according to the needs of his students, or to the objective of his course. The very reasonable price of the book may be a further attraction.

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Pathologic Physiology: Mechanisms of Disease. William A. Sodeman, Ed. Philadelphia: Saunders, 1950. 808 pp. $11.50.

There is an evident need for a reference or textbook providing an integrated view of physiology, physiological chemistry, and medicine for medical students and physicians. It appears that the 24 authors of this collection of essays have made a considerable effort to fill this need and to bridge the gap between textbooks of medicine and those of physiology.

The book is divided into nine main sections, each of which contains one or more chapters on pertinent topics. For example, in the first section, which covers the circulatory system, the chapters describe hemodynamics and blood vessels, structure and properties of the heart muscle and its blood supply, the cardiac cycle, the electrocardiogram, cardiac output in health and disease, congenital heart anomalies, and, finally, cardiac failure. The sections that follow are respiratory system; digestive system, including the liver; blood and spleen; urinary tract; endocrine glands, water balance, and nutrition; locomotor system; infectious diseases and allergy; and physical and toxic chemical agents.

The emphasis in these chapters is on the presentation of the underlying physiology and the relationship of deranged physiology to symptomatology. The authors have, however, chosen what appears to be a general and somewhat diffuse approach in their discussion. With respect to the more purely physiological aspects there are some excellent chapters, particularly those on the heart, the liver, the joints, and the endocrines. The discussion of edema could be better systematized, however, and a much more extensive discussion of renal disease would be useful. The authors are careful to mention, for example, the various possibilities of electrolyte disturbances that may occur in terminal nephritis, but no data are given on a specific case nor is quantitative information presented. In the discussion on cardiac failure, it would be helpful to have data on cardiac output, venous pressure, renal function, and electrolyte and water balance for a patient in cardiac failure, and then give the results of serial examinations during the illness and through compensation. A distressing aspect of the book is the inadequate treatment of acid-base disturbances and their control. What physical chemistry there is, is primitive; some of it is inaccurate (the phosphate system is not one of the two important buffering systems of the blood). Reference to a more modern text than this is advisable for these topics.

In general the book is up to date; references are adequate, though occasionally some work cited in the text receives no literature reference in the bibliography. The technical make-up of the book is satisfactory, but the small type and the page size are such that it is difficult to read. More liberal use of charts and diagrams in certain chapters would have led to considerable improvement.

In conclusion, it appears that this text may be found useful for those who seek a descriptive and qualitative survey of some of the interrelationships of physiology and clinical medicine.

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Nuclear Data. Compiled by the National Bureau of Standards Nuclear Data Group. Washington, D. C.: U. S. Government Printing Office, 1950. 309 pp. $4.25, including future supplements.

This impressive piece of work is a collection of nuclear data which meets a longfelt need among workers in the nuclear field. Started by Katharine Way some years ago at the Oak Ridge National Laboratory, the volume has now been completed by Dr. Way, Lilla Fano, Millicent R. Scott, and Karin Thew under the editorship of the National Bureau of Standards. Many other competent specialists contributed to this comprehensive compilation of nuclear data containing experimental values of half-lives, radiation energies, and decay modes of radioactive isotopes, of relative abundances, nuclear moments, and cross sections of stable isotopes. Decay schemes and level diagrams are presented wherever they seem to be well established. Mass values have not been included since there is a comprehensive collection of these values available in the well-known *Isotopic Report* of Mattauch and Flammersfeld. The material is well arranged. References to original papers are given with every nuclear constant collected in the volume, and in cases where a nuclear property can be measured in different ways, the method used is indicated together with the reported value.

One major limitation in making a compilation of nuclear data generally available at present is imposed by the fact that the increasingly large number of measurements of nuclear constants reported each month makes it difficult to keep such a work up to date. In fact, a collection of nuclear constants is already incomplete at the moment the tables become available. The National Bureau of Standards nuclear data tables are the first that will remain current, with supplementary additional sheets of new information to be issued at six-month intervals. The loose-leaf binding of the tables makes the incorporation of the supplements simple. Sufficient space is also provided for additional remarks by the user, since the tables are printed on one side of the sheet only.

In reviewing this volume one is led to make a comparison with previous tables such as the *Isotopic Report* by Mattauch and Flammersfeld and the Seaborg

tables in which, generally, one best value for a given nuclear property has been critically selected. In *Nuclear Data,* similar information from different sources is presented, leaving it up to the reader to make a critical choice by a study of the original papers. This is certainly useful and stimulating for specialists in the field of nuclear physics, but may cause some difficulties for the reader who is not familiar with nuclear methods. The new compilation is not only more complete than any previously published table, but it is also more comprehensive, containing many additional data such as conversion coefficients, thresholds, and information about measurements of the shape of β-spectra, and of angular correlation.

Nuclear Data should prove exceedingly useful for any worker using radioactive isotopes. The physicist or chemist engaged in nuclear research is certain to be grateful that the tedious but necessary work of compiling nuclear data and keeping it up to date is being carried on by the National Bureau of Standards Nuclear Data group and that it is to be continued.

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Reviewed in Brief

Methods in Food Analysis Applied to Plant Products. Maynard A. Joslyn. New York: Academic Press, 1950. 525 pp. $8.50.

This book is intended as a text and reference work on the physical and chemical methods used in laboratory examination and evaluation of commercial fruit and vegetable products. It is based on the lecture notes and laboratory directions developed by the author in the presentation of a course in food analysis over a period of 20 years. As it is at an advanced level, previous training in analytic and organic chemistry is assumed. The methods presented are those in common use. Each chapter has an extensive list of references that will be a great aid to students. The text may be highly recommended.

Plastic and Reconstructive Surgery: A Manual of Management. Ferris Smith. Philadelphia-London: Saunders, 1950. 895 pp. $15.00.

"The purpose of this manual is directive. It is not to teach the beginner in this special field, except through a preceptor who has basic training, experience and competent judgment." The author has drawn on his wealth of experience to present, with numerous preoperative and postoperative photographs, the trends in plastic surgery since World War I. As one scans the captions of the 14 chapters there is an impression of unbalance; however, it is clearly stated in the preface that hypospadias and epispadias should be corrected by the urologic surgeon, absence of the vaginal tract by the gynecologist, and lesions of the tendons, nerves, and bones by the orthopedist.

The book is authoritatively written and well printed. The author has unquestionably achieved his goal. This volume should be in the hands of everyone interested in this highly specialized field of surgery.

Progress in Biophysics and Biophysical Chemistry, Vol. I. J. A. V. Butler and J. T. Randall, Eds. New York: Academic Press; London: Butterworth-Springer, 1950. 279 pp. $6.80.

In the face of an ever-mounting mass of reviews in the many fields of biological science, the editors of this volume are to be congratulated on having obtained, in general, critical reviews rather than mere bibliographic compilations while at the same time limiting their book to a modest 279 pages. The subtitle, "Biophysical Chemistry," is most appropriate to the subject matter since about half the chapters deal with the physical chemistry of large molecules.

The chapter headings are as follows: "Properties of Solutions of Large Molecules," H. Gutfreund; "Fundamental Structures in Biological Systems," K. M. Rudall; "Scattering of Visible Light and X-Rays by Solutions of Proteins," G. Oster; "Bioelectric Potentials, Their Maintenance and Function," E. E. Crane; "Phase Contrast Microscopy," A. F. W. Hughes; "Local Refractometry," J. St. L. Philpot; "Soft X-Rays in the Assay of Biological Materials," A. Engström; "Tolerance of Man for Radioactive Isotopes," J. F. Loutit; and "Mechanical Properties of Fibers and Muscles," M. G. M. Pryor.

Colloidal Dispersions. Earl K. Fischer. New York: Wiley; London: Chapman & Hall, 1950. 387 pp. $7.50.

A subject of great industrial importance, this monograph was planned as a guide to the theory and practice of the dispersion of solids in liquid media. For orientation, the latest methods for the determination of particle size are presented, followed by theories on the wetting of solids and the state of the dispersed solid. The second part of the book covers the manufacture of colloidal dispersions, including details on processes and machinery. In this section one is impressed by the preponderance of citations to U. S. patents. The data brought together in the volume will be welcomed by all interested in colloidals.

Proctology in General Practice. J. Peerman Nesselrod. Philadelphia-London: Saunders, 1950. 276 pp. $6.00.

This study was prepared for the general practitioner who is becoming more and more intimately involved in the early diagnosis of rectal and colonic malignancy. In addition it has equal value for the medical student, the proctologist and the general surgeon. Chapter 1 is devoted to anorectal anatomy, physiology, and pathology as basic preparation for an understanding of the chapters that follow. Diagnostic procedures, preoperative management, and postoperative care are presented in a lucid, concise manner accompanied by well-selected illustrations. The book can be highly recommended.