

the medical profession learned to maneuver in an increasingly complex world.

The archival digging that was important to the study paid off, and readers will be fascinated by many of the stories uncovered in newspapers, official records, and private papers. Indeed, it is in providing concrete, anecdotal evidence that the book will make its main contribution. For example, the diary of Lizzie Woods, from 1888 to 1898 the Portsmouth Hospital supervisor, provides revealing daily detail about hospital life.

For all its value in providing local examples of national trends, the book is, unfortunately, not fully satisfying as historical scholarship. First, the authors' or publisher's decision not to include notes keyed to the text is frustrating. The authors provide notes at the end of each chapter to indicate their major research sources and to make connections to historical literature, but the lack of references to document particular points will make it difficult for future scholars to build on this study.

A second cause for disappointment in the book as history lies in the authors' frequent use of present-day therapeutic knowledge for comparison with the past. Repeated references to the present make it difficult for the authors to provide a historical context for the events they recount, requiring instead consciousness of a medical march of progress, which somewhat distorts our understanding of the processes of historical change.

The omission of certain aspects of the town's medical "biography," most notably the experience of the people who sought out medical help and advice, is a further limitation. The authors give attention to people around regular physicians, including sectarian practitioners, nurses, and hospital administrators and volunteers, but they say little about patients. The study is lengthy as it is and sources for this group are much more difficult to obtain, but representation of the patients' perspective would have significantly enriched the story.

Estes, whose work is already known and admired among medical historians, and Goodman, whose contribution in local archives work is evident and welcome, have nevertheless made a significant contribution with this book. Portsmouth, New Hampshire, will now enter the growing list of American communities whose medical experiences have been examined carefully and thoroughly by historians. Such local studies continue to be crucial to the collective endeavor of uncovering our medical past.

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Melts in the Earth

Magmatic Processes. Physiochemical Principles. B. O. MYSEN, Ed. Geochemical Society, University Park, PA, 1987. x, 500 pp., illus. \$65; to Geochemical Society members, \$45. Special Publication no. 1. From a conference, Kona, HI, June 1986.

The objective of *Magmatic Processes: Physiochemical Principles* is twofold: to honor Hatten S. Yoder upon his retirement as director of the Geophysical Laboratory of the Carnegie Institution of Washington and to summarize the current state of research on magmatic processes. The 30 papers that make up the volume succeed nicely in the first task, and they touch on most of the important questions of igneous geology, geochemistry, and geophysics. How are magmas formed and how do melts reach the surface? Are melts deep in the earth similar to those near the surface, or are their properties fundamentally different? What can be inferred about magmatic processes from the igneous rocks and volcanic structures observed in the field? What exactly are the igneous processes associated with subduction zones and the formation of continental crust? Such questions are among the most basic in the earth sciences, and they form the main themes of this book.

The great variety of the contributions is a fitting tribute to Hatten Yoder's far-ranging interests during his 38-year career at the Geophysical Laboratory. As might be expected, due emphasis is given to phase equilibria pertaining to igneous rocks, both their experimental determinations and their geological applications. (Some of the authors are: D. C. Presnall and J. D. Hoover; P. J. Wyllie; D. H. Green, T. J. Falloon, and W. R. Taylor; K. Yagi and H. Takeshita; and M. L. Sykes and J. R. Holloway.) Yet the physical properties of silicate liquids (C. T. Herzberg; C. M. Scarfe, B. O. Mysen, and D. Virgo), of partially molten rock (D. L. Turcotte), and of magma chambers (R. T. Helz; M. P. Ryan; G. Brandeis and C. Jaupart) are also discussed at length. In addition, there is a good representation of numerical studies involving phase equilibrium and fluid dynamical models (S. Clark, F. J. Spera, and D. A. Yuen; M. S. Ghiorso and P. B. Kelemen; H. Nekvasil and C. W. Burnham). Notably missing are observational data pertaining to the application of radiogenic or noble-gas isotopic techniques and theoretical studies of the molecular modeling of silicate melts. However, these omissions are largely amended by the diversity of laboratory and field studies that are described (D. G. Fraser and W. Rammensee; A. Navrotsky; D. B. Dingwell; F. R. Boyd and S. A. Mertzman; D. K. Bailey and

R. Macdonald; W. G. Ernst). Furthermore, several of the papers are really compact reviews that emphasize recent results (for example, D. L. Anderson; I. Kushiro; H. P. Taylor; B. O. Mysen).

The quality of the papers is generally high, with a few notable exceptions. However, some of the leading scholars in igneous research are not included, nor is their work adequately represented. These deficiencies weaken the impact of an otherwise stimulating book. A particular strength of this volume is its illustration of the geophysical approaches used to study igneous processes: in the field from the outcrop to the global scale, in the laboratory, and through modeling studies. This appropriately reflects the current trend of making geophysical studies as important to understanding magmatic processes as geochemical and geological studies have been in the past. In this regard, *Magmatic Processes* succeeds well in summarizing the present directions of igneous research.

The book is one of the most impressively produced proceedings volumes that I have seen. Considerable effort must have been put into the preparation and typesetting of the papers as well as the compilation of an extensive index. Yet it was produced in well under one year.

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Books Received

Constraints Theory and Relativistic Dynamics. G. Longhi and L. Lusanna, Eds. World Scientific, Singapore, 1987 (U.S. distributor, Taylor and Francis, Philadelphia). xvi, 351 pp., illus. \$56. From a workshop, Florence, Italy, May 1986.

Contemporary Moral Controversies in Technology. A. Pablo Iannone, Ed. Oxford University Press, New York, 1987. xvi, 336 pp., illus. \$29.95; paper, \$12.95.

Fourth International Conference on Emerging Nuclear Energy Systems. G. Velarde and E. Minguez, Eds. World Scientific, Singapore, 1987 (U.S. distributor, Taylor and Francis, Philadelphia). xiv, 481 pp., illus. \$90. Madrid, June–July 1986.

Genetic Improvement in Yield of Wheat. Edward L. Smith, Ed. Crop Science Society of America and American Society of Agronomy, Madison, WI, 1986. x, 114 pp., illus. Paper, \$18. From a symposium, Atlanta, GA, Nov. 1981. CSSA Special Publication no. 13.

International Meeting on Advances on Phase Transitions and Disorder Phenomena (Amalfi, Italy, June 1986). G. Busiello *et al.*, Eds. World Scientific, Singapore, 1987 (U.S. distributor, Taylor and Francis, Philadelphia). x, 577 pp., illus. \$79.

Leslie Peltier's Guide to the Stars. Leslie C. Peltier. AstroMedia, Milwaukee, WI, and Cambridge University Press, New York, 1987. xiv, 185 pp., illus. Paper, \$11.95.

Niels Bohr. A Centenary Volume. A. P. French and P. J. Kennedy, Eds. Harvard University Press, Cambridge, MA, 1987. xvi, 403 pp., illus. Paper, \$14.95. Reprint, 1985 ed.

Partial Differential Equations of Hyperbolic Type and Applications. Giuseppe Geymonat, Ed. World Scientific, Singapore, 1987 (U.S. distributor, Taylor and Francis, Philadelphia). x, 178 pp., illus. \$37.