

ESSAY REVIEW

“Denialism”: The New “Pseudo-Science”

Denialism: How Irrational Thinking Hinders Scientific Progress, Harms the Planet, and Threatens Our Lives by Michael Specter. Penguin Press, 2009. 304 pp., \$27.95. ISBN 9781594202308.

Special Report: Living in Denial by Michael Shermer, Debora MacKenzie, Richard Littlemore, Jim Giles, and Michael Fitzpatrick. *New Scientist*, 15 May 2010, pp. 36–45.

Bertrand Russell (among others) remarked on the sad fact that it takes ever so many more words to correct a false assertion than it takes to make that false assertion in the first place. Specter’s book and the Special Report series of articles in *New Scientist* illustrate that—for volumes could be filled with analyses of the ignorance displayed by these writers.

In a nutshell: These writers fit the category of self-styled “skeptics” whom Marcello Truzzi accurately described as *pseudo-skeptics*: They label as “pseudo-science” any view that they regard as wrong, without displaying any felt need to demonstrate why that label might be appropriate. That would have required defining pseudo-science and showing how the particular item being criticized satisfies the definition; and that has never been done, for one thing because neither philosophy of science nor any other pertinent discipline has ever been able to agree on how to define “pseudo-science”—or for that matter, “science.” Innumerable attempts have failed to establish criteria that distinguish science from other knowledge-seeking attempts, or that distinguish good, proper science from bad, improper or spurious science. For an authoritative account regarding that failure, Laudan (1983) is accessible as well as sound. For some unsuccessful attempts to define “pseudo-science,” see “Pseudoscientists, Cranks, Crackpots” (Bauer, 1984/1999). For discussion of a number of topics often called “pseudo-science” and a review of the lack of validity in that labeling, see *Science or Pseudoscience: Magnetic Healing, Psychic Phenomena, and Other Heterodoxies* (Bauer, 2001). Yet Specter claims that “the line between science and pseudoscience was deliberately blurred” (p. 160): What line? That non-existent, undefined, undefinable line?

Pseudo-skeptics are largely, perhaps always, unwitting defenders of scientism, the erroneous ideology which holds that science and science alone

can capture objective truth; pseudo-skeptics attack true skeptics just because we question a contemporary mainstream consensus in science.

Of late the vigilantes of scientism have adopted the term “denialism” rather than “pseudo-science” to describe the questioning of received scientific wisdom, and they have taken to calling the questioners “deniers” or “denialists.” This change in terminology was spurred plausibly because “denialism” carries more emotional charge than “pseudo-science,” since “denialism” first came into popular usage in connection with denials that the Holocaust was a deliberate and not-far-from successful attempt to eradicate from the planet all those of Jewish descent. “Denialism” is as intellectually barren and invalid a term as “pseudo-science.”

Michael Specter’s book, and the article series in *New Scientist*, illustrate all this admirably, which is to say sickeningly: They are intellectual garbage.

Bear in mind Bertrand Russell’s cited insight: It’s impossible to demonstrate everything that’s wrong in these writings short of many hundreds of pages. So I can only illustrate, which leaves me open to the charge of taking out of context or over-generalizing. To such a charge, I can only say: “Be my guest. Read all of that book and those articles.” If you do that, you will declare me innocent of any deception or exaggeration.

Specter’s book is a muddle, a mish-mash, unfocused, incoherent, and intellectually shallow to say the least. He doesn’t define “denialism,” but his remarks about it show that it is the questioning of anything that Specter believes to be true. Most of the book is a paean to the wonders of science. Periodically he acknowledges reality, for instance by admitting that genetic engineering and genetically modified (GM) foods are not without risk: But then he immediately muddles that admission by labeling as denialists those who, because of those real risks, have argued and acted against widespread deployment of GM foods and seeds.

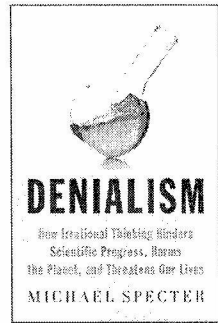
Specter is an award-winning science writer, yet he commits such rubbish as “unmistakable connection between ‘conventional’ plant breeding and genetic engineering” (p. 118). What true skeptics about GM foods point to is the unmistakable disconnect. Conventional plant breeding works via whatever results hybridization and mutation bring about by means of naturally evolved mechanisms that we do not fully understand; genetic engineering by contrast is a hit-and-miss injecting of genetic material in hopes that it will somehow lodge in a place where it can be “expressed” in the intended manner. That procedure ignores just about everything that’s been discovered about genetic mechanisms since the elucidation of DNA structure (Ast, 2005), namely: that “genes” aren’t single entities that always do the same thing (make the same protein); that intricate signaling determines when “genes” are switched on and off and how they divide themselves into sub-units that coordinate with sub-

units of other “genes” to do the right thing at the right time; that “junk” DNA—which constitutes the largest part of the human genome—has something to do with the signaling, as well as incorporating evolutionarily acquired “fossils” of retroviruses (human endogenous retroviruses, HERVs) that may protect against exogenous viruses (and which have likely been responsible for the mistaken “identification” of “HIV” as the cause of AIDS). Genetic engineering has yet to understand all these things well enough to know what bits of DNA need to be placed exactly where if they are to do what’s wanted, nor has a means even been found to place bits of DNA exactly where intended. And yet Specter asserts that “Genetics and molecular biology are simply tools to help scientists choose with greater precision which genes to mix (and how to mix them)” (p. 117).

So Specter knows his science as little as he knows his philosophy of science. The shallowness of Specter’s understanding of science might be epitomized by this: “Francis Bacon invented what we have come to regard as the scientific method (and Galileo began to put it to use)” (p. 9). It was painful to read this book, which is replete with such nonsense: “we are either going to embrace new technologies, along with their limitations and threats, or slink into an era of magical thinking” (p. 16). “Science and religion have always clashed and always will” (p. 17). On topics where a reader is informed, Specter’s ignorance is likely to be manifest all too clearly. For example, I know quite a lot about HIV/AIDS, including that after nearly three decades it remains a mystery how HIV purportedly destroys the immune system, since all of the suggested mechanisms have so far been disconfirmed: “It is not clear how much of the pathology of AIDS is directly due to the virus and how much is caused by the immune system itself. There are numerous models which have been suggested to explain how HIV causes immune deficiency” (Cann, 2005); yet Specter writes: “Without the tools of molecular biology, we wouldn’t have a clue how the AIDS virus works” (p. 20). In fact we don’t have a clue, and perhaps that explains why all attempts to make vaccines or microbicides have failed.

At any rate, the book is about “denialism” only as part of an obsequious obeisance to “Science”: Anything that questions current dogma is thereby “denialism.” Even the titles of the book’s chapters expose Specter’s prejudices: “Vioxx and the fear of science”; “Vaccines and the great denial”; “The organic fetish”; “The era of Echinacea”; though the last two, “Race and the language of life” and “Surfing the exponential,” are somewhat obscure until you’ve scanned their texts.

The book is muddled everywhere. Eric Topol is described as someone who was right about the dangers of Vioxx and who became thereby “an outcast in



his own profession, shunned for his warnings and eventually driven from the department he made famous” (p. 31). In other words, Topol was a denialist who was right when the mainstream was wrong! Nowhere does Specter try to explain why “denialism” is bad when denialist Topol is good and should have been attended to. To muddle things even further, Specter concludes the Vioxx chapter with this rather monumental non sequitur: “When we compare the risk of taking Vioxx to the risk of getting behind the wheel of a car, it’s not at all clear which is more dangerous” (p. 55).

In the chapter on vaccines, Specter fails to make the crucial distinction between two quite different matters: vaccination in principle on the one hand, and on the other the use in practice of preservatives such as organic-mercury-containing thiomersol and such non-specific allergenic or toxic “adjuvants” as squalene. Many “denialists” question the latter, not the former, but Specter tars them all with the same brush. He also lauds Gardasil (p. 100) as an effective cancer vaccine, when we are decades away from being able to assess that.

“Race and the language of life” interested me because it recognizes that the markedly different tendencies to be asthmatic between West-Coast Hispanics and East-Coast Hispanics obviously has a genetic basis—just as does the tendency to test “HIV-positive” (Bauer, 2007). But then the chapter becomes unfocused, like the rest of the book, and it’s not clear what Specter is getting at. He even fails to criticize the extraordinary albeit widespread foolishness of presuming that all “Latinos” or “Hispanics” share a common cultural or “ethnic” heritage. Unlike Ruth Benedict (Benedict, 1942/1983), Specter and those he cites don’t appear to understand that “race” is a matter of biology whereas racism is a matter of culture, and there’s nothing racist about investigating genetic aspects of race, indeed it can improve medical treatment, for example by appropriately varying drug dosages.

“Surfing the exponential” is about synthetic biology and presumably is meant to suggest speeding along a wave into the future. Synthetic biology seeks to create entirely new, human-designed organisms by putting together strings of DNA that Nature never put together, in order “to redesign the living world.” Here Specter illustrates what he means by denialism: “Synthetic biology provides what may be our last chance to embrace science and reject denialism” (p. 226). In other words, to call “Halt” to even the most far-fetched experimenting that has unforeseeable, enormously far-reaching consequences—experimentation by people who literally don’t know what they’re doing—is denialism, just so long as those experimenters could be said to be doing science. Here are some other examples of Specter’s lack of clarity as to what denialism is supposed to be: “Denialism is at least partly a defense against that sense of helplessness” in the face of “highly sophisticated technology we can barely understand” (p. 33); “denialism [is] at the core of nearly every alternative approach to medicine” (p.

158). “Denialism provides a way to cope with medical mistakes like Vioxx and to explain the technical errors of Chernobyl or Bhopal” (p. 47); I wondered, “How does that work?,” but Specter didn’t enlighten me.

Or, denialism results from disappointed high expectations (p. 51); “willful ignorance . . . [is] the driving force of denialism” (p. 118)—as in the case of Topol, above, perhaps?

“When people decide that science can’t solve their problems, they reject its principles.” Where does that generalization come from? “Denying the truth becomes a habit” follows that sentence immediately (p. 127). So Specter is asserting that rejecting the principles of science—whatever that might mean—is a denying of truth. The book is brim-full of such silly assertions and non sequiturs.

“Denialists shun nuance and fear complexity, so instead of asking how science might help resolve our problems, they reject novel strategies even when those strategies are supported by impressive data and powerful consensus” (p. 4). Doesn’t he know that “impressive” data are in the eyes of the beholder, and that even the most “powerful” consensus has often been wrong?

“Holocaust deniers and AIDS denialists are intensely destructive—even homicidal—but they don’t represent conventional thought and never will” (p. 4). Of course, neither does breakthrough science represent conventional thought.

The “most remarkable act of denialism” by President George W. Bush was “to devote one-third of federal HIV-prevention funds to ‘abstinence and marriage’ programs” (p. 8). Stupid, perhaps; ineffectual, probably; but denialist?! Just because Specter says so?

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The essays in *New Scientist* are of a piece with Specter’s ignorant muddle. The lead author is Michael Shermer, who introduces the series by proclaiming, “I am a sceptic, but I’m not a denier.” The difference, he says, is that Shermer takes “a scientific approach to the evaluation of claims.” This is the Shermer who dismissed my book *without having read it* because the overwhelming majority of medical scientists regard the connection between HIV and AIDS as overwhelming; apparently he doesn’t even know that hundreds of medical scientists and medical practitioners have expressed their disagreement with that “consensus.” Shermer continues by asserting that climate skeptics have looked at the evidence whereas climate deniers had their position staked out in advance—an egregious, atrocious calumny on the thousands of true climate skeptics—competent and appropriately qualified climatologists and meteorologists and atmospheric scientists and geologists, and the like—who have signed petitions asking for the evidence to be looked at properly, that is,

the actual evidence and not the outputs of computer models that mainstream dogmatists of human-caused global warming keep pushing on gullible policy makers and media pundits.

Among Shermer's more amusing assertions is that "good scientists are sceptical." No! The greatest achievements in science have come from strong-willed individuals who paid little or no attention to ideas or claims that conflicted with their own pet notions. They were skeptical just as Shermer is, toward everything except their own notions.

I am among those who have been called a denialist as to HIV/AIDS. According to Shermer, that means that I am "automatic[ally] gainsaying . . . a claim regardless of the evidence"; because, if I'm a typical denialist then I'm "driven by ideology or religious belief." Had he read my book, he would have learned that I was driven by a collation of the mainstream data on "HIV" tests to deny the HIV–AIDS connection, *to my own initial astonishment* (Bauer, 2009a).

What Shermer has written here is a just-so story describing his firm belief that he can see the truth when others cannot, and feeling therefore at liberty to call those with different views "deniers" or "denialists." At the same time, Shermer asserts that science is not a matter of belief but of facts: Evolution or Big Bang either happened or they didn't, and "both matters can, in principle, be solved with more data and better theory." As to "evolution" he's wrong because that word needs to be defined very precisely before anything can be said on that score, much of the disputation being the result of a lack of such precision; as to Big Bang, of course that can never be finally decided by human beings no matter how much data might be accumulated or how many abstruse theories might be thrown into the mix.

"Sceptics," Shermer concludes, "change their mind. Deniers just keep on denying." But most of those I've met and heard from who deny the connection between HIV and AIDS were converted from a prior acceptance of such a connection, whereas "sceptics" like Shermer just keep on denying the plain evidence that has accumulated over more than two decades since that connection was first asserted on the basis of highly dubious inferences.

Shermer's nutshell illustrations of "True Disbelievers" further illustrate his ignorance of what he presumes to write about. AIDS denialists, he says, call themselves "AIDS truthers"! Utterly wrong, as the most rudimentary attempt to fact-check would have discovered. We call ourselves AIDS Rethinkers or HIV Sceptics. "AIDStruth.org," by contrast, is the website of the most intemperate vigilantes for the mainstream view.

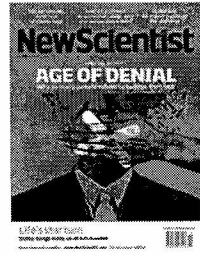
Debora MacKenzie, the *New Scientist* correspondent in Brussels, contributes a piece that is even worse than Shermer's. As an example of "denial" she cites the proposition that the swine flu pandemic was a hoax; yet it has become quite

plain that the dangers of swine flu were vastly overstated and that no pandemic eventuated despite the lack of widespread vaccination. She notes that “denial finds its most fertile ground in areas where the science must be taken on trust.” This from a correspondent for a science journal? When and why should any “science” ever be taken on trust? And, MacKenzie holds that “all denial is essentially the same”; when in reality one can only judge any specific issue on its own merits and the arguments over evolution, human-caused global warming, HIV/AIDS, Big Bang, etc., have to do with quite different sorts of evidence and different reasons for doubting the mainstream dogmas. MacKenzie cheerfully cites a vaccinologist who diagnoses the mental and emotional character of vaccine deniers, as though he were a psychologist or sociologist. She asserts that Seth Kalichman spent a year infiltrating denialist groups when he did nothing of the sort (Bauer, 2009b). Many denialist movements “originate as cynical efforts by corporations”: an apt description rather of HIV/AIDS activist groups, most of them funded by pharmaceutical companies and which campaign for widespread use of antiretroviral drugs. “[D]enial is often driven by an overtly political agenda”; but then, of course, so are “mainstream” assertions. That “HIV deniers . . . have massive but mysterious funding” will come as a shock to us “HIV deniers” who have yet to see any of it, say, as we pay our own way to conferences while pharmaceutical companies pay mainstreamers to go to their conferences. MacKenzie also keeps suggesting a commonality among all “denialisms,” namely, conservatism, while paying the usual lip-service to not committing that innuendo of guilt by association.

Jim Giles’s essay, “Giving life to a lie,” follows the usual course of simply assuming the mainstream consensus to be always right, fleshing that out with such banalities as “we seldom bother to check the veracity of what we are told,” which actually describes precisely what Giles himself and other unthinking groupies of mainstream views do habitually.

The last essay, by Michael Fitzpatrick, promised to be different: “Don’t mention the d-word.” Labeled “Opinion”—unlike the other essays!—this “argues that branding your opponent a denier is a convenient way of ducking difficult questions.” YES! At last an independent and thoughtful piece!

Indeed, Fitzpatrick criticizes Michael Specter for his assertion that denialists “replace the rigorous and open-minded scepticism of science with the inflexible certainty of ideological commitment” and points out that “the concept of denialism is itself inflexible, ideological, and intrinsically anti-scientific . . . used to close down legitimate debate by insinuating moral deficiency in those expressing dissident views. . . . crying denialism is a form of ad hominem argument.” Bravo!



I wish Fitzpatrick had stopped there. Unfortunately, he continues that “the popular appeal of pseudoscience is undoubtedly a problem,” and as one example cites Peter Duesberg’s claim that HIV doesn’t cause AIDS, and makes the following errors about that:

- ◆ that Duesberg couldn’t substantiate his hypothesis, whereas in reality he has documented it copiously;
- ◆ that his supporters include “disaffected scientists, credulous journalists, charlatans, quacks and assorted conspiracy theorists and opportunistic politicians.” No doubt there are some of those, but defenders of the mainstream also include demonstrably some “credulous journalists, charlatans, . . . assorted conspiracy theorists and opportunistic politicians”;
- ◆ that mainstream scientists made “a comprehensive rebuttal of Duesberg,” albeit only five years later. But where is that rebuttal? Fitzpatrick doesn’t cite it, and we dissidents haven’t seen it despite innumerable requests to mainstream-adherents that it be cited to us.

To cap that off, Fitzpatrick cites as authoritative, Kalichman’s book.

But perhaps his essay is redeemed by its last two paragraphs. Using the terms “pseudoscience” or “denialism” amounts to labeling certain views as “a secular form of blasphemy,” and it is “illiberal,” “intolerant,” “ineffective.” “What we need is more debate, not less.” Amen.

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