Book Reviews

The Vitamins: Chemistry, Physiology, Pathology. vols I and II. W. H. Sebrell, Jr., and Robert S. Harris, Eds. Academic Press, New York, 1954. vol. I, xiii + 676 pp. Illus. $16.50; vol. II, xiii + 766 pp. Illus. $16.50.

This review is concerned with the first two volumes of a three-volume reference work intended as a comprehensive coverage of the fundamental knowledge about the vitamins. In the initial volume, vitamins A, carotenes, ascorbic acid, vitamin B_{12} and biotin are dealt with, since the vitamins were selected on an alphabetical basis. The second volume is concerned with choline, vitamin D, essential fatty acids, inositols, vitamin K, niacin, and pantothenic acid.

As the editors state, they "have attempted to provide a guide service to the new and complicated areas" of what once seemed simple. In the organization of each volume, the various phases of the individual vitamins are dealt with by a contributor chosen for his competence in a given special field. Emphasis is placed on the chemistry and physiology of the vitamins, as the editors felt that the assay methods and the clinical manifestations of the deficiencies and their treatment were covered rather adequately in other publications. These phases are not entirely omitted, but are dealt with rather generally and supported by an extensive bibliography for consultation. This is particularly true for sections on determinations of the vitamins and the early history of the vitamins.

The contributors to this well-organized work have succeeded admirably in clearing up some of the confusion that has tended to exist in some phases of vitamin research. The material is presented in an exceedingly clear, simplified, and easy to read manner without loss of purpose. These volumes should prove extremely valuable to all investigators involved in vitamin research and particularly to those seeking authoritative appraisal and information of fields in which they are not directly active. The chapter on vitamin B_{12}, for instance, clears up considerably the confusion that has been associated with this vitamin. More than 125 pages are devoted to this rather recent member of the vitamin family.

The chemistry of the vitamins is treated in a very creditable manner. For example, the chemistry of biotin is divided into sections on isolation, chemical and physical properties, constitution, synthesis, analogs, complex compounds, and specificity. A similar treatment was made of the other vitamins. Of great value are the tables and structural formulas which summarize the chemical and biological aspects. This is particularly true for niacin, choline, vitamins A, and the carotenes. Similarly, the tables on the vitamin content of natural materials and information summarized on requirements should be welcomed by nutritionists.

Controversial phases of research, such as the vitamin-B_{12} relationship to choline and methionine synthesis, are considered in an excellent manner. All statements are well documented and any injection of theory or opinion by the writer is clearly indicated.

These volumes should be a stimulation for research. Sections on fields for further study are clearly indicated, with questions on present knowledge raised throughout for additional stimulation. For example, with respect to ascorbic acid, the contributor states that "regardless of a vast amount of work already completed in the field of enzyme and hormone interrelations of the vitamin, not many, if any, of the problems have been settled." Similarly, another contributor states that "the biological role of the essential fatty acids has not been elucidated, and only a few pieces of isolated information bear on the matter."

Literature references are given as footnotes at the bottom of each page for convenience, with a subject and author index at the end of each volume. References are included through 1952 and with a large number for 1953. Remarkably few literature omissions and errors were noted.

There are numerous plates, particularly with respect to the effects of a deficiency of vitamin A, choline, or ascorbic acid. Additional plates would be desirable as regards several other vitamin deficiencies. The quality of some plates did not seem to do them justice, considering the price of the books. The relatively high cost of this series will, unfortunately, limit its general use to some extent.

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Zoology. Clarence J. Goodnight and Marie L. Goodnight. Mosby, St. Louis, 1954. 730 pp. Illus. $6.50.

Clarence and Marie Goodnight, who teach introductory zoology at Purdue University, have added another volume to the shelf of zoology textbooks. A rather casual check shows that there are 23 other introductions to zoology at the college level in print, along with at least 40 introductory biology textbooks. A review of any new one, then, ought to be comparative but that would be a gigantic undertaking.

The various textbooks differ greatly in organization. There are the principles approach, the evolutionary approach, the physiologic approach, the morphologic approach—and, of course, the "dynamic approach," and a currently fashionable man-centric approach. Each book, as the publishers invariably point out, represents a "new approach."

The Goodnights have attempted a sort of blend. After an introductory section on science and the scientific method, the nature of life, and the basis of animal classifications, they have 11 chapters on the