

and the extensive discussion of the Mollenstedt-Duker biprism experiments are two examples. These examples are typical, and other equally obvious ones could have been chosen.

Even if these particular pitfalls had been avoided, there remains the formidable difficulty of organizing material as diverse as electron optics, the Lamb shift, Geiger counters, the Zeeman effect, and space charge in beams into a coherent whole within the space of less than 250 pages. The author succeeds as well as could be expected, despite an attempt to divide the book into a section of fundamentals and one of engineering orientation.

Yet, this inclusiveness is perhaps the book's greatest virtue, for there is virtually nothing that has been termed Electron Physics that is not at least mentioned. Hence, the text might well serve as a panoramic view of a landscape, certain sectors of which will be studied in greater detail. In such a wide-angle view, a considerable lack of focus may be tolerable.

Books Received

HANDBOOK FOR SPACE TRAVELERS. By Walter B. Hendrickson, Jr. 256 pp. Bobbs-Merrill Co., Inc., Indianapolis, Ind., 1959. \$3.95.

WAVE PROPAGATION AND GROUP VELOCITY. By Léon Brillouin. 154 pp. Academic Press Inc., New York, 1960. \$6.00.

X-RAY SPECTROCHEMICAL ANALYSIS. Vol. 11 of Chemical Analysis. By L. S. Birks. 137 pp. Interscience Publishers, Inc., New York, 1959. \$5.75.

INDUSTRIAL ELECTRONICS AND CONTROL (2nd Revised Ed.). By Royce Gerald Kloeffer. 540 pp. John Wiley & Sons, Inc., New York, 1960. \$10.00.

PHYSICS AND ELECTRONICS IN PHYSICAL MEDICINE. By A. Nightingale. 292 pp. The Macmillan Co., New York, 1959. \$6.00.

ANNALES DE L'INSTITUT FOURIER, 1958. Edited by M. Brelot, C. Chabauty, L. Néel. Vol. 8, Part 1, 290 pp.; Part 2, 117 pp. Imprimerie Durand, Chartres, France, 1959. Paperbound 6500 fr. complete.

GROWTH OF CRYSTALS, Vol. 2. Edited by A. V. Shubnikov and N. N. Sheftal'. Translated from Russian. 178 pp. (Chapman & Hall, England) Consultants Bureau, Inc., New York, 1959. \$16.00.

FAST-NEUTRON SPECTROSCOPY. Suppl. No. 6 of *Atomnaia Energiia*, 1958. By B. V. Rybakov and V. A. Sidorov. Edited by N. A. Vlasov. Translated from Russian. 121 pp. (Chapman & Hall, England) Consultants Bureau, Inc., New York, 1960. Clothbound \$17.50; paperbound \$12.00.

STRANGE WORLD OF THE MOON: An Inquiry into its Physical Features and the Possibility of Life. By V. A. Firsoff. 226 pp. Basic Books, Inc., New York, 1959. \$6.00.

LE BRUIT. By René Chocholle. 127 pp. Presses Universitaires de France, Paris, France, 1960. Paperbound.

THERMODYNAMICS: An Introduction to the Physical Theories of Equilibrium Thermodynamics and Irreversible Thermodynamics. By Herbert B. Callen. 376 pp. John Wiley & Sons, Inc., New York, 1960. \$8.75.

PROGRESS IN DIELECTRICS, Vol. 1. Edited by J. B. Birks and J. H. Schulman. 312 pp. John Wiley & Sons, Inc., New York, 1959. \$11.00.

NUCLEAR POWER PLANT. By E. Openshaw Taylor. 184 pp. Philosophical Library, Inc., New York, 1960. \$7.50.

DIRECTORY OF NUCLEAR REACTORS. Vol. 2, Research, Test and Experimental Reactors. 348 pp. Internat'l Atomic Energy Agency, Vienna, Austria, 1959. (US Distributor, Internat'l Publications, Inc., NYC) Paperbound \$3.50.

BIBLIOGRAPHY ON PLASMA PHYSICS AND MAGNETOHYDRODYNAMICS: and their Applications to Controlled Thermo-nuclear Reactions. Compiled by James D. Ramer, Chong Kook Lew, Maurice Barkley. 105 pp. Engineering & Physical Sciences Library, U. of Maryland, College Park, Md., 1959. Paperbound.

HANDBOOK OF ELECTROCHEMICAL CONSTANTS. Compiled by Roger Parsons. 113 pp. (Butterworths, England) Academic Press Inc., New York, 1959. \$6.00.

CLASSICAL MATHEMATICS: A Concise History of the Classical Era in Mathematics. By Joseph Ehrenfried Hofmann. Translated from German by Henrietta O. Midonick. 159 pp. Philosophical Library, Inc., New York, 1959. \$4.75.

PHYSIQUE NUCLÉAIRE APPLIQUÉE. By Robert Guillien. 663 pp. Editions Eyrolles, Paris, France, 1960. 85.10 NF.

MECHANIK DEFORMIERBARER KÖRPER. By Max Päsler. 199 pp. Walter de Gruyter & Co., Berlin, Germany, 1960. Paperbound.

AERONAUTICAL DICTIONARY: National Aeronautics and Space Administration. By Frank Davis Adams. 199 pp. US Govt. Printing Office, Washington, D. C., 1959. \$1.75.

CYBERNETICS AND MANAGEMENT. By Stafford Beer. 214 pp. John Wiley & Sons, Inc., New York, 1959. \$4.50.

THE AERODYNAMICS OF POWERED FLIGHT. By Robert L. Carroll. 275 pp. John Wiley & Sons, Inc., New York, 1960. \$8.50.

RHEOLOGY: Theory and Applications, Vol. 3. Edited by Frederick R. Eirich. 680 pp. Academic Press Inc., New York, 1960. \$21.00.

GMELINS HANDBOOK OF INORGANIC CHEMISTRY (8th Revised Ed.). *Cadmium*, Supplement. System No. 33. 802 pp. Clothbound DM 513.00; paperbound DM 508.00. *Silicon*, Part B. System No. 15. 923 pp. Clothbound \$137.00; paperbound DM 135.50. Verlag Chemie, GmbH, Weinheim, Germany, 1959.

SIMILARITY AND DIMENSIONAL METHODS IN MECHANICS. By L. I. Sedov. Translated from 4th Russian Ed. by Morris Friedman. Translation ed., Maurice Holt. 363 pp. Academic Press Inc., New York, 1959. \$14.00.

SPECIAL SOURCES OF INFORMATION ON ISOTOPES, January 1960 (2nd Revised Ed.). TID-4563. 54 pp. Office of Isotopes Development, US Atomic Energy Commission, Washington, D. C. Paperbound, no charge.

THE HYDROGEN BOND. By George C. Pimentel and Aubrey L. McClellan. 475 pp. W. H. Freeman & Co., San Francisco, Calif., 1960. \$9.50.

ELECTROMAGNETISM AND RELATIVITY: with particular reference to moving media and electromagnetic induction (2nd Revised Ed.). By E. G. Cullwick. 291 pp. Longmans, Green & Co., Inc., New York, 1959. \$12.50.

MAJOR ACTIVITIES IN THE ATOMIC ENERGY PROGRAMS: Jan.-Dec. 1959. By US Atomic Energy Commission. 628 pp. US Govt. Printing Office, Washington, D. C., 1960. Paperbound \$2.00.

LES TRACEURS RADIOACTIFS EN MÉTALLURGIE PHYSIQUE. By C. Leymonie. 221 pp. Dunod, Paris, France, 1960. 32 NF.

VECTOR ANALYSIS: with Applications to Geometry and Physics. By Manuel Schwartz, Simon Green, W. A. Rutledge. 556 pp. Harper & Brothers, New York, 1960. \$7.50.

WHY SMASH ATOMS? (Revised Ed.). By A. K. Solomon. 173 pp. Penguin Books Inc., Baltimore, Md., 1960. Paperbound \$.95.

CIVILIAN POWER REACTOR PROGRAM. Part 1, Summary of Technical and Economic Status as of 1959. Prepared by AEC. 139 pp. TID-8516. US Govt. Printing Office, Washington, D. C. 1960. Paperbound \$1.00.

BASIC THEOREMS IN MATRIX THEORY. No. 57 of NBS Applied Math. Series. By Marvin Marcus. 27 pp. US Govt. Printing Office, Washington 25, D. C., 1960. Paperbound \$.15.

THE STUDY OF ELEMENTARY PARTICLES BY THE PHOTOGRAPHIC METHOD: An Account of the Principal Techniques and Discoveries. By C. F. Powell, P. H. Fowler, D. H. Perkins. 669 pp. Pergamon Press, Inc., New York, 1959. \$40.00.

GLOSSARY OF METEOROLOGY. Edited by Ralph E. Huschke. 638 pp. American Meteorological Society, Boston, Mass., 1959. \$12.00.

CHEMICAL PROCESSING OF IRRADIATED FUELS: From Power, Test, and Research Reactors. Proc. of AEC Symp. (Richland, Washington, Oct. 1959). 455 pp. Office of Technical Services, Dept. of Commerce, Washington, D. C., 1960. Paperbound \$4.50.

DOVER REPRINTS. *Microwave Transmission* (Reprint of 1st Ed.), by J. C. Slater, 309 pp., \$1.50. *The Theory of Heat Radiation*, by Max Planck, translated from 2nd German Ed. by Morton Masius, 224 pp., \$1.50. *Principles of Quantum Mechanics: Nonrelativistic Wave Mechanics with Illustrative Applications* (Reprint of 1st Ed.), by William V. Houston, 288 pp., \$1.85. *Tensors for Circuits* (Reprint of 2nd Revised Ed.), by Gabriel Kron, 250 pp., \$1.85. Dover Publications, Inc., New York, 1959. All Paperbound.

ELECTRONIC CIRCUITS, SIGNALS, AND SYSTEMS. By Samuel J. Mason and Henry J. Zimmermann. 616 pp. John Wiley & Sons, Inc., New York, 1960. \$12.50.

PRINCIPLES OF OPTICS: Electromagnetic Theory of Propagation, Interference and Diffraction of Light. By Max Born and Emil Wolf. 803 pp. Pergamon Press, New York, 1959. \$17.50.

MÉCANIQUE DES FLUIDES. Vol. 1, Généralités, Statique, Ecoulements à une dimension, Conduites. By Edmond A. Brun, André Martinot-Lagarde, Jean Mathieu. 582 pp. Dunod, Paris, France, 1960. 58 NF.

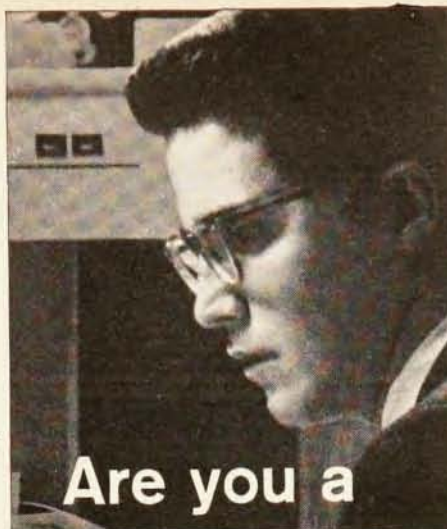
PHYSIQUE ET TECHNIQUE DES TUBES ÉLECTRONIQUES. Vol. 2, Théorie et Fabrication des Tubes. By R. Champeix. 427 pp. Dunod, Paris, France, 1960. 58 NF.

ELECTROMAGNETIC FIELD, ENERGY, AND FORCES. By Robert M. Fano, Lan Jen Chu, Richard B. Adler. 520 pp. John Wiley & Sons, Inc., New York, 1960. \$12.00.

INTRODUCTION TO QUANTUM FIELD THEORY. By F. Mandl. 202 pp. Interscience Publishers, Inc., New York, 1959. \$6.00.

FAST NEUTRON PHYSICS. Part 1, Techniques. Edited by J. B. Marion and J. L. Fowler. 983 pp. Interscience Publishers, Inc., New York, 1960. \$29.00.

THE PHYSICO-CHEMICAL CONSTANTS OF BINARY SYSTEMS IN CONCENTRATED SOLUTIONS. Vol. 3, Systems with Metallic Compounds. By Jean Timmermans. 1322 pp. Interscience Publishers, Inc., New York, 1960. \$36.00.



Are you a computer programmer and don't know it?

Many men who have training in engineering and the sciences are now going into computer programming. They find that it makes full use of their special analytical and logical talents, often not fully tapped in their present work.

In the 60's and beyond, the electronic computer will become more and more an important factor in the operations of business, industry, science and government. Computer programmers, the men who direct the computers, will play a vital role in this progress.

One of the most important qualifications for this work is the ability to analyze complex problems and to deduce from them meaningful and useful answers.

A computer programmer takes a problem—it may be in engineering, science, marketing, or in any of dozens of other fields—analyzes it, and phrases it in a mathematical-logical language that the computer can "understand." Then the computer goes to work with its prodigious speed and accuracy.

If you qualify as a computer programmer, you will be given an intensive training course in machine language, stored program equipment, problem-solving techniques, and program writing.

If you have a degree in engineering or one of the sciences, and are interested in this important new profession, I will be happy to give you further information.

Please write, outlining briefly your background, to:

Mr. R. L. Jerue, Dept. 659R1
IBM Corporation
Box 390
Poughkeepsie, New York

IBM®

INTERNATIONAL BUSINESS MACHINES CORPORATION