SCIENTIFIC BOOKS

MEDICAL PHYSICS

Medical Physics. Edited by OTTO GLASER. xlvi + 1744 pp. The Year Book Publishers, Inc. 1944. $18.00.

THIS volume represents a comprehensive attempt to describe those aspects of physics which are being utilized in medicine at the present time. There are over two hundred separate articles by contributors who are experienced workers and, in many instances, outstanding authorities in their respective fields. As the editor states, the volume was conceived as "a combination of an *encyclopedia,* sufficiently comprehensive to serve as a reference for all those whose occupations involve any aspect of medical physics; a *textbook,* adequately detailed in exposition to serve students; and a *working instrument,* in which may be found the data necessary for actual application of the principles of physics to medicine."

The subject-matter is too vast to describe or even outline in any detail. A few articles may be named to illustrate the considerable scope of the volume and the wide range of interest. For example, there are detailed sections on such basic subjects as bioelectricity (Beutner), cosmic rays (Wollan), growth (Wetzel), optics (Sheard), photoelectricity (Cashman), spectrographic analysis (Langstroth) and mathematical biophysics (Rashevsky). Of more specific interest are such articles as those on air conditioning and heating, biomechanics, urological methods and various surgical techniques.

The value of the volume is most apparent when it is considered from the viewpoint of the physician who is eager to understand the bases in physics of the phenomena he deals with, or from that of the medical investigator who needs a convenient guide book to physical methods and concise summations of data which are applicable to his work.

The clinician will find instructive material on such subjects as the arterial pulse, audiometers and hearing aids, mechanism of bronchial obstruction, dynamics of cerebrospinal fluid, the circulation, climatic factors in health and disease, electrocardiography, electro-encephalography, fever therapy, gastroscopy, work and failure of the heart, roentgenography, photochemistry of vision, etc.

But the volume will prove most useful, if not indispensable, to the medical investigator as a guide to physical methods and data. Thus there are comprehensive sections on biometric methods, the use of isotopes in biological work (together with a table of nuclear properties), photometry, spectrophotometry, centrifugation, cinephotomicrography, endoscopic photography, physical anthropology and other subjects of similar importance. There are also shorter articles on a variety of specific techniques and on the significance of data obtained by means of these techniques. Among these articles may be mentioned those on the blood cell count, blood volume, electrolyte and water equilibria in the body, electrophoresis, falling drop method, oxidation-reduction potentials, polarimetry, refractometery and volumetric and manometric methods for the measurement of cell respiration and other processes.

There are several features which facilitate use of this volume. The tables of contents are arranged both alphabetically and by medical subjects. Tables of symbols and abbreviations are present in the introduction. Substantial bibliographies are present at the end of each article and enable the reader to follow up his subject in greater detail. The author and subject indices are also very detailed.

There is little in this book which detracts from its general merit. Occasionally, there appears to be misplaced emphasis on subjects which are not strictly within the scope of the volume. For example, there is a rather large section on the chemistry of chlorophyll which, although of considerable interest in itself, does not appear pertinent to the main purpose of the volume. A number of others fall into this group, such as the articles on ecology, on the types of tables used in cystoscopy and on methods used in resuscitation.

In general, the volume appears to have fulfilled the purposes of the editor excellently. Although it is not a text-book in the usual sense, the student of physics or biophysics will find much which he may study intensively, and the medical material will serve to broaden his interests and outlook. For the medical and biological investigator, this volume will undoubtedly prove to be an essential and much used work of reference.

OSCAR BODANSKY

ENZYMES

Enzyme Technology. By HENRY TAUBER. vii + 275 pp. 46 figures. New York: John Wiley and Sons, Inc. London: Chapman and Hall, Ltd. 1943. $3.50.

ACCORDING to the author, the purpose of this book is designed to present practical information concerning the role and use of enzymes in industry. A large number of subjects have been discussed briefly: Yeast production and utilization; the role of enzymes in brewing; mold fermentation; bacterial fermentation; the production of various enzymes; methods of estimating enzymes; enzymes in the medical field; breadmaking and dairy production; the enzymes of meat,