

A Scientist's View of Pseudoscience

By Brian Martin

Michael W. Friedlander, *At the Fringes of Science*. Boulder: Westview Press, 1995. Pp. xiii + 196. US\$24.95 HB.

How should a working scientist deal with claims about UFOs, creation science, the fifth force and psychic phenomena? A study of Friedlander's book provides an agreeable answer. It presents the view of a physicist with conventional positivist views about science. The text is admirably clear and well organised, with numerous examples to back up the conventional view: pseudoscience must be rejected, especially when it becomes popular. The author is open-minded, with a typical scientific scepticism of unorthodox claims. This is the sort of book that many scientists might write if they investigated the issues and learned to communicate effectively to nonscientists.

Friedlander believes that in order to distinguish between science and pseudoscience, it is necessary to understand science better. He devotes several chapters to explaining how science operates, giving a cogent picture of how a scientist perceives science. He then deals with various case studies at the margins of conventional science, ranging from respectable scientists who raise unorthodox ideas to outright 'pseudoscience' such as astrology and Velikovsky.

Friedlander's framework could serve as a case study of positivist attempts at demarcation and their hidden and not-so-hidden assumptions. For constructivist analysts of science there may not seem much here to warrant attention. A closer inspection reveals a few points worth noting.

For Friedlander, the philosophy and sociology of science cannot be entirely ignored, so it is interesting to see the way he deals with them. He presents Kuhn and paradigms sympathetically. Not so relativism, which is described through the critical comments of Stephen Cole, John Ziman and Larry Laudan before being dismissed (pp. 36-7). Friedlander niftily dismisses constructivist accounts with the argument that it is scientists who decide what counts as science, so the important thing is to 'understand science

as scientists know and use it, not as others might see it' (p. 37). More bluntly, 'The analyses of many philosophers and sociologists of science may or may not be correct, but they play essentially no role in everyday science' (p. 5). If they did, no doubt scientists would complain about improper influence on science, since scientific 'findings must emerge from within science and not be dictated from the outside' (p. 144) as in the cases of Lysenkoism, Aryan physics and creation science. Friedlander has a full chapter on parapsychology, but the important work of constructivists Harry Collins and Trevor Pinch in this field is relegated to a token paragraph citing Pinch (p. 122).

This facile dismissal of constructivism is unfortunate, since in other ways the book is balanced and sensible. Friedlander could have learned from constructivists a few things to help him understand why pseudoscience is so popular, which he attributes to inadequate fact-oriented science education and media sensationalism. His problem is the familiar positivist one of assuming that science needs no explanation, so the problems must be somewhere else. He doesn't use the sometimes hostile response of the scientific community to fringe claims as a tool for understanding the dynamics of science. The idea that professional self-interest or sources of patronage might shape scientists' response to 'pseudoscience' is not to be found here.

Friedlander's book is designed for a general readership. The availability of books such as this highlights the scarcity of similarly accessible books by constructivists.

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