

however. It is that a reformulation, particularly if more compact, does mean better understanding. Hamilton's mechanics were really those of Newton in disguise, but the equations were simpler and more symmetrical. One could say they contained no new physical concepts and be technically correct, but the later invention of quantum mechanics would have been almost impossible without Hamilton's work.

The great virtue of *Field Theories of Condensed Matter* is to have put all these things into one book and to have written it in a way that should be understandable to anyone willing to take the trouble. Just as important, the material is very much up-to-date. Work up to 1990 is included, even the latest on anyon theories of high- T_c superconductivity and Chern-Simons theories of the fractional quantum Hall effect. Unfortunately, the very timeliness of the book has the paradoxical effect of including some work that already now appears a bit dated. The chapter on spin-liquid states, though interesting enough, recounts a subject that flared up briefly and now seems to have disappeared. But the great mass of material included ensures that many things useful to the active researcher are there.

It is at this point in writing a review that one looks back and realizes that the reader probably will not be convinced that the reviewer has studied every page of the book in question. The temptation is great to prove diligence by citing a few misprints or errors, especially if the book is a thick and dense one. So let me point out that there is an error of a factor of 3/2 in the famous Stoner criterion on p. 28. The proofreading is in fact poor, and the book has a very large number of misspellings and misprints. These little matters could easily be taken care of in a second edition, but the author states in the introduction that a second edition will appear only if he "ever gets crazy enough to come back to this nightmare." I would like to wish the genial Professor Fradkin long life, sound mind, and maybe just one more nightmare or two.

ROBERT JOYNT
Department of Physics,
University of Wisconsin, Madison, WI 53706

Some Other Books of Interest

Hans Albert Einstein. Reminiscences of His Life and Our Life Together. ELIZABETH ROBOW EINHSTEIN. Iowa Institute of Hydraulic Research, University of Iowa, Iowa City, 1991. xvi, 112 pp., illus. Paper, \$12.50.

Hans Albert Einstein (1904–1973), the first of Albert Einstein's two sons, was edu-

cated in Zurich, became a hydraulic engineer, joined the faculty of the University of California at Berkeley in 1947, and married his second wife, neurochemist Elizabeth Robow, in 1959. Before her death in 1958, Hans Albert's first wife had written a biography of her husband that drew upon the extensive correspondence between Albert Einstein and his first wife, Mileva Marić, Hans Albert's mother. Litigation by the Einstein Estate forced suppression of the manuscript and withholding of the correspondence until it eventually appears in Einstein's *Collected Papers*. Without the letters or other documentation, Elizabeth Robow Einstein's warm reminiscences hardly differ from an afternoon chat with a lately arrived in-law of a famous family. The chat ranges over the entire family, including herself. But the emphasis is as much on Mileva as it is on Hans Albert, who is remembered for his pleasant nature and his independence from his father. The author portrays Mileva, whom she never met, as a long-suffering figure whom Albert rejected as a wife and refused to acknowledge for her contributions to his work. The latter assertion is repeated in an appendix on Mileva by Yugoslavian researcher Dord Krstic, but, as in the text, without any new supporting evidence. Two of Hans Albert's former students provide additional appendixes on his contributions to hydraulics.—DAVID C. CASSIDY, *Hofstra University*

Resonances. A Volume in Honor of the 70th Birthday of Nicolaas Bloembergen. M. D. LEVENSON, E. MAZUR, P. S. PERSHAN, and Y. R. SHEN, Eds. World Scientific, Teaneck, NJ, 1990. xii, 499 pp., illus. \$78; paper, \$38. From a symposium, Cambridge, MA, May 1990.

The honoree of the present volume shared a 1981 Nobel Prize for his work in laying the foundations of nonlinear optics. During his career at Harvard Bloembergen also directed the work of (in the words of John A. Armstrong) "quite a cast of characters," his students being a "highly international group" that included both theorists and experimentalists and both future university faculty and future corporate executives. Many of these and others of his associates attended the gathering in Cambridge that gave rise to this book. The book opens with a set of brief reminiscences in which Armstrong, Richard W. Damon, G. Durand, and Guo-zhen Yang variously comment on Bloembergen's role as "mentor in the Golden Age of university research," describe thesis work done under his direction, and recount some of Bloembergen's interactions with Chinese physicists. There follow some

30 longer papers by the celebrants, technical in nature but also including some recollections of Bloembergen or comments on his work, grouped under the headings Spins, Stimulated Processes, Nonlinear Optics and Spectroscopy, Surface and Waveguide Nonlinear Optics, Ultrafast Interactions, Materials Science, and Structure and Dynamics. At the end of the volume are included reprints of four "key papers" authored or coauthored by Bloembergen: a discussion of the subject of his own thesis work, nuclear magnetic resonance absorption (1948), a "proposal for a new type solid state maser" (1956), a theoretical treatment of light waves in a nonlinear dielectric (1962), and his Nobel Prize lecture (1982). A bibliography of all Bloembergen's publications and a list of his former students and associates complete the tribute.—KATHERINE LIVINGSTON

Books Received

Advanced Database Techniques. Daniel Martin. MIT Press, Cambridge, MA, 1991. xxiv, 377 pp., illus. \$37.50. Series in Information Systems.

Advanced Research Methodology. An Annotated Guide to Sources. R. Barker Bausell. Scarecrow, Metuchen, NJ, 1991. viii, 903 pp. \$84.50.

AIDS in America. Charles H. Russell. Springer-Verlag, New York, 1991. xii, 147 pp. \$49. Tables of epidemiological and sociological data.

The Allometry of Growth and Reproduction. Michael J. Reiss. Cambridge University Press, New York, 1991. xvi, 182 pp., illus. Paper, \$19.95. Reprint, 1989 ed.

Base Bleed. First International Symposium on Special Topics in Chemical Propulsion. (Athens, Nov. 1988.) Kenneth K. Kuo and James N. Fleming, Eds. Hemisphere (Taylor and Francis), Philadelphia, PA, 1991. x, 314 pp., illus. \$95.

Biodegradable. Detergents and the Environment. William McGucken. Texas A&M University Press, College Station, 1991. x, 149 pp. \$38.50. Environmental History Series, no. 12.

Biomedical Politics. Kathi E. Hanna, Ed. National Academy Press, Washington, DC, 1991. viii, 352 pp. \$29.95.

The Cambridge Encyclopedia of Language. David Crystal. Cambridge University Press, New York, 1991. viii, 472 pp., illus. Paper, \$24.95. Reprint, 1987 ed.

Carbon Isotope Techniques. David C. Coleman and Brian Fry, Eds. Academic Press, San Diego, CA, 1991. xii, 274 pp., illus. Spiral bound. \$79.95; paper, \$39.95. Isotopic Techniques in Plant, Soil, and Aquatic Biology.

Catalog of Chromosome Aberrations in Cancer. Felix Mitelman. 4th ed. Wiley-Liss, New York, 1991. 2 vols. boxed. xxxiv, 1987 pp. \$250.

Cell Activation. Genetic Approaches. James J. Mond, John C. Cambier, and Arthur Weiss, Eds. Raven, New York, 1991. xvi, 334 pp., illus. \$105. Advances in Regulation of Cell Growth Series, vol. 2.

Darwin in Italy. Science Across Cultural Frontiers. Giuliano Pancaldi. Indiana University Press, Bloomington, 1991. xvi, 222 pp. \$35. Translated with revisions from the Italian by Ruey Brodine Morelli.

Data Collection Forms in Clinical Trials. Bert Spilker and John Schoenfelder. Raven, New York, 1991. xvi, 672 pp., illus. \$90.

De Magnete. William Gilbert. Dover, New York, 1991. lvi, 368 pp., illus. Paper, \$11.95. Translated from the Latin edition London, 1600 by P. Fleury Mottelay. Reprint, 1893 ed.

Deep-Sea Biology. A Natural History of Organisms at the Deep-Sea Floor. John D. Gage and Paul A. Tyler. Cambridge University Press, New York, 1991. xvi, 504 pp., illus. \$135.