

its popularity. The new edition contains 120 pages more than the preceding one, but this is not due so much to an increase in the contents as to the use of larger and more legible type. Revisions have been made in the values of many physical constants, the chapter on atomic nucleus has been completely rewritten and other minor changes have been made. In the appendix, two little used tables have been dropped and replaced by tables on the structure of molecules and ions and on the co-valent bond energies and atomic radii. The book is recommended as being useful as a handy reference on inorganic chemistry.—A. G. D.

*Qualitative Analysis and Chemical Equilibrium*, by T. R. HOGNESS and WARREN C. JOHNSON. xii + 417 pages.  $5\frac{1}{2} \times 8\frac{3}{8}$ . 1937. New York: Henry Holt & Co. \$2.75.

This book, intended as a textbook of qualitative analysis, aims to teach the underlying reasons of the reactions involved as well as methods of qualitative testing. Part I of the books deals with the general properties of solids, liquids and solutions, velocity of reaction and equilibrium, solubility product, colloids, ionization of water, hydrolysis, amphoteric substances, oxidation and reduction and sulfide precipitations. Part II deals with group precipitations in the usual order, except that the alkali metals are studied first, then the silver group, etc.—A. G. D.

*The Chemistry and Toxicology of Insecticides*, by HAROLD H. SHEPARD. iii + 383 pages.  $8\frac{3}{8} \times 10\frac{3}{4}$ . 1940. Minneapolis: Burgess Pub. Co. \$4.00.

This volume is intended as a textbook for students of economic entomology, but in reality, it is a compilation of a great deal of practical information on insecticides and should, therefore, become of increasing value to pharmacists whose business in this field is increasing. The contents are divided into chapters dealing with arsenical stomach poisons and non-arsenical stomach poisons such as fluorides, thallium, lead, mercury, copper and zinc salts, tartar emetic and borax. Contact poisons are also dealt with. Among these are sulfur, selenium and copper compounds, and substances used to increase their effectiveness, plant derivatives, insect fumigants, attractants and repellants and methods of testing fly sprays.—A. G. D.

*The Badianus Manuscript* (Codex Barberini, Latin 241—Vatican Library—An Aztec Herbal of 1552). Translated and annotated by EMILY WALCOTT EMMART. xxiv + 341 pages.  $9\frac{1}{2} \times 12\frac{1}{4}$  in. 1940. Baltimore: The Johns Hopkins Press. \$7.50.

The Badianus Manuscript is a work on the medical lore of the Central American Indians. It was originally inscribed by an Indian physician in Aztec and translated by another Indian into Latin. The

Aztec portion from which the present translation was made was written by Martinus de la Cruz, a native medical teacher, and the botanical portion was translated by Joannes Badianus. The present volume is an English translation of the latter with annotations by the author. It gives a good picture of certain aspects of Aztec medicine practiced in the days of the Conquistadores. The book contains 117 color plates which reproduce in full size the illustrations in the original book. This is followed by a translation of the Latin chapter and descriptions of drugs and plants with accompanying translations. Explanatory comments by the author add to the value of the work. There is a comprehensive Aztec index followed by interesting botanical, materia medica and disease indexes.—A. G. D.

*Chemistry and Medicine*. Papers Presented at the Fiftieth Anniversary of the Founding of the Medical School of the University of Minnesota. Edited by MAURICE B. VISSCHER. 296 pages. The University of Minnesota Press, Minneapolis, Minn., 1940. Price, \$4.50.

This volume is a compilation of papers presented at the fiftieth anniversary of the founding of the Medical School of the University of Minnesota. The papers are arranged in four groups and deal with the progress in the application of physical chemistry to medicine, recent investigations in metabolism, some aspects of immunity in chemotherapy and some approaches to the nervous control of the organism. In the first section, there are papers dealing with the colloid structure of membranes, osmotic work in living systems and the function of the kidney in concentrated solutes. The second part deals with the more important subjects of vitamin research, the importance of fats in the diet and heparin. Papers on immunity and chemotherapy constitute the third part and the last part of the book presents the essential facts relating to nervous control in animals and the methods by which nervous action may be analyzed. All of the papers are supplemented by extensive bibliographies.—A. G. D.

*Mineral Metabolism*, by ALFRED T. SHOHL, M.D., Research Associate in Pediatrics, Harvard University. Published by Reinhold Publishing Corporation, New York. Price \$5.00. American Chemical Society series of Scientific and Technologic Monographs.

It is stated that the main purpose of the book is to describe the role of the minerals in the structure and function of the human body. The author has given much study to the subjects which is shown by the extensive bibliography appended to the discussions. Chapter I deals with the scope of mineral metabolism; the elements which occur in biological material are classed in five groups—Definition of Mineral Metabolism, Relations of Minerals to Water; Relation to Various Fields of Biology, to Animal Nutrition, etc. References under the

Bibliography end the Chapters. Chapter II is devoted to the mineral composition of the body; the first "Body Water," its distribution, blood, cerebrospinal fluid and individual minerals. Secretions and excretions are discussed in Chapter III. Tables and figures add value to this division. Internal Secretions, glands, are considered in Chapter IV. Total base, chloride, ammonium, bicarbonate, sodium and potassium are the subjects of Chapter V. Chapter VI lists calcium and magnesium. Chapter VII, on phosphorus, ends with a list of 55 references; Chapter VIII is given to sulfur. Critical reviews of sulfur metabolism have been made by Lewis and by Vigneaud and Dyer. Chapter IX treats of iron in the body and in various forms. The divisions are given to functions, iron compounds in the body, differentiation of organic and inorganic compounds, quantitative distribution, metabolism, hemoglobin, balance studies and requirements and sources of iron in food. Iodine is treated in Chapter X, iodine compounds in the body, metabolism, disorders of the thyroid gland, sources of iodine and supplements in food. Chapter XI considers a number of elements which are present in small quantities, among them aluminum, arsenic, bromine, cobalt, nickel, copper, fluorine, manganese, selenium, silicon, zinc; all of them are listed in the bibliography of 201 references. Chapter XII is headed "Water Metabolism" and the subject is considered under 89 titles and various phases—functions, excretion, requirement and control. Chapter XIII treats of Anion—Cation Relationships and Chapter XIV of mineral intakes, balances and requirements. Indexes conclude the volume of nearly 400 pages.—E. G. E.

*Handbook of Mathematical Tables and Formulas*, by RICHARD STEVENS BURLINGTON, Ph.D., Associate Professor of Mathematics at Case School of Applied Science, Cleveland. 275 pages, index included. Published by Handbook Publishers, Inc., Sandusky, Ohio. Second Edition, 1940.

This book has been compiled for the needs of students and workers in the field where mathematical computations are required. The first part of the book has a summarization of fundamental formulas and theorems of algebra, trigonometry, analytical geometry, calculus and vector analysis along with a comprehensive table of derivatives and integrals of calculus. A total of four hundred and thirty-four integral equations are given. In the second part of the book is given the usual logarithms and trigonometric tables to fourth and fifth places, with explanation as to their use; tables of natural logarithms of exponential and hyperbolic functions, reciprocals, logarithms of Gamma functions and factorials. An improved table of squares, cubes, square roots and cube roots has been incorporated in this edition. This Handbook forms the appendix of Lange's "Handbook of Chemistry" especially prepared for chemist and physicist. The

usefulness of Burlington's Handbook is highly regarded as an essential to obtain speed and accuracy in mathematical computations.—E. C. BEELER.

*Modern Cosmetology—The Principles and Practice of Modern Cosmetics*, by RALPH G. HARRY, F.L.C., M.R.I.P.H., F.R.M.S., A.R.P.S., 1940, Publishers, Chemical Publishing Co. Inc., 148 Lafayette St., New York City. Price, \$5.00.

The author has endeavored to deal with the subject by making use of research which has required the application of scientific thought. He has given attention to questions which may arise by the addition of ingredients that are added for emulsification or permanency and also the histology of the skin and hair that may be injuriously affected or effected. The publication contains an important collection of photomicrographs showing the structure of hair, skin, nails; studies underlying the principles of the uses are presented. The author states that eye lotions are seldom fully discussed in books and periodicals. While this statement is no doubt true, there are very good reasons for being exceedingly careful of the limitations in their inclusion and substantial reasons for greater caution relative to the dangers of self-medication. It is well enough to improve the formulas and limit them, but it is equally desirable to discourage self-medication and treatment without consulting the physician. In many instances a warning from the pharmacist based on his experience is a safeguard. Evidently the author has recognized the dangers and applied his deductions for safety. It is a fact that many of the users are guided only by appearance at the time of application, but the pharmacist's responsibility does not always end there. The book serves a useful purpose as a guide to the manufacture and use of cosmetics. Possibly more should have been said about too frequent applications which may interfere with the natural processes.—E. G. E.

*Specific and Special Reactions for Use in Qualitative Analysis, with Particular Reference to Spot Test Analysis*, by F. FEIGL. Translated by Ralph E. Oesper. Third German edition revised. ix + 192 pages, 15.5 x 23 cm. Elsevier Publishing Co. and Nordeman Publishing Co., New York, N. Y., 1940. Price, \$3.50.

This volume is an English translation of the third German edition of "Qualitative Analyse Mit Hilfe von Tüpfelreaktionen." It is stated in the preface that the translator has taken the opportunity of including some material for the fourth German edition which it is expected will be published shortly. The new material consists primarily of additional references to the literature to bring the work up to date—48 new references are given. The book presents a new approach to the subject of qualitative analysis and will no doubt be welcomed by workers in this field.—A. G. D.