Thermal diffusion and low pressure distillation may play an increasingly important role in the analysis of the higher boiling fractions of petroleum. While azeotropic distillation has been used to great advantage, it seems unfortunate that a greater application of extractive distillation was not made. This, as the authors point out, was due to the necessity for using more complex apparatus with concurrent increase in the cost of personnel for the operation. It is hoped that these difficulties can be circumvented so that this technique will be more available for aiding the solution of the problems of composition.

The work reported here was summarized in Business Week, November 21, 1953, as follows: "To see how this works take Project 44 assembling data on hydrocarbons and related compounds. This data is, according to API, the only authoritative and orderly classification of physical, thermodynamic and spectral properties of these chemical substances in existence today. A process engineer estimating yields from a process in a French petroleum refinery, a graduate student in chemistry investigating paraffins at the University of Bombay, a geologist in Venezuela, or a physicist in an American laboratory are all dependent on information from Project 44."

This book is a record of fundamental knowledge attained through industry-wide support. It is required reading for those interested in the chemistry of petroleum and is recommended as a model for scientists concerned with the promotion of fundamental research.

STANDARD OIL DEVELOPMENT COMPANY W. J. SPARKS
ELIZABETH, NEW JERSEY

Mechanismes Biochimiques de l'Activite des Antibiotiques (Penicilline, Streptomycine, "Tyrothricine"). By MAURICE-MARIE JANOT, Professeur à la Faculté de Pharmacie de Paris, and JEAN KEUFER, Docteur ès Sciences. Masson et Cie, Éditeurs, 120, Boulevard Saint-Germain, Paris 6, France. 1953. 74 p. 17 × 25.5 cm. Price, 670 fr.

Most of the more effective chemicals employed for various therapeutic purposes still present problems concerning their modes of action. Discovery of the medical usefulness of an identified substance usually has led to attempts to determine its mechanism of action. In this respect the antibiotics have been no exception. Possibly because of the dramatic effectiveness of these agents and the practical potentialities of their study numerous publications pertinent to their mechanisms of action have appeared as demonstrated by the 433 references in the bibliography of this review. This comprehensive list of references includes some as recent as those of the 1952 Paris Symposium on The Mode of Action of Antibiotics. Some of the references not found in the bibliography have been too recent to permit inclusion and references to other reviews on the subject have been omitted.

In the introductory pages general information on various antibiotics, including sources, structures, activities and a few toxicities, has been presented; however, for the discussion on the mode of action the authors have limited their review to studies on penicillin, streptomycin and tyrothricin. A brief historical background is presented citing some interesting foreshadowings of the development of antibiotics. This monograph reviews observations which in some degree cannot fail to be new and stimulating to those who are interested but not experts in the field. For the latter the review should at least offer a useful bibliography and compilation of observations in convenient form.

After categorizing the various observations on the action of the three antibiotics with respect to influences on different aspects of metabolism, upon morphology and for physical influences, the authors have concluded that the modes of action are quite diverse and that one of the most important is interference with a co-factor in enzyme action. They have also stated that progress to full knowledge of the modes of action of the antibiotics can come only with progress of knowledge of the enzymes. The reviewer would like to suggest that prospects are good that advances in our knowledge of enzymes may be expected through studies of the mode of action of biologically active compounds such as the antibiotics. A stimulus to such advances should be provided readers of the good review by Prof. Janot and Dr. Keufer.

SLOAN-KETTERING INSTITUTE FOR CANCER RESEARCH
410 EAST 68TH STREET C. CHESTER STOCK
NEW YORK 21, NEW YORK

BOOKS RECEIVED

May 10, 1954–June 10, 1954

G. M. BADGER. "The Structures and Reactions of the Aromatic Compounds." Cambridge University Press, American Branch, 32 East 57th Street, New York 22, N. Y. 1954. 456 pp. $11.50.

J. D. H. DONNAY AND WERNER NOWACKI. "Crystal Data." The Geological Society of America, 419 West 117th Street, New York 27, N. Y. 1954. 719 pp. $5.00.

FRITZ FEIGL. "Spot Tests"—Volume I, Inorganic Applications and Volume II, Organic Applications. The Elsevier Press, 402 Lovett Boulevard, Houston, Texas. 1954. Volume I—518 pp. and Volume II—436 pp. Volume I—$6.50 and Volume II—$6.25.

FREEPORT SULPHUR COMPANY, Compiled by the Technical Staff and Edited by WILLIAM N. TULLER. "The Sulphur Data Book." McGraw-Hill Co., Inc., 330 West 42nd Street, New York 36, N. Y. 1954. 143 pp. $5.00.

V. M. GOLDSCHMIDT (the late). Edited by ALEX MUIR. "Geochemistry." Oxford University Press, 114 Fifth Avenue, New York 11, N. Y.

V. G. W. HARRISON (Edited by). "Proceedings of the Second International Congress on Rheology." Academic Press, Inc., Publishers, 125 East 23rd Street, New York 10, N. Y. 1954. 451 pp. $10.00.

JOSEPH O. HIRSCHFELDER, CHARLES F. CURTISS AND R. BYRON BIRD. "Molecular Theory of Gases and Liquids." John Wiley and Sons, Inc., 440 Fourth Ave., New York 16, N. Y. 1954. 1219 pp. $20.00.

RALPH E. LAPP AND HOWARD L. ANDREWS. "Nuclear Radiation Physics." Prentice-Hall, Inc., Englewood Cliffs, New Jersey. 1954. 532 pp. First Edition—$5.50, list. Second Edition—$6.75, list.

R. D. LILLIE. "Histopathologic Technic and Practical Histochemistry." The Blakiston Co., Inc., 575 Madison Avenue, New York 22, N. Y. 1954. 501 pp. $7.50.

R. H. F. MANSKE AND H. L. HOLMES (Edited by). "The Alkaloids: Chemistry and Physiology," Volume IV. Academic Press, Inc., Publishers, 125 East 23rd Street, New York 10, N. Y. 1954. 357 pp. $8.50.

NATIONAL BUREAU OF STANDARDS. "Table of Secants and Cosecants to Nine Significant Figures at Hundredths of a Degree." Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C. 1954. 46 pp. 35 cents.

F. F. NORD (Edited by). "Advances in Enzymology," Volume XV. Interscience Publishers, Inc., 250 Fifth Avenue, New York 1, N. Y. 1954. 547 pp. $11.00.

E. H. ERICH PIETSCH (Edited by). "Gmelins Handbuch, Der anorganischen Chemie. 'Schwefel,'" Teil A. Verlag Chemie, G.m.b.H., Weinham/Bergstrasse, Germany. 1953. 762 pp. $34.00.

GORDON SKINNER, HERRICK L. JOHNSTON AND CHARLES BECKETT. "Titanium and its Compounds." Herrick L. Johnston Enterprises, 540 West Poplar St., Columbus, Ohio. 1954. 174 pp. Hard bound covers—$5.00, paper bound cover—$3.50.

ALEXANDER N. WINCHELL. "The Optical Properties of Organic Compounds." Second Edition. Academic Press, Inc., Publishers, 125 East 23rd Street, New York 10, N. Y. 1954. 487 pp. $12.00.