

perience. For example, the contributions of Oroshnik to the synthesis of vitamin A have not been cited. In the fields of physiology, biochemistry, pathology and nutrition of vitamin A, the author is at his best, and by citing his own contributions adds authenticity and interest to these sections. Throughout the book more recent findings are interpreted in the light of historical perspective. The interrelationships of vitamin A with a number of special topics are covered, including farm animals, sex and thyroid. In an outstanding chapter, the final one, Dr. Moore assesses our present knowledge of vitamin A and makes some predictions for the future. The book includes appendices summarizing information on bioassay diets and various analytical methods. In view of the wide availability and transitory nature of analytical procedures, their inclusion in this volume seems unnecessary. The comprehensive author and subject indices, covering over forty pages, immensely increase the usefulness of this book.

Perhaps the main criticism should be directed at the publisher rather than the author. This book bears the publication date 1957. Most of the chapters were completed in 1954, apparently, with only an occasional reference to the literature of 1955. Thus this volume at the date of issuance is no longer an up-to-date survey of the field. For example, the elucidation of the structure of neoretinene-*b* as the 4-mono-*cis*-vitamin A aldehyde was reported in 1955, as was also the preparation and identification of the 2,4-*cis* isomer of vitamin A. These two isomers complete the series, and omission leaves the uninitiated in a confused state.

Errors are few. One should point out that the correct molecular weight of carotene is 536.85, which should be rounded off to 537 rather than to 536. In addition, more recent literature should be consulted for elucidation of the correct structures of the various *cis-trans* vitamin A isomers.

This book is a must for every student of vitamin A and should be widely accepted as a reference in courses in biochemistry and nutrition. Professor Moore and the publishers are to be congratulated for having concentrated their efforts on a single vitamin.

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**Biochemistry of the Amino Acids.** By ALTON MEISTER, Professor of Biochemistry, Tufts University, School of Medicine, Boston, Massachusetts. Academic Press, Inc., Publishers, 111 Fifth Avenue, New York 3, N. Y. 1957. xiii + 485 pp. 16 × 23.5 cm. Price, \$10.00.

The numerous definitive contributions to the biochemistry of the amino acids, which have been stimulated in large measure by the availability of isotopic tracers and the increasing interest in the chemistry of the amino acids particularly as they relate to the peptides and proteins, have created a need for an authoritative, compact, yet not unwieldy, presentation of the biochemistry of the amino acids. Under five major headings, namely: "The Natural Amino Acids"; "The Role of Amino Acids in Nutrition"; "General Biochemical and Physiological Considerations"; "Intermediary Metabolism of the Amino Acids" and "Abnormalities of Amino Acid Metabolism in Certain Pathological Conditions," the author presents these subjects with accuracy, essential detail and imagination. Matters worthy of further presentation are thoroughly annotated with literature references to both European as well as American sources. In this rapidly developing area of biochemistry, Meister's book provides a valuable up-to-date reference source for medical students, biologists and chemists in an easily readable, remarkably error-free form.

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JUNE 10, 1958-JULY 10, 1958

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