

description would be valuable to the student having a need, plus some money to spend to fill it.

Still and all, this contribution by Clay and Medwin will help dispel some of the mystique concerning underwater acoustics among oceanographers. It will be a valuable text in a course designed to introduce underwater sound to oceanographers, as well as a handy introductory reference to the many diverse aspects of acoustical oceanography.

R. J. URICK
Tracor, Inc.
Rockville, Md.

Perception, Theory and Commitment: The New Philosophy of Science

H. I. Brown
203 pp. Precedent, Chicago, 1977. \$15.95

This book presents a survey, at a fairly introductory level, of the decline of logical positivism and the rise of newer philosophical accounts of science. Rather than give a simple historical account of the rise of logical positivism and its gradual demise through the death of a thousand qualifications, H. I. Brown adapts the theory of research projects, which Imre Lakatos formulated to explain scientific development, into a tool for explaining philosophical change. Logical positivism is presented as an ongoing research project based on the presuppositions that mathematical logic supplies the paradigm for scientific explanation and that the goal of science is the expression of propositions that are true, general and capable of serving as axioms in deductive explanations.

Not surprisingly, his treatment focusses more on the defects of logical positivism than on any positive achievements. In his summary and evaluation of the paradoxes of confirmation, the attempts to eliminate theoretical terms in favor of observational terms, and the deductive-nomological model of scientific explanation, Brown summarizes the familiar difficulties brought out by such advocates of logical positivism as Carl G. Hempel and Israel Scheffler as well as the criticisms developed by Paul Feyerabend, Michael Scriven and others. The criticisms offered are neither new nor very searching. Brown, however, does present them in a style that would make their significance clear to beginning philosophy students.

After a brief treatment of Karl Popper's falsificationism as a transitional and ultimately unsatisfactory bridge between the old and new philosophies of science, Brown outlines what he takes to be the most important new developments. These are: an account of perception as theory-laden, stemming from N. R.

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Hanson; Michael Polanyi's explanation of the role that tacit knowledge and knowing how play in scientific advancement; and Thomas Kuhn's account of paradigms and conceptual revolutions. Brown also develops ideas of his own on the role of presuppositions in shaping the scientist's world. The examples chosen to illustrate these doctrines are, for the most part, the historical incidents that are familiar to philosophers of science.

Ten years ago these ideas did seem to hold out the promise of a conceptual renewal in the philosophy of science. Yet no coherent, or even marginally adequate, new synthesis has unified these diverse trends. The difficulties involved are aptly illustrated by Brown's suggestions for such a synthesis. There is, in his view, no absolute truth. The truth of any scientific theory can only be evaluated relative to the presuppositions guiding the research project of which the theory is a part. In developing this position Brown effectively accepts descriptive accounts of scientific practice as normative accounts of what scientific explanation is.

This book is not suitable as a text for an introductory course in the philosophy of science. Too much is negative, too much outdated, and too little concerned with explaining science. However, it might be useful as a supplementary text, especially for those who find it enlightening to consider the dynamics of paradigm replacement in philosophy itself. The book does have one truly novel feature, a systematic error of two pages in every index reference to the text and notes from page 145 to the end.

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Electron Microscopy in the Study of Materials

P. J. Grundy, G. A. Jones

174 pp. Crane, Russak, New York, 1976.
\$19.50 clothbound, \$9.50 paperbound

For a rapidly developing technique such as electron microscopy, with its increasing importance as a research tool in many areas of science, there is always a need for a good introductory book to keep the non-specialist in touch with the state of the art. The authors of this book feel that, having given undergraduate lectures on the subject at Salford University and having taught some advanced "extramural" courses, they are in a good position to supply the same introductory information to a wider audience.

To some extent their confidence is justified. Their small book offers a quick survey of most aspects of transmission and scanning electron microscopy as it applies to non-biological solids. The in-