

\$20, has not been purchased. With a slightly greater reduction in type size, three columns per page, and thinner paper, a combined single volume might have been feasible; or, if not, three somewhat thinner volumes encompassing all names would have been more desirable than the present division by disciplines. This basic fault, however, should not detract from the unquestionable value that this standard directory of American science has and the editor and all concerned are to be congratulated on their thoroughness, high degree of accuracy, and adherence to their printing schedule.—R.L.T.

Transistors and Other Crystal Valves.

T. R. Scott. MacDonald & Evans, London; Essential Books, Fairlawn, N.J., 1955. xvi + 258 pp. \$7.20.

Scott's book offers an organized review of nearly 300 papers that are related to transistors. Although it contains little that is new, it provides a readable introduction to the subject, including considerable historical background.

The author's style is quite informal, and it is clear that he is writing for an engineering, rather than a scientific, audience. Considerable attention is devoted to a comparison of various commercial rectifier and transistor types and to discussions of their construction and operating characteristics. Almost every statement is documented by a reference to the large bibliography. The text includes a generous assortment of formulas and curves that describe the semiconductor phenomena under discussion.

The opening chapters describe the evolution of semiconductor work and review the principles of rectifier and transistor operation. A chapter is devoted to methods of making p-n junctions and the manner in which they function. Operating characteristics of various kinds of junction devices are presented and discussed. The text then gives a discussion of point-contact devices, followed by short sections on performance and circuitry. The chapter on the design and construction of high-frequency transistors includes discussions of unipolar devices and negative resistance diode amplifiers. After a review of compound semiconductors and a look into the future, the book concludes with one appendix on the band theory of semiconductors and another on testing techniques.

In a survey work of this kind, it was surprising to find that several important contributions were unmentioned; Kroemer's drift transistor and the photoelectromagnetic effect are examples. Moreover, there is a fairly liberal assortment of minor errors. Since this book gives only superficial treatment to transistor tech-

nology, it probably will be of limited value to most specialists in the field. On the other hand, it will be welcomed by newcomers who wish an opportunity to become acquainted with transistors without being required to struggle through the mathematical detail that is found in more advanced textbooks.

R. N. HALL

General Physics Department,
General Electric Research Laboratory

New Books

Fundamentals of Qualitative Chemical Analysis. Semimicro method. Roy K. McAlpine and Byron A. Soule. Van Nostrand, Princeton, N.J., ed. 4, 1956.

Elements of Quantitative Analysis. Theory and practice. Hobart H. Willard, N. Howell Furman, and Clark E. Bricker. Van Nostrand, Princeton, N.J., ed. 4, 1956. 576 pp. \$5.85.

A Paris Surgeon's Story. Charles F. Bove with Dana Lee Thomas. Little, Brown, Boston, 1956. 306 pp. \$4.50.

The Microbe's Contribution to Biology. A. J. Kluyver and C. B. Van Niel. Harvard University Press, Cambridge, Mass., 1956. 182 pp. \$4.

The Marine and Fresh-Water Plankton. Charles C. Davis. Michigan State University Press, East Lansing, 1955. 562 pp. \$10.

Temperatur und Leben. H. Precht, J. Christophersen, and H. Hensel. Springer, Berlin, Germany, 1955. 514 pp. DM 78.

Précis de Gérontologie. Léon Binet and Francois Bourlière. Masson, Paris, 1955. 554 pp. Paper, F. 3800; cloth, F. 4500.

Sites of Infection. Unstable areas as sources of parasitic diseases: schistosomiasis and fascioliasis. Alan Mozley. Lewis, London, 1955. 86 pp. 9s.

Fluidization. Donald F. Othmer. Reinhold, New York; Chapman & Hall, London, 1956. 231 pp. \$7.

Comparative Endocrinology of Vertebrates. pt. I, *Comparative Physiology of Reproduction and the Effects of Sex Hormones in Vertebrates.* Memoirs of the Society for Endocrinology No. 4. I. Chester Jones and P. Eckstein, Eds. Cambridge University Press, New York, 1955. 253 pp. \$8.50.

Mysterious Waters to Guard. Essays and addresses on anaesthesia. Wesley Bourne. Thomas, Springfield, Ill., 1955. 398 pp.

Immunology and Serology. Philip L. Carpenter. Saunders, Philadelphia-London, 1956. 351 pp.

The Nature of Hypnosis. Paul Schilder. Trans. by Gerda Corvin. International Universities Press, New York, 1956. 204 pp. \$4.

Preventive Medicine in World War II. vol. III, *Personal Health Measures and Immunization.* Ebbe Curtiss Hoff, Ed. Office of the Surgeon General, Department of the Army, Washington, 1955 (Order from Supt. of Documents, GPO, Washington 25). 394 pp. \$3.25.

Applications of Spinor Invariants in Atomic Physics. H. C. Brinkman. North-Holland, Amsterdam; Interscience, New York, 1956. 72 pp. \$3.25.

Modern Surveying for Civil Engineers. The practice of surveying, estimating and setting out works of all kinds, including chapters on modern photographic and aerial surveying as applied to engineering enterprises. Harold Frank Birchall. Philosophical Library, New York, rev. ed. 2, 1956. 524 pp. \$15.

Thinking about Thinking. Merl Ruskin Wolfard. Philosophical Library, New York, 1955. 273 pp. \$5.

An Index of Mineral Species and Varieties Arranged Chemically. With an alphabetical index of accepted mineral names and synonyms. Max H. Hey. British Museum (Natural History), London, ed. 2, 1955. 728 pp. £3.

Races and People. William C. Boyd and Isaac Asimov. Abelard-Schuman, New York, 1955. 189 pp. \$2.75.

Der Bodenfrost Als Morphologischer Faktor. Josef Schmid. Hüthig, Heidelberg, Germany, 1955. 144 pp.

Neurologic Examination of the Dog. With clinicopathologic observations. John T. McGrath. Lea & Febiger, Philadelphia, 1956. 181 pp. \$5.

Advances in Electronics and Electron Physics. vol. VII. L. Marton, Ed. Academic Press, New York, 1955. 527 pp. \$11.50.

Information Theory in Psychology. Problems and methods (Proceedings of a conference on the estimation of information flow, Monticello, Ill., 5-9 July 1954, and related papers). Henry Quastler, Ed. Free Press, Glencoe, Ill., 1955. 436 pp. \$6.

The Science Book of Space Travel. Harold Leland Goodwin. Pocket Books, New York, 1955. 213 pp. \$0.35.

Blood Group Substances. Their chemistry and immunochemistry. Elvin A. Kabat. Academic Press, New York, 1956. 330 pp. \$8.

Geriatrics Gerontologia Vejez. José Froimovich S. The Author, Laboratorio Medicina Experimental, Valparaiso, Chile, 1955. 356 pp.

Miscellaneous Publications

(Inquiries concerning these publications should be addressed, not to Science, but to the publisher or agency sponsoring the publication.)

Modifications of Pattern in the Aortic Arch System of Birds and Their Phylogenetic Significance. Proceedings of the U.S. National Museum, vol. 104. Fred H. Glenny. 1955. 97 pp. *Three Miocene Porpoises from the Calvert Cliffs, Maryland.* vol. 105. Remington Kellogg. 1955. 54 pp. *Smithsonian Institution, Report of the Secretary and Financial Report of the Executive Committee of the Board of Regents for the Year ended 30 June 1955.* Publ. 4230. 1956. 173 pp. *Synonymical Notes on Neotropical Flies of the Family Tabanidae (Diptera).* Misc. Coll. vol. 131, No. 3. G. B. Fairchild. 1956. 38 pp. Smithsonian Institution, Washington 25.

Canada, National Research Council Review, 1955. N.R.C. 3678. National Research Council, Ottawa, Canada, 1955. 268 pp. \$0.75.

Johns Hopkins University, Annual Report of the President, the Faculties, and the Administration, 1954. Johns Hopkins University, Baltimore, Md., 1955. 184 pp.