Water-Resources Technology

Handbook of Applied Hydrology. A compendium of water-resources technology. Van Te Chow, Ed. McGraw-Hill, New York, 1964. 1418 pp. Illus. $39.50.

The title of this handbook is somewhat imprecise in that the material covered is much wider in scope than that usually considered to be the field of hydrology. However, the objective of the editor, to bring together the latest available information of a hydrologic nature, has been very well achieved.

The *Handbook* represents a comprehensive compilation of authoritative hydrologic technology, readily available for use in solving problems related to water resources. With greater and greater emphasis being placed on research in hydrology and water resources, this collection of information is very timely. The editor not only brings together a wealth of information that can be used by practicing scientists and engineers but, because he closely follows the pattern and style of a textbook, the volume should serve excellently as a textbook. The contributors are recognized authorities in their fields, and their presentations are based on a broad background of experience.

Continuity in the volume is good. The 29 sections fall systematically into four general categories. The first eight sections lay the foundation of the science and cover in considerable detail the scientific aspects of hydrology.

Sections 9 through 19 are concerned with the phenomena of the hydrologic cycle, beginning with precipitation and evapotranspiration and ending with droughts, low streamflow, and water quality. Sections 20 through 25 consider the practice and application of hydrology and cover such items as hydrology of urban areas, agricultural lands, forest and range lands, and hydrology of flow control (a very complete section).

The authors who contributed to the section on flow control (the section is divided into five parts) give a complete and up-to-date treatment of flow problems, especially flood hydrology and river forecasting. Not only have they adequately treated the fundamentals, they also have covered methods of approach. The practicing hydrologist or engineer will probably find this section the most valuable part of the volume.

Sections 26 through 29 cover some of the socioeconomic aspects of water resources, including water policy and water law.

In all sections the basic approach to the various fields of hydrology is excellent. Each section is provided with good references to additional sources of information.

Some sections are too wordy and contain extraneous material. Although this does not materially detract from their value to a reference work, it does impose a burden on those who use the book as a textbook. There is some duplication between sections, but this is not objectionable because it tends to reduce the number of cross references. The print is much too small for extended reading. These are, however, criticisms of minor details.

The hydrologist, the engineer, and the student should find this handbook a very useful reference source because almost all aspects of hydrology are thoroughly treated and liberally illustrated with examples.

H. F. SMITH
Illinois State Water Survey, Urbana

Chemical Engineering

Chemical Reactions in Shock Waves. Edward F. Greene and J. Peter Toennies. Academic Press, New York, 1964. xvi + 352 pp. Illus. $11.

This monograph, a revised edition of *Chemische Reaktionen in Stosswellen* which was published in 1959 as volume 3 of the series "Fortschritte der physikalischen Chemie (edited by W. Jost), is concerned with the application of shock-wave techniques to the study of chemical reactions. The authors review, in a rather elementary fashion, the hydrodynamic theory of shock behavior in real gases and treat the transition region in some detail. The production of shock waves is discussed, and the advantages and shortcomings of the shock tube are indicated. The experimental techniques commonly used in establishing the properties of shock waves are set forth, and, in the final chapter, experimental measurements of chemical phenomena in shock waves are reviewed. Approximately 100 pages are devoted to a rather extensive tabulation of experimental work directly related to the study of chemical changes in shock waves.

Chemical Reactions in Shock Waves seems to be a satisfactory, conventional treatment for those who are not familiar with shock waves and their generation, but those who are versed in the physical phenomena of shock waves, with particular application to shock tubes or to high explosives, will find that this treatment involves little that is new and that it omits some of the more detailed analyses that have been attempted to establish the microscopic nature of the state changes that occur in shock phenomena.

B. H. SAGE
Department of Chemical Engineering, California Institute of Technology

New Books

Economics and the Social Sciences

Aboriginal Relationships Between Culture and Plant Life in the Upper Great Lakes Region (*Anthrop. Pap. Mus. Anthrop. Univ. Mich.*, No. 23). Richard Asa Yarnell. Univ. of Michigan, Ann Arbor, 1964. 224 pp. Illus. Paper, $2.50.

A Behavior System: An Introduction to Behavior Theory Concerning the Individual Organism. Clark L. Hull, Wiley, New York, 1964. 382 pp. Illus. Paper, $2.25 (reprint of 1952 edition).

The Challenge of Diversity. Richard E. Engler, Jr. Harper and Row, New York, 1964. 352 pp. $6.50.

Complex Human Behavior. Arthur W. Staats and Carolyn K. Staats. Holt, Rinehart, and Winston, New York, 1964. 560 pp. Illus. $7.50.

The Conditions of Learning. Robert M. Gagné. Holt, Rinehart, and Winston, New York, 1965. 316 pp. Illus. $5.50.

Decision and Value Theory. Peter C. Fishburn. Wiley, New York, 1964. 469 pp. Illus. $13.75.

East-West Parallels. Sociological approaches to modern Asia. W. F. Wertheim. Quadrangle Books, Chicago, 1965. 292 pp. $7.50.

Economic Crises in World Agriculture. Theodore W. Schultz. Univ. of Michigan Press, Ann Arbor, 1965. 122 pp. $3.50.

Economics and the Idea of Mankind. Bert F. Hoselitz. Columbia Univ. Press, New York, 1965. 303 pp. $6.95. Seven topics: "Mankind in the history of economic thought" by Erskine McKinley; "The concept of world interest" by Kenneth E. Boulding; "Unity and diversity in economic structure" by Bert F. Hoselitz; "International factor migration and world economic welfare" by David Felix; "Economic relationships among nations: The pattern of commodity trade" by

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