and an ever-evolving modern “world picture” with “good science” at its core—forces him also to homogenize diverse critiques of the modern as equally regressive: whether they be Vaclav Havel’s reflections on the fall of Communism, or “cultural Luddite” antipathy to the industrial civilization that nurtured Nazi “Aryan” science (pp. 177–179), or a motley assortment of popular movements (alternative health, New Age, creationism, or whatever).

It would be a mistake simply to exclaim at all this. We need rather to recognize the widely shared presupposition about scholarly specialization underlying both of these books’ arguments: making sense of external Nature places special demands on scientific careers—which must involve an arduous disciplining of mind and technique as well as creative mastery of specialized languages—whereas humanistic careers are not so constrained and allow an undisciplined self-referral. Together with a passionate belief in the historically emancipatory role of scientific rationalism, this presupposition underwrites both Holton’s and Gross and Levitt’s adamant defense of the autonomy and authority of science against its popular and academic “delegitimizers.” It certifies Gross and Levitt to enter literary theory, history, and philosophy while ordering nonscientists out of science studies. It makes possible Holton’s assurance to readers that, while scientific training is no guarantee of enlightened behavior (pp. 180, 182) and while “science has increased through technological means the scale and potential for damage which our violent instincts can cause us to inflict on ourselves,” these “valid concerns . . . are being seriously addressed by scholars and scientists” (p. 129).
Now, the fact is that both humanists and scientists react defensively to one another’s subsuming frames of reference, as if trapped in an Escher drawing arguing about which side is up. However, my point is not that—specialization being what it is these days—we each ought to respect the autonomy of one another’s domains of expertise. A simplistic relativism won’t work. My point concerns the absence of constructive engagement. While we may all agree that reference to specialist knowledge is increasingly important in public discourse, we disagree profoundly about questions of access and evaluation. We disagree about what kinds of knowledge ought to be promoted and how they ought to be legitimated. Finally and most seriously, we disagree about whether there is a position, external to this disagreement, from which it can be adjudicated, mediated, or ordered away.

Holton and Gross and Levitt must scrutinize what Sandra Harding or Bruno Latour, Vaclav Havel or Kurt Vonnegut, or popular trends from the fundamentalist right to the alternative health movement are up to. Similarly, insofar as they concern things human, the humanities must include scientists among their subjects, contextualize the premises upon which scientific authority is based, and explore the political and intellectual implications of not embracing an objectivist worldview.

Given this dilemma, the challenge is to find affinities or “partial connections” (in Donna Haraway’s sense) between critical cultural analysis and scientific skepticism. The challenge will remain unmet as long as writers like the ones under review are convinced that, in questioning historically particular constructions of science’s autonomy and authority, cultural constructivists and their legions—Unabombers all—aim to “end” science, destroy Civilization, and plunge us all into a stereotype (anthropologists take note) of rural “premodern” misery, fear, and superstition.

One would think from reading Higher Superstition that critical cultural analysis has trained its sights especially on science. In actuality, studies of cultural conventions and inventions have taken on all arenas of experience, aiming to make visible their background assumptions and conditions of possibility. Holton and Gross and Levitt could not be more wrong in suggesting that cultural critics, feminist scholars, and anthropologists exempt themselves from the sort of scrutiny they direct at science, popular culture, and the rest. On the contrary! Gross and Levitt’s favorite “anti-scientists” (such as Latour) typically turn their critical attention on their own species of expertise.

Reflexivity can indeed turn solipsistic (just as science can serve inhumanity), but it does not have to. Scientists might think of disciplined reflexivity as a necessary calibration of the instrument by means of which anything (including Nature) will ever be (humanly) known. In this way, critical cultural studies in anthropology and other fields converge with Holton’s and Gross and Levitt’s concern over the future of science by shedding light on the rationales behind the public’s ambivalent and contradictory engagement with science, and vice versa: recent anthropological field studies (such as the work of Hugh Gusterson, David Hess, Emily Martin, and Rayna Rapp) are notable in this regard. Perhaps most importantly, such studies demonstrate the limitations of oppositions like science/antiscience and expert/nonexpert (not to mention modernism and its pre-, post-, and anti-isms) even as they expose the hold such cultural categories have on us all inside and outside of the academy.

Objectivity Revisited

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The concept of objectivity has had a checkered career. What once was thought to be the foundation of the “science” of anthropology more recently has been characterized as the hallmark of an oppressive worldview—a concept in need of complete reformulation or discarding. Among the many factors that caused a crisis of confidence in objectivity was the felt need to accommodate the subjective in the construction of knowledge.

The two books under review approach the validity of the concept from somewhat different vantage points. Megill’s collection of essays Rethinking Objectivity explores current thinking about objectivity from a variety of disciplines, providing the reader a good overview. In Social Experience and Anthropological Knowledge, European anthropologists confront the problem of how to successfully accommodate the “subjective,” embodied experience of fieldwork within the assumed “objective” needs of anthropological knowledge. The authors in Hastrup and Hervik believe