

THE CHRONICLE

of Higher Education

The Chronicle Review

[Home](#) » [Opinion & Ideas](#) » [The Chronicle Review](#)

April 25, 2010

Science Warriors' Ego Trips

By Carlin Romano

Standing up for science excites some intellectuals the way beautiful actresses arouse Warren Beatty, or career liberals boil the blood of Glenn Beck and Rush Limbaugh. It's visceral. The thinker of this ilk looks in the mirror and sees Galileo bravely muttering "*Eppure si muove!*" ("And yet, it moves!") while Vatican guards drag him away. Sometimes the hero in the reflection is Voltaire sticking it to the clerics, or Darwin triumphing against both Church and Church-going wife. A brave champion of beleaguered science in the modern age of pseudoscience, this Ayn Rand protagonist sarcastically derides the benighted irrationalists and glows with a self-anointed superiority. Who wouldn't want to feel that sense of power and rightness?

You hear the voice regularly—along with far more sensible stuff—in the latest of a now common genre of science patriotism, *Nonsense on Stilts: How to Tell Science From Bunk* (University of Chicago Press), by Massimo Pigliucci, a philosophy professor at the City University of New York. Like such not-so-distant books as *Idiot America*, by Charles P. Pierce (Doubleday, 2009), *The Age of American Unreason*, by Susan Jacoby (Pantheon, 2008), and *Denialism*, by Michael Specter (Penguin Press, 2009), it mixes eminent common sense and frequent good reporting with a cocksure hubris utterly inappropriate to the practice it apotheosizes.

According to Pigliucci, both Freudian psychoanalysis and Marxist theory of history "are too broad, too flexible with regard to observations, to actually tell us anything interesting." (That's right—not one "interesting" thing.) The idea of intelligent design in biology "has made no progress since its last serious articulation by natural theologian William Paley in 1802," and the empirical evidence for evolution is like that for "an open-and-shut murder case."

Pigliucci offers more hero sandwiches spiced with derision and certainty. Media coverage of science is "characterized by allegedly serious journalists who behave like comedians." Commenting on the highly publicized Dover, Pa., court case in which U.S. District Judge

John E. Jones III ruled that intelligent-design theory is not science, Pigliucci labels the need for that judgment a "bizarre" consequence of the local school board's "inane" resolution. Noting the complaint of intelligent-design advocate William Buckingham that an approved science textbook didn't give creationism a fair shake, Pigliucci writes, "This is like complaining that a textbook in astronomy is too focused on the Copernican theory of the structure of the solar system and unfairly neglects the possibility that the Flying Spaghetti Monster is really pulling each planet's strings, unseen by the deluded scientists."

Is it really? Or is it possible that the alternate view unfairly neglected could be more like that of Harvard scientist Owen Gingerich, who contends in *God's Universe* (Harvard University Press, 2006) that it is partly statistical arguments—the extraordinary unlikelihood eons ago of the physical conditions necessary for self-conscious life—that support his belief in a universe "congenially designed for the existence of intelligent, self-reflective life"? Even if we agree that capital "I" and "D" intelligent-design of the scriptural sort—what Gingerich himself calls "primitive scriptural literalism"—is not scientifically credible, does that make Gingerich's assertion, "I believe in intelligent design, lowercase i and lowercase d," equivalent to Flying-Spaghetti-Monsterism?

Tone matters. And sarcasm is not science.

The problem with polemicists like Pigliucci is that a chasm has opened up between two groups that might loosely be distinguished as "philosophers of science" and "science warriors." Philosophers of science, often operating under the aegis of Thomas Kuhn, recognize that science is a diverse, social enterprise that has changed over time, developed different methodologies in different subsciences, and often advanced by taking putative pseudoscience seriously, as in debunking cold fusion. The science warriors, by contrast, often write as if our science of the moment is isomorphic with knowledge of an objective world-in-itself—Kant be damned!—and any form of inquiry that doesn't fit the writer's criteria of proper science must be banished as "bunk." Pigliucci, typically, hasn't much sympathy for radical philosophies of science. He calls the work of Paul Feyerabend "lunacy," deems Bruno Latour "a fool," and observes that "the great pronouncements of feminist science have fallen as flat as the similarly empty utterances of supporters of intelligent design."

It doesn't have to be this way. The noble enterprise of submitting

nonscientific knowledge claims to critical scrutiny—an activity continuous with both philosophy and science—took off in an admirable way in the late 20th century when Paul Kurtz, of the University at Buffalo, established the Committee for the Scientific Investigation of Claims of the Paranormal (Csicop) in May 1976. Csicop soon after launched the marvelous journal *Skeptical Inquirer*, edited for more than 30 years by Kendrick Frazier.

Although Pigliucci himself publishes in *Skeptical Inquirer*, his contributions there exhibit his signature smugness. For an antidote to Pigliucci's overweening scientism 'tude, it's refreshing to consult Kurtz's curtain-raising essay, "Science and the Public," in *Science Under Siege* (Prometheus Books, 2009, edited by Frazier), which gathers 30 years of the best of *Skeptical Inquirer*.

Kurtz's commandment might be stated, "Don't mock or ridicule—investigate and explain." He writes: "We attempted to make it clear that we were interested in fair and impartial inquiry, that we were not dogmatic or closed-minded, and that skepticism did not imply a priori rejection of any reasonable claim. Indeed, I insisted that our skepticism was not totalistic or nihilistic about paranormal claims."

Kurtz combines the ethos of both critical investigator and philosopher of science. Describing modern science as a practice in which "hypotheses and theories are based upon rigorous methods of empirical investigation, experimental confirmation, and replication," he notes: "One must be prepared to overthrow an entire theoretical framework—and this has happened often in the history of science ... skeptical doubt is an integral part of the method of science, and scientists should be prepared to question received scientific doctrines and reject them in the light of new evidence."

Considering the dodgy matters *Skeptical Inquirer* specializes in, Kurtz's methodological fairness looks even more impressive. Here's part of his own wonderful, detailed list: "Psychic claims and predictions; parapsychology (psi, ESP, clairvoyance, telepathy, precognition, psychokinesis); UFO visitations and abductions by extraterrestrials (Roswell, cattle mutilations, crop circles); monsters of the deep (the Loch Ness monster) and of the forests and mountains (Sasquatch, or Bigfoot); mysteries of the oceans (the Bermuda Triangle, Atlantis); cryptozoology (the search for unknown species); ghosts, apparitions, and haunted houses (the Amityville horror); astrology and horoscopes (Jeanne Dixon, the "Mars effect," the "Jupiter effect"); spoon bending (Uri Geller). ... "

Even when investigating miracles, Kurtz explains, Csicsvari's intrepid senior researcher Joe Nickell "refuses to declare a priori that any miracle claim is false." Instead, he conducts "an on-site inquest into the facts surrounding the case." That is, instead of declaring, "Nonsense on stilts!" he gets cracking.

Pigliucci, alas, allows his animus against the nonscientific to pull him away from sensitive distinctions among various sciences to sloppy arguments one didn't see in such earlier works of science patriotism as Carl Sagan's *The Demon-Haunted World: Science as a Candle in the Dark* (Random House, 1995). Indeed, he probably sets a world record for misuse of the word "fallacy."

To his credit, Pigliucci at times acknowledges the nondogmatic spine of science. He concedes that "science is characterized by a fuzzy borderline with other types of inquiry that may or may not one day become sciences." Science, he admits, "actually refers to a rather heterogeneous family of activities, not to a single and universal method." He rightly warns that some pseudoscience—for example, denial of HIV-AIDS causation—is dangerous and terrible.

But at other points, Pigliucci ferociously attacks opponents like the most unreflective science fanatic, as if he belongs to some Tea Party offshoot of the Royal Society. He dismisses Feyerabend's view that "science is a religion" as simply "preposterous," even though he elsewhere admits that "methodological naturalism"—the commitment of all scientists to reject "supernatural" explanations—is itself not an empirically verifiable principle or fact, but rather an almost Kantian precondition of scientific knowledge. An article of faith, some cold-eyed Feyerabend fans might say.

In an even greater disservice, Pigliucci repeatedly suggests that intelligent-design thinkers must want "supernatural explanations reintroduced into science," when that's not logically required. He writes, "ID is not a scientific theory at all because there is no empirical observation that can possibly contradict it. Anything we observe in nature could, in principle, be attributed to an unspecified intelligent designer who works in mysterious ways." But earlier in the book, he correctly argues against Karl Popper that susceptibility to falsification cannot be the sole criterion of science, because science also confirms. It is, in principle, possible that an empirical observation could confirm intelligent design—i.e., that magic moment when the ultimate UFO lands with representatives of the intergalactic society that planted early life here, and we accept their evidence that they did it. The point is not that this is remotely likely. It's that the possibility is not irrational, just as provocative science

fiction is not irrational.

Pigliucci similarly derides religious explanations on logical grounds when he should be content with rejecting such explanations as unproven. "As long as we do not venture to make hypotheses about who the designer is and why and how she operates," he writes, "there are no empirical constraints on the 'theory' at all. Anything goes, and therefore nothing holds, because a theory that 'explains' everything really explains nothing."

Here, Pigliucci again mixes up what's likely or provable with what's logically possible or rational. The creation stories of traditional religions and scriptures do, in effect, offer hypotheses, or claims, about who the designer is—e.g., see the Bible. And believers sometimes put forth the existence of scriptures (think of them as "reports") and a centuries-long chain of believers in them as a form of empirical evidence. Far from explaining nothing because it explains everything, such an explanation explains a lot by explaining everything. It just doesn't explain it convincingly to a scientist with other evidentiary standards.

A sensible person can side with scientists on what's true, but not with Pigliucci on what's rational and possible. Pigliucci occasionally recognizes that. Late in his book, he concedes that "nonscientific claims may be true and still not qualify as science." But if that's so, and we care about truth, why exalt science to the degree he does? If there's really a heaven, and science can't (yet?) detect it, so much the worse for science.

As an epigram to his chapter titled "From Superstition to Natural Philosophy," Pigliucci quotes a line from Aristotle: "It is the mark of an educated mind to be able to entertain a thought without accepting it." Science warriors such as Pigliucci, or Michael Ruse in his recent clash with other philosophers in these pages, should reflect on a related modern sense of "entertain." One does not entertain a guest by mocking, deriding, and abusing the guest. Similarly, one does not entertain a thought or approach to knowledge by ridiculing it.

Long live *Skeptical Inquirer*! But can we deep-six the egomania and unearned arrogance of the science patriots? As Descartes, that immortal hero of scientists and skeptics everywhere, pointed out, true skepticism, like true charity, begins at home.

Carlin Romano, critic at large for The Chronicle Review, teaches philosophy and media theory at the University of Pennsylvania.

Copyright 2010. All rights reserved.

The Chronicle of Higher Education 1255 Twenty-Third St, N.W. Washington, D.C. 20037