

## BOOK REVIEW

**The Pseudoscience Wars: Immanuel Velikovsky and the Birth of the Modern Fringe** by Michael D. Gordin. University of Chicago Press, 2012. 291 pp. \$29 (hardcover). ISBN 978-0226304427.

Everyone interested in pseudoscience, fringe science, anomalistics, is likely to benefit from the material in this work. The book has much to say about the social and political context in which heterodox claims about matters of science have flourished and been argued over since the middle of the 20<sup>th</sup> century. Creationism and Lysenkoism as well as Velikovsky are discussed quite comprehensively and informatively. Attempts within unorthodoxies to maintain a monolithic paradigm are illustrated and analyzed to good purpose.

*The Pseudoscience Wars* uses the Velikovsky episode as entrée to examine how scientists and society behave when drastically unorthodox claims about matters of science are ventured by non-scientists; the Velikovsky affair “was about science in the postwar public sphere” (p. 22); “an abiding anxiety about science’s relation to the ‘public’” (p. 47) was central in the reaction of the scientific community.

Much of the material is drawn from the Velikovsky Archives and some of it is likely to be new to most readers; in other ways as well the book illustrates the wide-ranging familiarity with pertinent literature that historians somehow manage to command, enabling them to recapture comprehensively the ambience of past eras.

I should disclose that I published a book about the Velikovsky Affair nearly 30 years ago, and that I’m cited at many places in this book; but on those matters Gordin does not quarrel with what I wrote nor do I quarrel with his takes on those issues—my book was concerned with how scientists ought to have addressed Velikovsky’s substantive propositions, whereas Gordin explicitly disavows concern with the correctness or otherwise of Velikovsky’s claims. His “goal is historical: to chronicle what happened, to explain when possible why, and to reveal the passions excited by calling something ‘science’ across this temporal period” (p. 18). This approach, agnostic about the substantive claims, is at once a strength but also a weakness. The strength lies in the elucidation of the influence of social context, which is too often ignored by unorthodox thinkers and their critics, who all imagine their task to be purely intellectual, focusing on the

substantive claims. The weakness lies in the fact that how society reacts to unorthodox claims ought surely to vary according to the plausibility or legitimacy of those claims, so ignoring that aspect could distort some conclusions. But no book can do everything, and Gordin has done a major service by addressing important factors that have not before been discussed adequately.

The book begins with the unequivocal assertion that pseudoscience is an empty concept since there exist no viable demarcation criteria by which science can be distinguished from non-science, be it called pseudoscience or something else. Indeed, the very definition of pseudoscience as something that “resembles or mimics” science, “has the trappings but not the essence of science” (p. 202) means that there could not be a definitive way of distinguishing science from its Doppelgänger, pseudoscience. Pseudoscience is just a pejorative term employed when scientists or their groupies feel the enterprise of science to be threatened. There is no commonality among all the matters that have at various times been labeled pseudoscience, other than that they have been abhorrent to some number of scientists or their fans or some part of the scientific establishment. Gordin is also spot on in pointing out Martin Gardner’s role in turning “discussions of alleged pseudoscience into debunking crusades” (p. 12).

Immediately one might ask why scientists should ever feel threatened by claims from outsiders, given that science and scientists enjoy high social prestige and that their opinions are granted almost universal deference. Here Gordin provides welcome insights based on the social environment in which Velikovsky caused such a brouhaha in 1950 with the publication of *Worlds in Collision*—claiming that literary sources reveal that Venus was once a comet that induced such cataclysmic events on Earth as the parting of the Red Sea and the falling of the walls of Jericho. Among the important contextual factors were:

- Science had only recently attained its current high status, perhaps chiefly as a result of the World-War-II–ending, atom-bomb development as well as the work on radar, penicillin, and other technological feats that brought much of science out of its traditional ivory tower. (Critical aspects of this fundamental change in scientific activity are summarized in Ziman (1994).)
- Anxiety over keeping the recently gained high status and the generous funding for science that accompanied it was exacerbated by political circumstances: rabid anti-Communism by the House Un-American Activities Committee and Senator Joe McCarthy had harassed quite a few prominent scientists.

Under those circumstances, some scientists over-reacted: threatening the publisher of *Worlds in Collision*, castigating the book while proclaiming they had not read it. The fuss gave Velikovsky much greater publicity than if the book had just been ignored by official science.

In the 1960s and 1970s, some social scientists and some student groups seized on Velikovsky's work as a tool to promote postmodernist, relativist attitudes and anti-Establishment activities. Velikovsky himself never set out to battle with science, he wanted acceptance, and was drawn rather unwillingly into acting as an anti-Establishment guru; however, Gordin suggests,

Velikovsky served as a middle ground for people of all political persuasions. He was an underdog in an age that had ceased to trust scientists (capturing the Left), but he also promoted deeper study of the Bible (seducing the Right) in a decade whose best-selling work was Hal Lindsey's *Late Great Planet Earth* (1970), an application of biblical eschatology to Cold War geopolitics. (p. 169)

Disparate others also sought to benefit from Velikovsky's coat-tails: a conscientious objector on non-religious grounds (pp. 174–175), a Native American activist (pp. 175–176).

Given the appeal of science fiction to contemporary youth, what did authors of science fiction think of Velikovsky? "Among the most persistent and hostile critics . . . were the luminaries of science fiction" (p. 170). Gordin seems to find this rather surprising, but I do not: Authors of science fiction such as Asimov or Crichton tend to be very knowledgeable about science and good friends of honest science.

A novel and illuminating feature of this book is the comparing of the Velikovsky matter with several other topics, Lysenkoism and scientific creationism in particular. At roughly the same time as *Worlds in Collision* was published, Western scientists had been surprised and disturbed that political machinations and control had led to biology in the Soviet Union being taken over by a pseudoscientific doctrine, Lysenkoism, which rejected genetic theory and claimed to be able to modify heredity directly and deliberately. Gordin doesn't mention it, but in the same era Soviet ideologists had also declared the "idealistic" theories of chemical bonding and quantum mechanics incompatible with Marxist materialist principles, so chemists and physicists as well as biologists were aghast at what damage could result when outsiders were enabled to interfere with science. Thus when Velikovsky came along at the same time as American politicians were harassing supposed Communists in the scientific community, some scientists became perhaps overly concerned that the public might take him seriously.

Gordin's recounting of the Lysenko affair and its impact on American scientists is well worth reading just for its own sake. Not only had World War II brought scientists unprecedented status, it had stimulated them to seek to influence public policy. One outcome was a journal, the *Bulletin of the Atomic Scientists*, which had articles about the Lysenko affair as well as such matters closer to home as atomic bombs and nuclear power stations. The geneticist Dobzhansky clearly recognized that the importance science had assumed "in the lives of individuals and of nations" meant that science would "need popular support and will have to submit to social control" (p. 96). So even a populist like Velikovsky could be seen as a threat to science if he managed to achieve public credibility.

Chapter 4 of *The Pseudoscience Wars* discusses the history of eugenics as showing that something once labeled pseudoscience can rehabilitate itself, segueing into Velikovsky's attempts at legitimation by cultivating interactions with well-established scientists, Einstein in particular. Like all dissenters from mainstream doctrines, "Velikovsky found himself torn between becoming popularized and becoming vulgarized" (p. 162). Charismatic individuals like Velikovsky appeal to people who have a genuine interest in matters scientific and who long for *understandable* science by contrast to the impenetrable abstractions and jargon that permeate modern research; but popularizing morphs easily into, or leads to, unbridled superficial speculation.

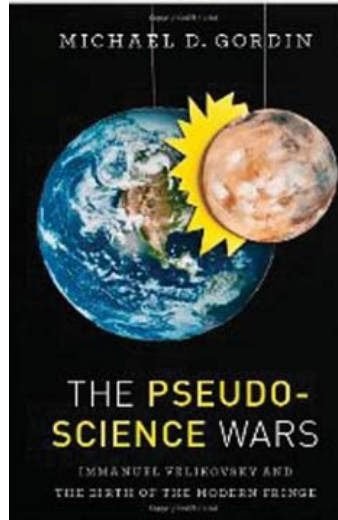
Chapter 5 has much of importance for and about people maligned as pseudoscientists, using as a prime example scientific creationism, which also connects substantively to the Velikovsky story at a number of points. The attempt to promulgate alternatives to mainstream science is always fraught with the difficulty of maintaining a common front. Freud's problems with his disciples are well-known. Ufology and parapsychology and cryptozoology have all experienced infighting and schisms. Velikovsky was frequently unhappy with efforts made by people who thought they were supporting his views even as they differed in some respects and in ways that were not congenial to him. Scientific creationism, the brainchild of Henry Morris, experienced similar episodes of self-styled supporters unwelcome to Morris. Creationism and Velikovsky could not avoid all contact because both found support for their views in heterodox interpretations of geology and fossils—albeit their interpretations were totally distinct; Velikovsky was often at pains to distance himself from religious fundamentalism, and Morris tried to hide that some of his citations were the same as Velikovsky's (e.g., p. 145): "If Velikovsky was too 'pseudo' for Morris, creationism was the same for Velikovsky" (p. 153). Velikovsky was also anxious to distance himself from Erich von Däniken (pp. 176–178).

The perpetual threat of schisms is illustrated by the case of Donald Patten (p. 146 ff.) whose idiosyncratic chronology and creationist theory offended both Velikovsky and Morris. Velikovsky was also unhappy with attempts to link his work to that of Wilhelm Reich (p. 158 ff.). In wanting to suppress dissent, Gordin points out, Velikovsky and his ilk can resort to the same tactics that the mainstream deploys against them; thus Velikovsky himself pronounced Patten's book as worthless while acknowledging that he had not read it himself (p. 153).

Gordin's emphasis on social context is also illuminating in pointing to the temporal proximity of on the one hand federal involvement in training scientists as part of the Cold War and on the other hand the drive by creationists to influence science curricula (p. 144). That continuing drive, now under the guise of "intelligent design," will have stimulated the scientific community to be perhaps overly sensitive to any incipient pseudoscience or pseudoscientist.

I recommend this book unreservedly, while noting here a few points on which more deserves to be said. To begin with a perhaps trivial quibble: Jacques Barzun, who happens to be a great hero of mine, did not make a "positive comment" (p. 155) about Velikovsky's work, he merely decried the ad hominem tactics directed at the man.

I think the book has a few non-trivial flaws. The "war" metaphor seems forced in places and didn't really help to illuminate anything for me. There seems an inconsistency between acknowledging pseudoscience to be an empty concept and referring to *the* pseudoscience wars (e.g., p. 158) or even a "coherent conflict of the pseudoscience wars" (p. 4), when there is really no commonality let alone coherence to be found in the controversies over the multitude of things that have been prominently called pseudoscience since the middle of the 20<sup>th</sup> century: UFOs, Loch Ness Monster, parapsychology, cold fusion, *Chariots of the Gods*, Bermuda Triangle, homeopathy, etc. Though the Velikovsky business does afford a useful entrée into considering reactions to such claims, it hardly foreshadowed or set the stage for those other things, as Gordin seems to suggest in some places; I found no evidence to support the view that "Velikovsky's lived presence—even if only on the printed page—had always been crucial to the waging of the pseudoscience



wars” (p. 195). Martin Gardner’s classic enumeration in *Fads and Fallacies in the Name of Science* claims no coherence among all the mentioned topics, nor does it recognize any primacy for Velikovsky. I think any coherence among all those disparate topics arises not from anything inherent in them but from the fact that they all played out within the contextual factors that Gordin describes so convincingly.

Gordin suggests that the Velikovsky Affair might have proceeded differently had contemporary historians focused on Velikovsky’s chronological unorthodoxies instead of treating it as a scientific dispute (p. 74); but the historians who first commented were historians *of science*, no doubt because scientists had jumped into the fray first. I’m also hesitant to accept that “one of the chief activities of the mainstream scientific community is *the process of demarcation itself*” (p. 202); if so, I would opine that this is a relatively recent development as a corollary of science moving into the halls of political power.

I wish fervently that Gordin had eschewed, in the last chapter, “Pseudoscience in Our Time,” the suggestion that threats to science nowadays come not from outsiders but from those members of the scientific community who question the mainstream consensus and who have been declared, by the official mainstream, to be “denialists” (p. 206). He is right to the extent that they are *perceived* as a threat, but his quotations indicate that he accepts that the denialists are not only substantively wrong but wrong even for wrong reasons. For a deconstruction of the use of the term *denialist*, see Furedi (2007). As a denialist myself, I dispute that we “have a common discourse, are funded by a specific set of industries, and are affiliated with particular think tanks with a common (strongly conservative) political ideology” (p. 207). On this—unlike in his comprehensive coverage of the pertinent literature in the rest of the book—Gordin cites just a few partisan sources (including the journalistic rant from Mooney (2005) and the shoddy book by Specter (2009)). We HIV/AIDS denialists exist in schismatic sects, are not funded by anyone, and represent the range of political persuasions from very Green to quite conservative–reactionary, including libertarians of several stripes (I relished sitting between two self-styled libertarians who had diametrically opposite views about Obamacare). Moreover, on issues where “denialism” is shouted, even more than regarding what is labeled pseudoscience, the validity of the evidence for and against the mainstream consensus cannot be ignored, it’s the central point. As I’ve shown elsewhere, if the evidence is respected one must conclude that it is far from settled science that HIV causes AIDS (Bauer 2007) or that human activities have appreciably added to global warming (Bauer 2012).

I hope these caveats will be seen as information for readers of the

book, not as detracting in any way from the book's value. After all, it is a high compliment that a book invites and warrants discussion. Gordin's treatment of many important matters is thoroughly scholarly and highly informative, especially as to social context which has typically been given too short shrift in discourse about pseudoscience. That Gordin may not have everything right is hardly a serious criticism, especially since he gets so much so insightfully right.

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