

as both sections deal with the properties of particular photoconductive materials. Here one can perhaps better distinguish between groups of materials: the elemental semiconductors, germanium and silicon; the III-V compounds; lead sulfide, selenide and telluride; and ionic compounds such as zinc oxide. The degree to which the photoconductive phenomena can be discussed in terms of a detailed physical model is, not surprisingly, in direct proportion to the state of advancement of semiconductor technology for the material under discussion. At one end of the scale one finds the finely detailed study of minority carrier trapping in silicon by Haynes and Hornbeck and at the other the necessarily more speculative interpretation of experiments on zinc oxide by Mollwo and by Miller. In most of the papers, photoconductivity is treated as a bulk process, however for thin-film detectors of the lead sulfide group, and for sintered powders of zinc oxide it is pointed out that the important processes are localized at the inter-crystallite surfaces.

The art of actually making a useful photoconductor for a particular purpose is really never explicitly discussed, but this is probably a subject for another book.

BELL TELEPHONE LABORATORIES
MURRAY HILL, N. J.

A. R. HUTSON

Technique of Organic Chemistry. Volume III. Second Completely Revised and Augmented Edition. Part I. Separation and Purification. Editor, ARNOLD WEISSBERGER, Research Laboratories, Eastman Kodak Co., Rochester, New York. Interscience Publishers, Inc., 250 Fifth Avenue, New York 1, N. Y. 1956. ix + 873 pp. 16.5 x 23.5 cm. Price, \$17.50.

The former Volume III of this series has been divided into two parts in order to permit addition of new chapters and more intensive treatment. Part I concerns Separation and Purification Methods, and Part II, which will appear later, deals with Laboratory Engineering techniques. Chapter I of the present book concerns Diffusion Methods. Four topics are included, three of them new. A. Letcher Jones describes the techniques of Thermal Diffusion of Organic Liquids; Karl Kammermeyer, Barrier Separations; R. Eliot Stauffer, Dialysis and Electrodialysis; and E. MacWilliam, Zone Electrophoresis. Chapter II is an expanded treatment of Laboratory Extraction and Countercurrent Distribution by Lyman C. Craig and David Craig. A new part (61 pp.) has been added to this topic by Edward G. Scheibel who discusses Liquid-Liquid Extraction for Increased Quantities. Chapter III, Crystallization and Recrystallization by R. Stuart Tipson has been expanded from 122 to 167 pp. Two new authors, C. M. Ambler and F. W. Keith, Jr., have revised and expanded Chapter IV on Centrifuging. The treatment of Filtration (Chapter V) also has been expanded by A. B. Cummins and F. B. Hutto, Jr. The last chapter (VI) concerning Solvent Removal, Evaporation and Drying by G. Broughton has been revised and increased from 30 pp. to 52 pp.

This second edition brings up-to-date the information, data and references on these useful techniques. The book is especially valuable for the excellent coverage of the literature by each of the authors. The revision has been well done and well edited. The discussions are good and

the diagrams and illustrations are excellent. A good index to this volume is provided followed by Cumulative indices to Volumes I through IX, both Author and Subject. Although the material is primarily slanted to Organic Chemistry, the techniques of Separation and Purification and the discussions will be useful to inorganic and physical chemists also. This is a valuable reference volume for all research chemists.

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BOOKS RECEIVED

April 10, 1957-May 10, 1957

C. J. GORTER, edited by. "Progress in Low Temperature Physics." Volume II. Interscience Publishers, Inc., 250 Fifth Avenue, New York 1, N. Y. 1957. 480 pp. \$10.75.

E. A. GUGGENHEIM. "Thermodynamics. An Advanced Treatment for Chemists and Physicists." Interscience Publishers, Inc., 250 Fifth Avenue, New York 1, N. Y. 1957. 476 pp. \$9.75.

H. P. KAUFMANN. "Medicaments de Synthese." Masson et Cie, Editeurs, 120, Boulevard Saint-Germain, Paris VI^e, France. 1957. 853 pp. 11.500 Fr.

A. I. M. KEULEMANS. "Gas Chromatography." Reinhold Publishing Corporation, 430 Park Avenue, New York 22, N. Y. 1957. 217 pp. \$7.50.

EDGAR LEDERER AND MICHAEL LEDERER. "Chromatography. A Review of Principles and Applications." Second, Completely Revised and Enlarged Edition. D. Van Nostrand Company, Inc., 120 Alexander Street, Princeton, New Jersey. 1957. 711 pp. \$12.75.

E. H. ERICH PIETSCH (Editor). "Gmelins Handbuch der Anorganischen Chemie. Calcium. Teil A. Geschichtliches, Vorkommen, Element, Legierungen. System-Nummer 28." Verlag Chemie, GmbH, Weinheim/Bergstr., Germany. 1957. pp. 69-488. \$55.68.

E. H. ERICH PIETSCH (Editor). "Gmelins Handbuch der Anorganischen Chemie. Platin. Teil D. Komplexbindingen mit Neutralen Liganden. System-Nummer 68." Verlag Chemie, GmbH, Weinheim/Bergstr., Germany. 1957. 638 pp. \$90.00.

E. H. ERICH PIETSCH (Editor). "Gmelins Handbuch der Anorganischen Chemie. Zink. Supplement Volume. System-Nummer 32." Verlag Chemie, GmbH, Weinheim/Bergstr., Germany. 1956. 1025 pp. \$138.00.

RALPH W. G. WYCKOFF. "Crystal Structures." Volume II. Chapter XI. "Miscellaneous Inorganic Compounds." Chapter XII. "Structure of the Silicates." Interscience Publishers, Inc., 250 Fifth Avenue, New York 1, N. Y. 1957. 261 pp. \$7.00.