

A Bibliography of Dr. Robert Hooke.

Sir Geoffrey Keynes. Oxford University Press, New York, 1960. xix + 115 pp. Illus. \$8.

Robert Hooke (1635–1703) has the distinction of having been the first lowly man to earn his living as a research scientist. Having worked his way through school and college, he started as a teen-age laboratory assistant, first to an Oxford physician, then to Robert Boyle, and last to the newly formed Royal Society where he became “curator of experiments” in 1662. Many before (and since) had dreamed of an idealized research institute where men of learning could cogitate and muse and have their tests and trials and experiments of light performed for them by a paid hack. In an age when all science was on the boil, Hooke was the God-sent hack of those mid-17th century amateurs of science; and hack he was in name only, but not in deed. Though much of his work was forgotten within a generation or so of his death, and though he was remembered only as a misshapen and cantankerous minor character on the stage, his discoveries and writings are now seen to class him among the major actors in that age of genius.

The last 30 years have seen many critical studies of Hooke and appreciations of his experimental work and publications. These studies are now taken to a new level of excellence by this definitive bibliography compiled by Sir Geoffrey Keynes, doyen of British bibliography. The handsome volume, produced in the style which one has come to expect of Sir Geoffrey and of Oxford, has all the scholarly apparatus needed for its task, though one could wish that the quintessential introductory essay of the preface had been expanded by the factor of ten, which we all know the author could easily do. To make up for this, however, we are given gratis, as appendix 4, a most interesting transcript of Sir Isaac Newton's holograph notes on Hooke's *Micrographia*.

One of the most interesting puzzles set by the new bibliography is that of Hooke's fourth (or second) publication in 1661 of a tract entitled “A discourse of a new instrument to make more accurate observations in astronomy, than ever were yet made.” No copy of this publication has yet been traced, but from the title, one might hazard a guess that this was an account of the eyepiece

micrometer similar to that of Gascoigne, improved by Townley, and noted later by Hooke.

Like Fulton's bibliography of Robert Boyle, with which this bibliography has so much in common, both in content and in spirit, this new work will stand for many years as an aid to historians, collectors, and librarians, and as a point of departure for many essays in scholarship. We are most grateful to the author for his exemplary and meticulous execution of a most useful task.

DEREK J. DE Solla PRICE
*Department of the History of Science
and Medicine, Yale University*

Antarctica. Emil Schulthess. Simon and Schuster, New York, 1960. Approximately 215 pp. Illus. \$15.

Following the preface, in which Sir Raymond Priestley recounts his voyages to Antarctica (in 1908, 1910, 1956, and 1958) and tells of the changes made there during the interval, and Rear Admiral Dufek's account of Operation Deep Freeze IV, Emil Schulthess presents a photographic documentation of the antarctic continent. He begins with a view of the antarctic coast of Victoria Land, which was “seen for the first time in 1840 by Sir James Clark Ross,” and shows the equipment, ranging from Super-Constellations to Sno-Cats, used by those who work at the antarctic bases. In over 170 photographs, many of them in color and covering a full page or more, he shows such things as “a natural laboratory” (an 85-foot crevasse), men and their equipment silhouetted against a “halo in the sky,” Sastrugi (wave-like ridges of hard snow), and the animal and plant life of the region.

Henry M. Dater gives a brief account of science in Antarctica.

Albert Jan Kluyver. His life and work. A. F. Kamp, J. W. M. La Rivière, and W. Verhoeven, Eds. North-Holland, Amsterdam; Interscience, New York, 1959. xv + 567 pp. Illus. \$11.

This volume, a memorial to Jan Kluyver (1888–1956), is divided into three parts. In the first, friends and former associates present a biography of Kluyver and a survey of his work; in the survey, C. B. van Niel combines

admiration with amiable criticism. Part 2 consists of 14 selections from Kluyver's papers; they range from the inaugural address (1922) made when he succeeded M. W. Beijerinck to the chair of microbiology at the Technical University of Delft to the last general lecture that he made before the academy of sciences in Amsterdam (1955). An extensive bibliography and addenda are included.

Kluyver, who studied chemistry under J. Böeseken and microscopic anatomy under G. van Iterson, always emphasized the value of combining biochemistry with morphology; on this basis he proposed (in 1936) a “natural system” for classifying bacteria. This specialist, who discovered that diacetyl was the flavoring agent of butter [with van Niel and H. G. Derx (1929)] and who originated the method of submerged culture [with L. H. C. Perquin (1933)] was also deeply interested in the great problems of the scientific knowledge of life. He sought “unity in the wild variety of nature,” and when he realized that his “unitary theory” (1924) was deficient, he began to see “the possibility of an even greater simplification and unification” of our views on metabolism. This quotation is from his lectures given at Harvard University (1954).

This book, about the man who said “There is but one enemy of homo sapiens . . . homo ignorans,” will be of great interest to biochemists and microbiologists.

EDUARD FARBER
4530 Brandywine Street, NW,
Washington, D.C.

Louisiana Birds. George H. Lowery, Jr. Published for the Louisiana Wild Life and Fisheries Commission by Louisiana State University Press. Baton Rouge, ed. 2, 1960. xxix + 567 pp. Illus. \$7.50.

Birds of Hawaii. George C. Munro. Bridgeway Press, 1944; Tuttle, Rutland, Vt., 1961. 189 pp. Illus. \$4.50.

Louisiana Birds is a revised edition of a volume published in 1955. The fact that the original printing was exhausted and a revision was necessary in such a short time (5 years) indicated the stimulus given by the book to the study of ornithology in Louisiana. No less than ten species have been added to the state list since 1955; not only are they de-

scribed and discussed in the present edition, but the accounts of many times that number of other birds have also been revised in keeping with new data accumulated since the book was first published. The nomenclature throughout has been revised where necessary to conform with the latest edition of the *Check-list of North American Birds* (American Ornithologists' Union, 1957). It seems obvious that this fine volume will continue to be useful.

Birds of Hawaii is a new printing of a book first published in 1944; it has been out of print for a long time and, consequently, was difficult and costly to obtain. When Hawaii became a state, it was felt that the occasion justified publishing a revision of the only modern compendium and manual for studying the bird life of the new state. The chief alterations in this printing are the addition of a handy list of all the changes made since 1944 in the classification and nomenclature of the birds and the replacement of some of the less satisfactory illustrations found in the original printing. If and when a new edition is published, I hope it will have better color plates. The ones in the present volume are not good enough for a state bird book; the text is far better than the plates.

HERBERT FRIEDMANN

U.S. National Museum,
Smithsonian Institution

New Books

Mathematics, Physical Sciences, and Engineering

Alluvial Prospecting and Mining. S. V. Griffith. Pergamon, New York, ed. 2, 1960. 255 pp. Illus. \$7.50.

Annual Review of Nuclear Science. vol. 10. Emilio Segrè, Ed. Annual Reviews, Palo Alto, Calif., 1960. 624 pp. Illus. \$7. Contains 15 articles written by 22 contributors, including articles by F. Reines on neutrino interactions, H. Bradner on bubble chambers, J. G. Beckerley on methods for subsurface prospecting, and R. C. Thompson and J. B. Storer and D. Grahn on vertebrate radiobiology.

Automation. Its impact on business and people. Walter Buckingham. Harper, New York, 1961. 206 pp. \$4.50.

Axiomatics of Classical Statistical Mechanics. Rudolf Kurth. Pergamon, New York, 1960. 190 pp. Illus. \$7.50.

Basic Mathematics of Science and Engineering. Reuben E. Wood. Sigma Press, Washington, D.C., 1960. \$2.50.

Cermets. J. R. Tinklepaugh and W. B. Crandall, Eds. Reinhold, New York; Chapman and Hall, London, 1960. 245 pp. Illus. \$9.50.

Combinatorial Analysis. vol. 10, Proceedings of Symposia in Applied Mathematics. American Mathematics Soc. Providence, R.I., 1960. 317 pp. Illus.

Comprehensive Analytical Chemistry. vol. 1B, *Classical Analysis*. Cecil L. Wilson and David W. Wilson, Eds. Elsevier, Amsterdam, 1960 (order from Van Nostrand, Princeton, N.J.). 900 pp. Illus. \$30.

Contributions to the Theory of Nonlinear Oscillations. vol. 5. L. Cesari, J. LaSalle, and S. Lefschetz. Princeton Univ. Press, Princeton, N.J., 1960. 296 pp. \$5.

Crystal Structures. vol. 5. Ralph W. G. Wyckoff. Interscience, New York, 1960 (not folioed). Chapters 14 and 15 and the "Index to organic compounds."

Electromagnetic Fields and Waves. Robert V. Langmuir. McGraw-Hill, New York, 1961. 236 pp. Illus. \$9.75.

Electronics for Children. Gabriel Reuben. Sterling, New York, 1960. 88 pp. Illus. \$2.50.

Éléments de Physique Nucléaire. Daniel Blanc and Georges Ambrosino. Masson, Paris, 1960. 238 pp. Illus. NF. 30.

Fast Reactor Cross Sections. A study leading to a 16 group set. S. Yiftah, D. Okrent, and P. A. Moldauer. Pergamon, New York, 1960. 135 pp. Illus. \$5.

Foundations of Geometry. Euclidean and Bolyai-Lobachevskian geometry, projective geometry. Karol Borsuk and Wanda Szmielew. North-Holland, Amsterdam; Interscience, New York, 1960. 444 pp. \$12.

From Theory to Practice in Soil Mechanics. Selections from the writings of Karl Terzaghi. L. Bjerrum, A. Casagrande, R. B. Peck, and A. W. Skempton. Wiley, New York, 1960. 433 pp. \$12. Contains a bibliography and "contributions on [Terzaghi's] life" by Bjerrum *et al.*

Fundamental Physics. Jay Orear. Wiley, New York, 1960. 1961. 395 pp. Illus. \$6.75.

Fundamentals of Aerodynamic Heating. Robert Wesley Truitt. Ronald, New York, 1960. 269 pp. Illus. \$10. From the preface: "This book is an introduction to the subject . . . developing . . . the theoretical background necessary to a fundamental understanding of laminar and turbulent boundary layers and their relation to skin friction and heat transfer." Truitt is professor and head of the department of aeronautical engineering at Virginia Polytechnic Institute.

Handbook of Textile Testing and Quality Control. Elliot B. Grover and D. S. Hamby. Textile Book Publishers, Interscience, New York, 1960. 620 pp. Illus. \$17.50.

How To Use Algebra in Everyday Life. By the editors of the Sterling Publishing Co. Sterling, New York, 1960. 253 pp. Illus. \$3.95.

Hydrodynamics. A study in logic, fact and similitude. Garrett Birkhoff. Princeton Univ. Press, Princeton, N.J., rev. ed., 1960. 196 pp. Illus. \$6.50.

Inorganic Chemistry. Jacob Kleinberg, William J. Argersinger, Jr., and Ernest Griswold. Heath, New York, 1960. 688 pp. Illus. \$10.75.

Inorganic Syntheses. vol. 6. Eugene G. Rochow, Ed. McGraw-Hill, New York, 1960. 283 pp. \$7.75.

An Introduction to Astronomy. Robert H. Baker. Van Nostrand, Princeton, N.J., ed. 6, 1961. 372 pp. Illus. \$5.50.

Introduction to Atomic and Nuclear Physics. Otto Oldenberg. McGraw-Hill, New York, ed. 3, 1961. 393 pp. Illus. \$7.95.

An Introduction to Celestial Mechanics. Theodore E. Sterne. Interscience, New York, 1960. 217 pp. Illus. Cloth, \$4.50; paper, \$2.50.

Introduction to Ceramics. W. D. Kingery. Wiley, New York, 1960. 799 pp. Illus. \$15.

Introduction to Nuclear Science. Alvin Glassner. Van Nostrand, Princeton, N.J., 1960. 223 pp. Illus. \$3.75.

Introduction to Quantum Mechanics. Robert H. Dicke and James P. Wittke. Addison-Wesley, Reading, Mass., 1960. 380 pp. Illus. \$8.75.

Lead Isotopes in Geology. R. D. Russell and R. M. Farquhar. Interscience, New York, 1960. 251 pp. Illus. \$9.

Lectures on Differential and Integral Equations. Kosaku Yosida. Interscience, New York, 1960. 230 pp. \$7. The English edition, prepared by Shigeharu Harada, is a translation of a volume originally published in the series "Iwanami Zensho."

Linear Systems Analysis. An introduction to the analysis of discrete-parameter time-invariant linear systems. Paul E. Pfeiffer. McGraw-Hill, New York, 1961. 555 pp. Illus. \$12.50.

Mechanical Waveguides. The propagation of acoustic and ultrasonic waves in fluids and solids with boundaries. Martin Redwood. Pergamon, New York, 1960. 309 pp. Illus. \$9.

Modern Factor Analysis. Harry H. Harman. Univ. of Chicago Press, Chicago, Ill., 1960. 485 pp. Illus. \$10.

New Mathematics. A unified course for secondary schools. vol. 2. K. S. Snell and J. B. Morgan. Cambridge Univ. Press, New York, 1960. 320 pp. Illus. \$2.25.

Organic Electronic Spectral Data. vol. 1, 1946-1952. Mortimer J. Kamlet, Ed. vol. 2, 1953-1955. Herbert E. Ungnade, Ed. Interscience, New York, 1960. vol. 1, 1222 pp., \$25 (subscription price); \$28.50. vol. 2, 929 pp., \$17.50. (subscription price); \$15. From the preface material: "In order to be included, the data had to satisfy the following minimum requirements: The investigated compound must be sufficiently pure to give satisfactory analyses and definable by a molecular formula. The solvent or phase should be stated and the spectral data complete enough so that wavelengths of maximal absorption and molar absorptivities could be computed even if they were not stated in the original publication. Later, it was decided to include data for which no solvent was given, provided spectral data with solvents did not exist for such compounds." Volumes 3 and 4 are scheduled for publication.

Oxosteroids. The use of phenolic hydrazides for detection, characterization, and estimation. Bernard Camber. Lewis, London, 1960. 79 pp. Illus. 12s. 6d.

Physical Methods of Organic Chemistry. vol. 1, pt. 4 of *Technique of Organic Chemistry*. Arnold Weissberger, Ed. Interscience, New York, ed. 3, 1960. 1081 pp. Illus. \$26.