

BRIEF NOTES

Jed Z. Buchwald, *From Maxwell to Microphysics: Aspects of Electromagnetic Theory in the Last Quarter of the Nineteenth Century*. Chicago: University of Chicago Press, 1988. US\$17.95 (pb).

This book is a paperback version of the original 1985 edition. Its production in this cheaper form may lead to an increase in its readership, but the main limitation on that readership is more likely to arise from its technical difficulty rather than its price. However, those willing and able to cope with the technical complexities will find the book very rewarding. It is a very fine piece of internal history of science which transforms and improves our understanding of Maxwellian electromagnetic field theory. That theory differed more from the modern version than has previously been appreciated or articulated. The transition from Maxwell's theory to modern classical electromagnetic theory involved a change from a view of the electromagnetic world as a continuum to be analysed in terms of Lagrangian mechanics to a view that involved the microscopic electron occurring, not as a singularity in the field, but as an extraneous addition to it, resulting in an interacting system that is, in important respects, not a Lagrangian mechanical one. Buchwald's analysis of the nature and fate of Maxwellian theory, its reception and interpretation on the Continent and its eventual replacement, is rich in detail and raises a host of challenging and suggestive questions related to the historical, epistemological and sociological aspects of science.

Richard T. Sylves, *The Nuclear Oracles: A Political History of the General Advisory Committee of the Atomic Energy Commission, 1947-1977*. Ames, Iowa: Iowa State University Press, 1987. US\$27.50(hb).

The 1946 legislation which established the United States Atomic Energy Commission also set up a General Advisory Committee to advise the Commission on scientific and technical matters. Over its 30-year history, many highly prominent US scientists and engineers served on the Committee, including Enrico Fermi, Robert Oppenheimer and Edward Teller. This book is a record of the composition and activities of the Committee, based primarily on records of Committee meetings which have been declassified. Sylves meticulously presents detailed information about the Committee, including appointments, career histories of members and career path associations between them. He also recounts major issues dealt with by the Committee, including the nuclear energy laboratories, the hydrogen bomb and civilian uses of nuclear explosives. Unfortunately, this careful study fails to provide more than a mention of the wider political context. Topics such as the atomic scientists' movement, the cold war and the anti-communist purge (McCarthyism), US government nuclear weapons diplomacy and the peace movement are given little or no discussion.

The result is a relatively internalist account. This is not quite a house history. Anthony A. Tomei, secretary to the Committee for almost its entire life, closely viewed all versions of the manuscript. Sylves notes that he and Tomei "essentially agree in matters of interpretation" but that any critical references to the Committee or its members "should be attributed exclusively to the author" (pp. xv, xvi). The trouble is that there aren't many.

Peter F. McNally (ed.), *The Advent of Printing: Historians of Science Respond to Elizabeth Eisenstein's The Printing Press as an Agent of Change*. Montreal: McGill University Graduate School of Library and Information Studies, 1987. No price stated (pb).

This 36-page booklet contains four brief paperes presented by Montreal historians of science to a seminar held at McGill University in 1984, on the subject of Elizabeth Eisenstein's controversial book, *The Printing Press as an Agent of Change: Communications and Cultural Transformations in Early Modern Europe* (1979). The collection is prefaced by an introduction in which the editor lists and comments on fifty-two reviews of Eisenstein's book which have appeared in periodicals. Of the four seminar papers, William R. Shea's "The Printing Press as an Agent of Change at the Time of the Scientific Revolution" and Susan Sheets-Pyenson's "The Effect of Changes in Printing Technology on the Development of Natural History Sciences during the Nineteenth Century" are particularly clear and well focussed in their response to Eisenstein's work. The other two papers are less useful to anyone wishing to assess the value of Eisenstein's contribution to the history of science. Philip M. Teigen, in "A Prolegomenon to the Interpretation of *The Printing Press as an Agent of Change*", takes up very general issues of historiography; and Lewis Pyenson, in "Printing and Publishing of the Physical Sciences in the Twentieth Century", seems merely to ramble through a number of tenuously connected anecdotes.

J. Mason, P. Mathias and J.H. Westcott (eds.), *Predictability in Science and Society*. London: The Royal Society and The British Academy, 1986. A\$54.00 (pb).

In an attempt to promote discussion of the comparative role of prediction in the natural and social sciences, the Royal Society and the British Academy jointly sponsored a two-day symposium devoted to this topic in 1986. The present volume, reprinted from the *Proceedings of the Royal Society of London*, includes eight papers from the symposium together with transcripts of the various discussions which they occasioned. Contributions relating to the natural sciences cover such topics as Newtonian dynamics, weather prediction and marine biology. Those dealing with the social sciences centre on economics, which the editors characterise as "the discipline most concerned with prediction in response to the requirements of policy formation and decision making" (p. vii). This collection might profitably be read in tandem with the related ANZAAS conference volume, *Limits to Prediction*, reviewed in *Metascience* (1986), 4, 75-76.