

with late stages (that is, supernovae and pulsars). Pylyser, de Loore, and Doom presented a short paper on the evolution of massive stars in the Magellanic Clouds that deals mainly with the dependence of the mass loss rate on metallicity. Chiosi *et al.* presented a paper on the evolution of intermediate-mass stars, which is an extension of Chiosi's earlier work on the role of convective overshoot in massive-star evolution.

The section on extragalactic star formation discusses, among other things, the importance of starbursts in galaxies like the Magellanic Clouds and the question whether star formation is mainly continuous and self-propagating or sporadic and triggered by external disturbances.

This is an interesting book, nicely arranged and easy to use. I think it would make a useful reference for anyone interested in star formation and the short but flashy lives of massive stars.

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## Space Ventures in Britain

**History of British Space Science.** HARRIE MASSEY and M. O. ROBINS. Cambridge University Press, New York, 1986. xxii, 514 pp., illus. \$89.50.

Sir Harrie Massey, who died in November 1983, was an important contributor to British atomic and nuclear physics. He was heavily engaged in planning for physics in Britain subsequent to World War II and became an influential figure within the ministries that, among other activities, eventually made the upper atmosphere and near space accessible to British scientists during the International Geophysical Year and in the post-Sputnik years. M. O. Robins entered space science as Massey's scientific officer during the IGY to aid in the massive amount of liaison, policy, and detail work that fell upon Massey as he assumed the complex coordinating roles of chairman of the Gassiot Committee and various rocket and artificial satellite committees. Aware of the need to record what is an important aspect of British science, and with the support of the Science and Engineering Research Council, the two authors in 1981 undertook this survey of their own history.

The result of their effort is a valuable glimpse into how British space science evolved. We are given tantalizing vignettes of the development of the organizational network of scientists and officials within governmental ministries that led to a British capability in sounding rocket research dur-

ing the IGY and of how that ad hoc network of panels and boards transformed itself into permanent organizations that had to determine how Britain would participate in post-IGY research on satellites.

We are led all too briefly through this early development and transformation and learn about the necessary international cooperation in space research that British science fostered and at first tried to maintain. We are then thrust into detailed chapters on international cooperation through COSPAR and the European Space Research Organization and the difficulties of Commonwealth cooperation, particularly Massey's view (and therefore the British view) of the character and viability of the European Launcher Development Organization and the eventual transformation of ESRO and ELDO into the European Space Agency. The "British view" provided here is a sympathetic but provocative commentary on the problems of international cooperation. It is critical to note that there are many voices yet to be heard on this complex history, and the view presented here, though important, should not be considered definitive.

The chapters on international cooperation are interspersed with topical reviews of the further development of British sounding rockets (the Skylark) and satellites (the Ariel series) and of contributions by British space scientists organized by discipline. Supplementing the text are 100 pages of addenda and appendixes outlining experiments conducted on British and ESRO sounding rockets, organizational charts of the major British space science groups, reprints of published defining documents, outlines of scientific proposals, and memoranda of understanding.

The authors' vision of what is largely their own history no doubt will be digested with delight or some bitterness by many of their contemporaries and colleagues. For the historian it will be valuable, but it poses problems. Robins notes in a preface that he and Massey had access to "excellent documentation held in the archives of the Royal Society," yet there are no citations to archival material in the book. The accounts of important meetings, contracts, events, and processes could well have been derived from original documents but could just as well have come from memory. The historian who would hope to pursue the many lines of inquiry that a work such as this opens up must start almost from scratch. The authors' insights will be of use to historians who wish to understand this history fully, but their book is only a beginning.

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## Books Received

**Beyond Engineering.** Essays and Other Attempts to Figure Without Equations. Henry Petroski. Illustrations by Karen Petroski. St. Martin's, New York, 1986. xiv, 256 pp., illus. \$17.95.

**Biochemistry of Macrophages.** Pitman, London, 1986 (U.S. distributor, CIBA Pharmaceutical, Newark, NJ). x, 256 pp., illus. \$35. CIBA Foundation Symposium 118 (London, April 1985).

**The Biochemistry of the Polypeptide Hormones.** M. Wallis, S. L. Howell, and K. W. Taylor. Wiley-Interscience, New York, 1986. xiv, 488 pp., illus. \$69.95.

**The Biographical Dictionary of Scientists.** David Abbott, Ed. Bedrick, New York, 1986 (distributor, Harper and Row, New York). Engineers and Inventors. iv, 188 pp., illus. Mathematicians. viii, 175 pp., illus. Each vol., \$21.

**Biological Methylation and Drug Design.** Experimental and Clinical Role of S-Adenosylmethionine. Ronald T. Borchardt, Cyrus R. Creveling, and Per Magne Ueland, Eds. Humana, Clifton, NJ, 1986. xxii, 457 pp., illus. \$69.50. Experimental Biology and Medicine. From a symposium, Bergen, Norway, June 1985.

**Cutting Chemical Wastes.** What 29 Organic Chemical Plants are Doing to Reduce Hazardous Wastes. David J. Sarokin *et al.* INFORM, New York, 1985. xii, 535 pp., illus. Paper, \$47.50.

**Cycles of Soil.** Carbon, Nitrogen, Phosphorous, Sulfur, Micronutrients. F. J. Stevenson. Wiley-Interscience, New York, 1986. xx, 380 pp., illus. \$54.95.

**The Cytoskeleton.** An Introductory Survey. M. Schliwa. Springer-Verlag, New York, 1986. \$78. Cell Biology Monographs, vol. 13.

**Development of Order in the Visual System.** S. Robert Hilfer and Joel B. Sheffield, Eds. Springer-Verlag, New York, 1986. xii, 249 pp., illus. \$55. Cell and Developmental Biology of the Eye. From a symposium, Philadelphia, Oct. 1984.

**A Dictionary of Weights and Measures for the British Isles.** The Middle Ages to the Twentieth Century. Ronald Edward Zupko. American Philosophical Society, Philadelphia, 1985. xxxviii, 520 pp. \$30.

**Diet, Nutrition, and Cancer.** A Critical Evaluation. Vol. 2, Macronutrients, Nonnutritive Dietary Factors, and Cancer. Banduru S. Reddy and Leonard A. Cohen, Eds. CRC Press, Boca Raton, FL, 1986. viii, 181 pp., illus. \$70.50.

**Dioscorides on Pharmacy and Medicine.** John M. Riddle. University of Texas Press, Austin, 1986. xxx, 298 pp., illus. \$35. History of Science Series, no. 3.

**A Functional Biology of Marine Gastropods.** Roger N. Hughes. Johns Hopkins University Press, Baltimore, 1986. x, 245 pp., illus. \$32.50.

**Fundamentals of Hearing.** An Introduction. William A. Yost and Donald W. Nielsen. 2nd ed. Holt, Rinehart and Winston, New York, 1985. xii, 269 pp., illus. \$28.95.

**A Gardener Touched with Genius.** The Life of Luther Burbank. Peter Dreyer. 2nd ed. University of California Press, Berkeley, 1986. xiv, 294 pp., + plates. Paper, \$10.95.

**Gene Structure and Expression.** John D. Hawkins. Cambridge University Press, New York, 1985. xii, 173 pp., illus. \$34.50; paper, \$14.95.

**Genes, Proteins, and Cellular Aging.** Robin Holliday, Ed. Van Nostrand Reinhold, New York, 1986. xvi, 333 pp., illus. \$42.50. A Hutchinson Ross Publication. Benchmark Papers in Genetics Series, vol. 17.

**The Geology of Ore Deposits.** John M. Gilbert and Charles F. Park, Jr. Freeman, New York, 1986. xiv, 985 pp., illus. \$47.95. New ed. of *Ore Deposits*.

**Great and Desperate Cures.** The Rise and Decline of Psychosurgery and Other Radical Treatments for Mental Illness. Elliot S. Valenstein. Basic Books, New York, 1986. xiv, 338 pp., illus. \$19.95.

**Guide to Observing the Moon.** British Astronomical Association. Enslow, Hillsdale, NJ, 1986. 128 pp., illus. \$14.95.

**The Hartley Transform.** Ronald Bracewell. Clarendon (Oxford University Press), New York, 1986. vii, 160 pp., illus. \$24.95. Oxford Engineering Science Series, 19.

**Harvey Friedman's Research on the Foundations of Mathematics.** L. A. Harrington *et al.*, Eds. North-Holland, Amsterdam, 1985 (U.S. distributor, Elsevier, New York). xvi, 408 pp., illus. \$55.50. Studies in Logic and the Foundations of Mathematics, vol. 117.

**The Hidden Addiction.** And How to Get Free. Janice Keller Phelps and Alan E. Nourse. Little, Brown, Bos-

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