tions on all types of detectors used today, with discussions of how a particular detector works, what it measures about particles, and the relative advantages and disadvantages of different detector types. Included in this part of the book are chapters on the fast electronics needed to extract signals from detectors and on the triggering electronics needed to recognize in real time interesting events—both crucial considerations in designing an experiment.

Fernow has done an admirable job of condensing a wealth of information into a coherent text. Occasionally the book's breadth of scope precludes discussion at desirable depth, but this is compensated by an extensive set of references at the end of each chapter. All that is needed to make the book a complete introduction to experimental particle physics is a discussion of analysis techniques for extracting results from the data produced by the detectors. There is a short appendix on probability and statistics.

This book would serve well as either a graduate-level textbook or a practical reference. Students will benefit from the clearness of presentation, the numerous exercises at the end of each chapter, and the references. The practicing experimentalist will benefit from the references and the numerous equations, formulas, and tables. The book uses no higher mathematics beyond calculus, and the only physics background needed is an undergraduate-level understanding of electromagnetism and special relativity.

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Women Scientists

Hypatia's Heritage. A History of Women in Science from Antiquity through the Nineteenth Century. MARGARET ALIC. Beacon, Boston, 1986. x, 230 pp., illus. $20; paper, $9.95.

For a long time, scientists and historians of science have tended to deny women's contributions to the scientific enterprise. Even some feminist scholars have tacitly acquiesced in the invisibility of women in the historical record of scientific achievement. (See, for example, Evelyn Fox Keller's *Reflections on Gender and Science*, in which she pointedly insists on the pronoun "he" when referring to scientists because she avers that until very recently women were not scientists.) In recent years there has been less excuse for this stance. Pathbreaking monographs such as Margaret W. Rossiter's *Women Scientists in America*, an array of field-by-field surveys, and studies of individual figures have illuminated the role of women in a large number of scientific disciplines, historical periods, and cultural settings. Until now, however, the charming but idiosyncratic *Woman in Science* by H. J. Mozans (J. A. Zahm), first published in 1913 and reprinted by MIT Press in 1974, was essentially the only book that attempted to provide a historical overview of women's contributions to scientific knowledge in a format accessible to students and interested laypeople.

Margaret Alic has done a creditable job of sifting through compendia of "women worthies," autobiographies, and a large amount of secondary literature to produce a lively and well-written popular chronicle of some famous, near-famous, and infamous women scientists from antiquity to the end of the 19th century. *Hypatia's Heritage* contains entertaining accounts of the lives and work of Egyptian and Babylonian chemists, Greco-Egyptian mathematicians and natural philosophers (including, of course, "the last of the great pagan scientists," Hypatia of Alexandria), medieval alchemists and cosmologists, 17th- and 18th-century geologists, astronomers, physicians, physicists. Students in a wide range of beginning history, history of science, science, and women's studies courses would benefit from having *Hypatia's Heritage* as a required text. Most students will be astonished to learn of the large numbers of women who have distinguished themselves in diverse fields of scientific endeavor. The book should stimulate class discussion on a variety of issues: the changing status and visibility of women in science in relation to the socio-political-cultural milieu, the reasons for the rewriting of the historical record to exclude women's accomplishments, whether there exists a distinctive feminine style of doing science, how professionalization of science affected women's status, and so on.

For the historian of women in science, however, *Hypatia's Heritage* does not add anything new to our understanding of women's role in scientific work. In fact, Alic does not even cite recent articles and monographs by Rossiter, Roger Cooke, Daryl Hafter, Margaret Kidwell, Dorothy Stein, Jeanette Tuve, and numerous others, all of which have a direct bearing on the subject of her book and provide more complete and accurate information than the sources she used. Any historian of 19th-century science will surely quarrel with Alic's assessment of Mary Fairfax Somerville (1780–1872) as a great scientist, "the last of the great amateur scientists." And the placement of Somerville, who was an expositor rather than a researcher, at the culmination of the book, following Sophie Germain (1776–1831), Ada Byron Lovelace (1815–1852), and Sofia Kovalevskaia (1850–1891), is questionable not only on chronological grounds but also because of the wrong impression Alic gives of Somerville as the greatest and most recognized of 19th-century women scientists.

Despite these and other defects annoying to the specialist (Alic's footnotes are neither so complete nor so informative as one could wish, and her choice of whom to highlight is sometimes puzzling), *Hypatia's Heritage* fills a gap in the general literature of the history of science and is therefore welcome. Historians of science, scientists, and teachers of women's studies no longer have an excuse for omitting a book on the history of women in science from beginning and survey courses. In the hands of an informed instructor, *Hypatia's Heritage* could be a stimulating addition to the curriculum.

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Books Received

Ada. Managing the Transition. Peter J. L. Wallis, Ed. Cambridge University Press, New York, 1986. viii, 280 pp., illus. $39.50. Ada Companion Series. From a workshop, Edinburgh, May 1986.

Adaptive Control of Chemical Processes. H. Unbehauen, Ed. Published for the International Federation of Automatic Control by Pergamon, New York, 1986. x, 216 pp., illus. $51. From a workshop, Frankfurt, Oct. 1985.

Adaptive Management of Renewable Resources. Carl Walters. Macmillan, New York, 1986. x, 374 pp., illus. $34.95. Biological Resource Management.

Advantage and Disadvantage. A Profile of American Youth. R. Darrell Bock and Elsie G. J. Moore. Erlbaum, Hillsdale, NJ, 1986. x, 230 pp., illus. $29.95.

Agricultural Uses of Antibiotics. William A. Moats, Ed. American Chemical Society, Washington, DC, 1986. x, 189 pp., illus. $39.95. ACS Symposium Series, 320. Based on a symposium, Chicago, Sept. 1985.

The Changing Carbon Cycle. A Global Analysis. John R. Trabalka and David E. Reichle, Eds. Springer-Verlag, New York, 1986. xxvi, 592 pp., illus. $53. Based on a symposium, Knoxville, TN, Oct. 1983.

Chaotic Dynamics and Fractals. Michael F. Barnsley and Stephen G. Demko, Eds. Academic Press, Orlando FL, 1986. xii, 292 pp., illus. $29.95. Notes and Reports in Mathematics in Science and Engineering, Vol. 2. From a conference, Atlanta, March 1985.

Chemical Separations. C. Judson King and James D. Navratil, Eds. Litarvan, Denver, 1986. 2 vols. Vol. 1, Principles. xiv, 462 pp., illus. $77. Vol. 2, Applications. x, 469 pp., illus. $77. The set, $140. Based on a conference, New York, April 1986.

Children's Social Behavior. Development, Assessment, and Modification. Phillip S. Strain, Michael J. Guralnick, and Hill M. Walker, Eds. Academic Press, Orlando, FL, 1986. xiv, 460 pp., illus. $55.

Chrysophytes. Aspects and Problems. Jørgen Kristiansen and Robert A. Andersen, Eds. Cambridge University Press, New York, 1986. xiv, 337 pp., illus. $52.50. From a symposium, Grand Forks, ND, Aug. 1983.

Disarmament and World Development. Mac Graham, Richard Jolly, and Chris Smith, Eds. 2nd ed. Pergamon, New York, 1986. xiv, 306 pp. $25; paper, $15.95. Based on a conference.

Disequilibrium and Self-Organisation. C. W. Kilmister, Ed. Reidel, Dordrecht, 1986 (U.S. distributor, Kluwer, Norwell, MA). x, 309 pp., illus. $76. Mathe-