

needed most of all is an open mind by both proponents and opponents. Soal and Bateman try to be dispassionate but their writing is strongly defensive. It was, I believe, H. A. Kramers who pointed out that "no result resembles a new effect so much as a mistake". In which category is ESP?

**Theoretical Physics. Mechanics.** By F. Woodbridge Constant. 281 pp. Addison-Wesley Publishing Co., Inc., Cambridge, Mass., 1954. \$6.50. *Reviewed by Arthur Beiser, New York University.*

There is no shortage of good texts on mechanics, but few of them seem as well designed for a senior graduate course as Constant's new book. An orthodox arrangement of the subject matter is followed, beginning with vector analysis and progressing through particle motion, rigid bodies, and advanced dynamics. Somewhat unusual is the presence of considerable material on elastic and viscous media and on heat flow. Differential equations (ordinary and partial), potential theory, and Fourier analysis come in for brief but clear treatments. The entire book, in fact, is written in a compact, lucid style that is well adapted to its subject. Physically *Theoretical Physics—Mechanics* is up to the usual high standard of Addison-Wesley. One looks forward with anticipation to the other volumes of this series.

### Mathematical Tables

Three new sets of mathematical tables have been published by the National Bureau of Standards as Numbers 34, 37, and 41 in its Applied Mathematics Series. Number 34, *Table of the Gamma Function for Complex Arguments* (105 pp., \$2.00), gives the real and imaginary parts of  $\log_e \Gamma(z)$  for  $z = x + iy$ ,  $x = 0(.1)10$ ,  $y = 0(.1)10$  each to 12 decimals. Auxiliary tables of  $\sin \pi x$ ,  $\cos \pi x$ ,  $\sinh \pi x$ , and  $\cosh \pi x$  are also provided to facilitate extending the scope of the gamma function table to other quadrants. Number 37, *Tables of Functions and of Zeros of Functions* (211 pp., \$2.25), is a collection of several previously issued short tables. Tables of ten special functions, including the integrals of the Bessel function  $J_0$  and  $Y_0$ , exponential integrals, Struve functions,  $x^n/n!$ , and radix tables for finding logarithms to 25 places are given as well as eight tables of zeros of various functions such as the Legendre and Laguerre polynomials and several Bessel functions. Number 41, *Tables of the Error Function and its Derivative* (302 pp., \$3.25), is a reissue of tables originally prepared by the Mathematics Tables Project of the Federal Works Agency of WPA. A companion volume consisting of tables of normal probability functions has already been issued as Number 23 of the Applied Mathematics Series. The above volumes may be ordered from the U. S. Government Printing Office, Washington 25, D. C.

### Books Received

**SOLUBILIZATION AND RELATED PHENOMENA.** By Mary Evelyn Laing McBain and Eric Hutchinson. 259 pp. Academic Press Inc., New York, 1955. \$7.00.

**SERVOMECHANISMS AND REGULATING SYSTEM DESIGN.** Volume II. By Harold Chestnut and Robert W. Mayer. 384 pp. John Wiley & Sons, Inc., New York, 1955. \$8.50.

**AN OUTLINE OF ATOMIC PHYSICS.** Collaborators of Revised Third Edition: Oswald H. Blackwood, Thomas H. Osgood, and Arthur E. Ruark. 501 pp. John Wiley & Sons, Inc., New York, 1955. \$7.50.

**THE PRODUCTION AND USE OF TECHNICAL REPORTS** (Proceedings of Workshop held April 1953). Edited by Bernard M. Fry and James J. Kortendick. S. S. 175 pp. The Catholic University of America Press, Washington, D. C., 1955. Paperbound \$1.75.

**ELECTRONS, ATOMS, METALS, AND ALLOYS** (Revised Edition). By William Hume-Rothery. 387 pp. (Iliffe & Sons, England) Philosophical Library, Inc., New York, 1955. \$10.00.

**INTRODUCTORY APPLIED PHYSICS.** By Norman C. Harris and Edwin M. Hemmerling. 729 pp. McGraw-Hill Book Company, Inc., New York, 1955. \$6.75.

**THE ATOM** (Fourth Revised Edition). By Sir George Thomson. 204 pp. Oxford University Press, New York, 1955. \$1.00.

**ATOMIC AND NUCLEAR PHYSICS.** By Robert S. Shankland. 529 pp. The Macmillan Company, New York, 1955. \$7.75.

**EINFÜHRUNG IN DIE THEORETISCHE PHYSIK.** Volume II of *Das Elektromagnetische Feld*. By Werner Döring. 20 pp. Walter de Gruyter & Co., Berlin, Germany, 1955. DM 2.40.

**PROCEEDINGS OF THE NATIONAL ELECTRONICS CONFERENCE** (Chicago, 1954). Volume X. Edited by G. R. Partridge, chairman of Proceedings Committee, and associates. 808 pp. National Electronics Conference, Chicago, Illinois, 1955. \$5.00.

**SHELL THEORY OF THE NUCLEUS** (Number 3 in the Series *Investigations in Physics*). By Eugene Feenberg. 211 pp. Princeton University Press, Princeton, New Jersey, 1955. Paperbound \$4.00.

**TABLE OF CHARGED PARTICLE ENERGIES VERSUS MAGNETIC FIELD STRENGTH X ORBIT RADIUS FOR PROTONS, DEUTERONS, TRITONS, AND ALPHA-PARTICLES.**  $H\rho = 100-650$  kgauss-cm. By Harald A. Enge. 14 pp. Harald A. Enge, Department of Physics, University of Bergen, Bergen, Norway, 1954. Paperbound \$3.00/10 copies.

**MATHEMATICAL TABLES.** Conference, Massachusetts Institute of Technology, September 1954. 88 pp. National Science Foundation Grant (No. NSF-G862), 1954.

**CONDUCTIBILITÉ ÉLECTRIQUE DES LAMES MÉTALLIQUES MINCES.** Installment 57 of *Mémorial des Sciences Physiques*. By A. Blanc-Lapierre and M. Perrot. 96 pp. Gauthier-Villars, Paris, France, 1954. Paperbound 1100 francs.

**PROPRIÉTÉS MAGNÉTIQUES DES LAMES MÉTALLIQUES MINCES.** Installment 58 of *Mémorial des Sciences Physiques*. By M. A. Colombani. 78 pp. Gauthier-Villars, Paris, France, 1954. Paperbound 1000 francs.

**LES ASPECTS MODERNES DE LA CRYOMÉTRIE.** Installment 59 of *Mémorial des Sciences Physiques*. By M. Y. Doucet. 133 pp. Gauthier-Villars, Paris, France, 1954. Paperbound 1650 francs.

PROCEEDINGS OF THE THIRD MEETING OF THE JOINT COMMISSION ON RADIO-METEOROLOGY (Brussels, August 1954). General Secretariat, URSI, Brussels, Belgium, 1955. Paperbound \$.50.

PROCEEDINGS OF THE 11TH GENERAL ASSEMBLY OF THE INTERNATIONAL SCIENTIFIC RADIO UNION. Volume X, Part 1, Commission 1, Radio Measurements and Standards. General Secretariat, URSI, Brussels, Belgium, 1954. Paperbound \$1.20.

MANPOWER RESOURCES IN THE BIOLOGICAL SCIENCES. A Study Conducted Jointly by the National Science Foundation and the U. S. Department of Labor, Bureau of Labor Statistics. 53 pp. U. S. Government Printing Office, Washington, D. C., 1955. Paperbound \$.40.

CYCLES AND PERFORMANCE ESTIMATION. Volume I of Gas Turbine Series. By James Hodge. 329 pp. (Butterworths, England) Academic Press Inc., New York, 1955. \$9.00.

OPTICAL PROPERTIES OF THIN SOLID FILMS. By O. S. Heavens. 261 pp. (Butterworths, England) Academic Press Inc., New York, 1955. \$6.80.

REPORTS ON PROGRESS IN PHYSICS. Volume XVII. Edited by A. C. Stickland. 280 pp. The Physical Society, London, England, 1954. Nonfellows, £2, 10s.; fellows, 27s. 6d. (Postage 1s. 6d.).

BASIC MECHANISMS IN RADIOBIOLOGY. III. Biochemical Aspects (Highland Park Conference, May 1954). Edited by Harvey M. Patt. 158 pp. National Academy of Sciences-National Research Council, Washington, D. C., 1955. Paperbound \$1.50.

ELEMENTARY THEORY OF NUCLEAR SHELL STRUCTURE. By Maria Goeppert Mayer and J. Hans D. Jensen. 269 pp. (Chapman & Hall, England) John Wiley & Sons, Inc., New York, 1955. \$7.75.

HOUSEHOLD PHYSICS. A Textbook for College Students in Home Economics (Third Edition). By Madalyn Avery. 472 pp. The Macmillan Co., New York, 1955. \$5.50.

POLITICS AND SCIENCE. By William Esslinger. 167 pp. Philosophical Library, New York, 1955. \$3.00.

STANDARD X-RAY DIFFRACTION POWDER PATTERNS. Volume IV. NBS Circular 539. By Howard E. Swanson, Ruth K. Fuyat, and George M. Ugrinic. 75 pp. U. S. Government Printing Office, Washington, D. C., 1955. Paperbound \$.45.

PROGRESS IN LOW TEMPERATURE PHYSICS. Volume 1. Edited by C. J. Gorter. 418 pp. (North Holland, Netherlands) Interscience Publishers, Inc., New York, 1955. \$8.75.

ASTRONOMY. A Textbook for University and College Students (Sixth Edition). By Robert H. Baker. 528 pp. D. Van Nostrand Company, Inc., New York, 1955. \$5.50.

FRONTIER TO SPACE. By Eric Burgess. 174 pp. The Macmillan Co., New York, 1955. \$4.50.

IONOGRAPHY. Electrophoresis in Stabilized Media. By Hugh J. McDonald in collaboration with Robert J. Lappe, Edward P. Marbach, Robert H. Spitzer, and Matthew C. Urbin. 268 pp. The Year Book Publishers, Inc., Chicago, Illinois, 1955. \$6.50.

NEUTRON DIFFRACTION. By G. E. Bacon. 299 pp. Oxford University Press, New York, 1955. \$5.60.

NUCLEAR LEVELS IN THE NEIGHBOURHOOD OF THE  $I F_{7/2}$  STATE. By R. H. Nussbaum. 78 pp. Van Gorcum & Co., Assen, Netherlands, 1955. Paperbound 7.90 Dutch florins.

BORDERLAND OF THE UNKNOWN. The Life Story of Gilbert Newton Lewis. By Arthur Lachman. 184 pp. Pageant Press, Inc., New York, 1955. \$3.00.

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