

tribute. The book opens with a short and elliptical biography of Mosteller by John Tukey, who notes along the way Mosteller's interests in such works as the *Annals of Mathematical Statistics*, the Kinsey Report, and the *Federalist* papers. Chapter 2, to which subsequent contributions make much reference, is a bibliography of Mosteller's publications, categorized as books to which he has made a contribution ( $n = 56$ ), "papers" he has published ( $n = 182$ ), "miscellaneous" ( $n = 36$ ), and reviews ( $n = 25$ ). William Kruskal then provides some observations on Mosteller as a "scientific generalist," and more technical aspects of his work are addressed by Persi Diaconis and Erich Lehmann, who discuss systematic statistics, slippage tests, mathematical learning theory, and number theory, and by Stephen Fienberg, who discusses Mosteller's concerns regarding statistical methodology and its application in other fields. "Fred as educator" is the title of a contribution by Judith Tanur, who notes that Mosteller was (statistically) assessing new teaching techniques even in the introductory statistics course he taught just before retirement, and in "Fred at Harvard" Fienberg and Hoaglin marshal the assistance of some 20 associates of Mosteller's to provide an account of his 40 years there. A collection of photographs precedes a final chapter edited by Hoaglin, consisting of book reviews of a sort—assessments, *ex post facto* in some cases by over 40 years, of works that have borne Mosteller's name. The assessments are friendly, and, overall, humor and a sense of statistics as being "fun" pervade the volume.—K.L.

**Launching the Antibiotic Era.** Personal Accounts of the Discovery and Use of the First Antibiotics. CAROL L. MOBERG and ZANVIL A. COHN, Eds. Rockefeller University Press, New York, 1990. xii, 97 pp., illus. \$25. From a symposium, New York, Oct. 1989.

A key event in the "launching of the antibiotic era" was René Dubos's discovery, in 1939, of gramicidin, "the first antimicrobial agent to be obtained from natural sources through rational pursuit." This retrospective volume, stemming from a symposium commemorating that event, brings together essays by some of those who were active in the early developments leading to effective antibiotic therapy. The volume opens with an introduction by Joshua Lederberg that includes an appreciation of Dubos's 1945 treatise *The Bacterial Cell*. Rollin Hotchkiss, who participated in the effort to purify gramicidin, then offers his own recollections, noting that prior to the appearance of sulfanilamide in 1937 the dominant approach to chemotherapy of bacterial disease

had been through the use of toxic agents that had to be rendered less harmful to their recipients by "artful chemical group substitution or modification" and explaining the relevance of soil microbiology (an early interest of Dubos's) to the work on antibiotics. The much-written-about early history of penicillin is the focus of the next two contributions, by Edward Abraham and Norman Heatley, both of whom worked with Howard Florey. Among other matters, Abraham describes the survey of antimicrobial agents undertaken by Florey and Ernest Chain and discusses his own discovery, with Guy Newton (1953), of cephalosporin C; Heatley's essay includes an account of the difficulties of obtaining the needed culture vessels and other equipment during wartime, as well as some comments on the controversy surrounding the contributions of Alexander Fleming. Shifting from the laboratory to the field, the next chapter is an account by Theodore Woodward of the search, in collaboration with the late Joseph Smadel, for a cure (chloramphenicol) for typhus and typhoid fever, an effort centered in Malaya in the years following World War II. In the next chapter George Mackaness describes how his work with mononuclear phagocytes, under Florey, led him to become involved in the development of isoniazid as a therapy for tuberculosis. Bernard Davis, who early in his career also was engaged in tuberculosis research, provides an account of that work in the context of a discussion of microbiological research more generally and of Dubos's research style. Among the matters he comments on are the "macho" risk-taking attitude that prevailed in research on infectious diseases, Dubos's onetime skepticism regarding the promise of antibiotics, and his own initial skepticism concerning some of the early work on drug resistance. All the authors provide some reminiscences of Dubos or comment on his work, and in an epilogue to the book Carol Moberg discusses him in his capacity as a "friend of the good earth," referring to his last writings on human ecology. Each of the main chapters includes a brief reference list, and the book contains a number of photographs and other illustrations.—K.L.

## Books Received

**Best Science Writing.** Readings and Insights. Robert Gannon, Ed. Oryx, Phoenix, AZ, 1991. vi, 194 pp. Paper, \$19.95. Selections by 12 writers who have won awards, with brief commentary by the editor.

**Beyond Belief.** Randomness, Prediction and Explanation in Science. John L. Casti and Anders Karlqvist, Eds. CRC, Boca Raton, FL, 1991. xii, 334 pp., illus. \$39.95. From a workshop, Abisko, Sweden, May 1989.

**Current Issues in Condensed Matter Spectroscopy.** A. M. Stonham, Ed. Hilger, Philadelphia, PA, 1990 (distributor, American Institute of Physics, New York).

xii, 317 pp., illus. Paper, \$50. Current Issues in Solid State Science.

**Development According to Parents.** The Nature, Sources, and Consequences of Parents' Ideas. Jacqueline J. Goodnow and W. Andrew Collins. Erlbaum, Hillsdale, NJ, 1990. viii, 190 pp. \$36; paper, \$17.50. Essays in Developmental Psychology.

**Diet, Life-style, and Mortality in China.** A Study of the Characteristics of 65 Chinese Counties. Chen Junshi *et al.* Oxford University Press, Oxford, U.K., Cornell University Press, Ithaca, NY, and People's Medical, Beijing, P.R.C., 1990. xviii, 894 pp., illus. \$172.50.

**The Explorations of Antarctica.** The Last Unspoiled Continent. G. E. Fogg and David Smith. Cassell, London, 1990 (U.S. distributor, Sterling, New York). 224 pp., illus. \$24.95.

**Fast-Scan Magnetic Resonance.** Principles and Applications. Felix W. Wehrli. Raven, New York, 1990. xii, 164 pp., illus. \$45. Reprinted from *Magnetic Resonance Quarterly*, vol. 6, no. 3 (1990).

**Human Change Processes.** The Scientific Foundations of Psychotherapy. Michael J. Mahoney. Basic Books, New York, 1991. xiv, 590 pp., illus. \$45.

**A Journey Into Gravity and Spacetime.** John Archibald Wheeler. Scientific American Library, New York, 1990 (distributor, Freeman, New York). xiv, 257 pp., illus. \$32.95.

**Knowing and Remembering in Young Children.** Robyn Fivush and Judith A. Hudson, Eds. Cambridge University Press, New York, 1991. x, 354 pp., illus. \$39.50. Emory Symposia in Cognition, 3. From a conference, Atlanta, GA, Oct. 1987.

**Knowledge and Inference.** Makoto Nagao. Academic Press, San Diego, CA, 1990. xvi, 304 pp., illus. \$42.50. Translated from the Japanese edition (Tokyo, 1988) by Richard Weyrauch and Yasuko Kitajima.

**Laboratory Experiments for Introduction to Chemistry.** T. R. Dickson, 6th ed. Wiley, New York, 1991. xii, 241 pp., illus. Paper, \$22.95.

**Prosperity without Pollution.** The Prevention Strategy for Industry and Consumers. Joel S. Hirschhorn and Kirsten U. Oldenburg. Van Nostrand Reinhold, New York, 1990. xiv, 386 pp., illus. Paper, \$19.95.

**Recombinant DNA Technology and Applications.** Ales Prokop, Rakesh K. Bajpai, and Chester S. Ho. McGraw-Hill, New York, 1991. xvi, 619 pp., illus. \$49.50.

**Risk Assessment in Genetic Engineering.** Morris A. Levin and Harlee S. Strauss. McGraw-Hill, New York, 1991. xii, 404 pp., illus. \$39.95. McGraw-Hill Environmental Biotechnology Series.

**Saving the Mediterranean.** The Politics of International Environmental Cooperation. Peter M. Haas. Columbia University Press, New York, 1990. xxviii, 303 pp., illus. \$42. Political Economy of International Change.

**Sweeteners.** Discovery, Molecular Design, and Chemoreception. D. Eric Walters, Frank T. Orthofer, and Grant E. Dubois, Eds. American Chemical Society, Washington, DC, 1991. x, 333 pp., illus. \$79.95. ACS Symposium Series, 450. From a symposium, Boston, MA, April 1990.

**Tell Me A Story.** A New Look at Real and Artificial Memory. Roger C. Schank. Scribner's (Macmillan), New York, 1990. xvi, 253 pp., illus. \$19.95.

**The Telling Image.** The Changing Balance Between Pictures and Words in a Technological Age. Duncan Davies, Diana Bathurst, and Robin Bathurst. Clarendon (Oxford University Press), New York, 1990. xviii, 166 pp., illus., + plates. \$55. Science, Technology, and Society Series, 6.

**To Catch a Dream.** Exploration of Dreaming. David Koulack. State University of New York Press, Albany, 1991. xii, 218 pp. Paper, \$14.95. SUNY Series of Dream Studies.

**The Toxics Directory.** References and Resources on the Health Effects of Toxic Substances. Hanafi Russell, Ed. California Department of Health Services, Berkeley, CA, 1990 (distributor, California Department of General Services, North Highlands). Various pages, illus. Paper, \$5.15. Publication no. 7540-958-1300-3.

**The Vertebrate Olfactory System.** Chemical Neuroanatomy, Function and Development. Norbert Halász. Akadémiai Kiadó, Budapest, 1990. xviii, 281 pp., illus. \$39.

**Viewing the Earth.** The Social Construction of the Landsat Satellite System. Pamela E. Mack. MIT Press, Cambridge, MA, 1990. xii, 270 pp., illus. \$27.50. Inside Technology.

**Wetlands.** A Threatened Landscape. Michael Williams, Ed. Blackwell, Cambridge, MA, 1991. x, 419 pp., illus. \$79.95. Institute of British Geographers Special Publications Series, 25.