

PHILOSOPHY  
OF  
SCIENCE

*Official Journal of the Philosophy of  
Science Association*



VOLUME 42, NUMBER 1

March, 1975

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\* The contents of *Philosophy of Science* are indexed in *Science Citation Index*, *ABC Pol Sci, Language and Language Behavior Abstracts*, and *The Philosopher's Index*.

point he claims that each higher level system alters the *definition* of the reference condition for the level below (p. 52). Setting the furnace temperature then becomes easily conflated with setting the goal of not-wanting-to-be-noticed (p. 66). Furthermore, contrary to Powers, mutual causation is not equivalent to feedback. The rate of inflow and outflow of water into a bath equipped with an overflow drain exhibits mutual causation but not feedback because the input-output relationship is not empirically discriminable from the output-input one.

This book is replete with speculations, some of which are insightful (chess playing machines fail because they cannot perceive their opponent's heuristics, p. 171); others are bizarre ("the rigidity of many elderly people is . . . the rigidity of almost total conflict, in which every move is made against massive inner resistance," p. 259); but they are always interesting (the effects of consciousness expanding drugs is to force awareness to lowest levels of organization, p. 96). And many issues are too readily dismissed. With respect to conflict theory, the prisoner's dilemma is declared to be merely a game. But it is not the case that this paradox has "nothing to do with real situations" (p. 252), particularly in that it provides some fruitful experimental results.

Overall, the book is a delight to read; instructive as to the power and application of a cybernetic analysis; and in need of philosophical sophistication. *Thomas W. Simon, University of Florida.*

MICHAEL W. FRIEDLANDER. *The conduct of Science*. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1972. xiv + 153 pp., \$8.95; pb. \$3.95.

This book is primarily a descriptive essay in the sociology of science, with overtones of being an ethics manual for the scientific novice. It is conservative in approach, more what one would expect from an author whose interests are vested in normal science than from one highly sensitized to the language of paradigm shifts, research programs, and negative heuristics. But as such it is valuable in that it offers a solid contrast of traditional attitudes to those currently more fashionable among the Feyerabend crowd, reminding us that normal science has a structure, and necessarily so.

Friedlander is a physicist, and his discussions of the ways in which research is conducted, critically evaluated and disseminated reflect this background. Nonetheless, many of his comments generalize readily so that nonphysicists will find them of interest.

The book spans ten chapters, covering such topics as: dissemination of scientific information (chapter 2); certainty, authority, and controversy (3, 4); scientific societies and conferences, and political activity of those organizations (5); the place of research (secret and otherwise, militarily funded and otherwise) in the university (6); the social relevance of science and technology, and the relation of science and government (7, 8); and chapters on the governing values, priorities, and obligations of scientific research and researchers (9, 10). The book also contains an appendix presenting letters and other excerpts from professional literature on topics raised in 1, 5, 8, and 10.

Among the more interesting topics explored are: the relation of the professional journal reviewing system, preprints, information retrieval, personal contacts, and popularized science writing to the processes of scientific discovery and justification; an intuitively clear discussion of fundamental concepts of statistical method (such as distribution, standard deviation error, interpolation and extrapolation) and their relation to (some of) the questions of certainty and authority in science; the "Velikovsky affair"; the Oppenheimer case; government interference in science; Weinberg's homilies and their effect on applied science and technology; Brooks' criteria for choice and their effect on research funding trends; the use of science in the service of warfare.

Rather than develop and defend a position of his own, Friedlander is for the most part content to report on the ways in which scientists handle these disputes. There are occasional lapses in this pattern, where the presentation of the pro and con arguments over a particular issue seem not equally fair (viz. the Velikovsky affair), indicating the author's relative insensitivity to the methodological issues involved (Feyerabend would not, I think, be so supportive of the establishment's treatment of Velikovsky's work, although Kuhn and Lakatos would). But such lapses are easily detected, and, if the author's bibliographic references do not permit ready construction of the positions he opposes, the reader can at least recognize those shortcomings and compile his own list of alternative readings in a good library.

This book should be of use in introductory philosophy of science courses; it is not appropriately used (nor is it intended) as a primary text. *Richard T. Hull, State University of New York at Buffalo.*