

comprising so many apparently unrelated methods, procedures and subjects of interest. It is easy to say that biochemistry deals with the chemical activities of living materials, but the very statement reveals the magnitude of the task which it sets for itself, and the literature which embodies its advances and progress now approaches a volume which is almost overwhelming. It is therefore all the more important that textual introductions to the area of biochemistry be concise and yet present in lucid fashion the great scope of its activity, the purposes which motivate it, and the rationale which underlies it.

The present treatise by Peterson and Strong serves these difficult tasks admirably. Coming as it does out of the great school of biochemistry at Madison the reader might expect a skilful grasp of the entire area by the authors, and is not disappointed. There is more than this, however, in the vivid and imaginative use of photographs and colored plates illustrating the debt which the progress of biochemistry owes to animal and plant pathology. While the fundamental and practical aspects of the subject are treated in balanced fashion, the possibilities of their reciprocal enrichment are not neglected, and the beginning student thereby receives the impression that the subject is alive and meaningful, and not merely a fascinating intellectual exercise. The book begins with a discussion of the role of water, and passes then to a lucid but conventional discussion of carbohydrates, proteins, nucleic acids and acidity. With the subsequent chapters on minerals, vitamins, enzymes, hormones, digestion, energetics, and plant, animal, and bacterial metabolism, the authors, with the assistance of Plaut and Burrell in certain chapters, write not only clearly but with the tone of authority. Each chapter in the book closes with a series of questions designed to test the reader's understanding, and with a group of selected references. The book itself closes with an appendix on the composition and energy value of foods, and lastly with a good subject index. A few errors appear in the text, thus, cystine is not dicysteine (p. 117), and whereas on p. 122 α, γ -diaminobutyric acid in polymyxin is given in the D-configuration, on p. 370 it is described as L. It is also suggested that in subsequent editions of the book the few photographs of amino acid and osazone crystals be deleted. The present treatise is enjoyable to read and is well recommended.

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CIBA Foundation Colloquia on Endocrinology. Volume VII, Synthesis and Metabolism of Adrenocortical Steroids. By W. KLYNE, M.A., B.Sc., Ph.D., Consulting Editor, G. E. W. WOLSTENHOLME, O.B.E., M.A., M.B., B.Ch., and MARGARET P. CAMERON, M.A., A.B.L.S., Editors. Little, Brown and Company, Boston 6, Massachusetts. 1953. xviii + 297 pp. 14 × 21 cm. Price, \$6.75.

This book records ideas and results by specialists in the field of adrenocortical steroid chemistry and metabolism from England, Israel, Mexico, Switzerland and the United States. The various chapters consist of papers on current original work up to July 7-10, the time the 1952 Ciba Foundation Colloquium was held in London. The material is divided into two sections: I, Synthesis of Adrenocortical and Related Steroids; and II, Metabolism of Adrenocortical Steroids.

In evaluating a book of this type one has to take into account both (a) the excellence of the editorial task and (b) the value of the factual contributions made by the speakers and participants in the colloquium.

Regarding the first point, one must acknowledge Dr. Klyne's careful and exacting management of the wealth of information presented. However, it should be noted that in the area of steroid nomenclature the British convention (which Dr. Klyne quite properly follows) differs in several important respects from the preferred American usage, *i.e.*, the unpronounceable hyphenation of a root word as in pregn-4-en-17 α -ol-3,20-dione *versus* 17 α -hydroxy-4-pregnene-3,20-dione.

In general part I contains a number of excellent studies on steroid chemistry running the gamut from sarmetogenin, lanosterol and ergosterol to stereochemistry and "the

chemical action of X-ray on some steroids in aqueous systems." Part II reflects the strong trend to investigate the intermediary metabolism of steroids *via* blood and enzymatic studies rather than excretion patterns which are less susceptible of quantitation and more likely to produce artifacts.

The verbatim inclusion of questions and comments following each paper has become an established feature of these volumes. It is obvious that an important benefit of such colloquia is the stimulating personal interchange of ideas which takes place during the discussion period, frequently bringing forth valuable information which would not otherwise have been recorded. Informally the scientist is freer to discuss and interpret than in a formal publication; hence when such informal comments are published it is the duty of the authors to edit their own sections carefully. In general this has been done. However, some of the authors were less diligent in the editorship than could be desired. Thus, in the discussion of the paper on 11-oxygenated steroids from sapogenins, the authors introduced (pages 92 and 94) literature references to their own 1952 and 1953 publications while at the same time ignoring prior pertinent literature references (*i.e.*, *C.A.*, 46, 8331 (1952); *THIS JOURNAL*, 74, 3962 (1952); 75, 412 (1953)). Unintentionally or otherwise, such lack of objectivity has the effect of debasing the high scientific purposes of the Ciba Conferences.

A fault common to all such published symposia is timeliness. By the time the book has become available much of its value has been lost through prior publication of the same and additional material which supersedes the work under discussion. However, many readers will find it convenient to have these papers available in book form. In general this book maintains the standards of the previous volumes in the series and the reviewer has found the work reported to be both interesting and stimulating.

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Metabolism of Steroid Hormones. By RALPH I. DORFMAN, Ph.D., Associate Director of Laboratories, Worcester Foundation for Experimental Biology, Shrewsbury, Mass., and Research Professor of Biochemistry, Boston University, Boston, Mass., and FRANK UNGAR, Ph.D. Staff Member, Worcester Foundation for Experimental Biology, Shrewsbury, Mass. Burgess Publishing Company, 426 South 6th Street, Minneapolis 15, Minnesota. 1953. vi + 170 pp. 22 × 28.5 cm. Price, \$4.00.

This book is intended to serve as a ready reference for those interested in the metabolism of steroid hormones. It is essentially a summary of information and not a comprehensive or critical treatment of the subject. Liberal use of tables, charts and graphic formulas, and an adequate index facilitate location of specific information on the source and metabolic transformations of individual hormones. Nine tables are devoted to steroids that have been isolated from endocrine glands, blood, bile and urine. Also included are artifacts produced during the processing of urine and conjugates isolated from urine. The usefulness of these lists would have been enhanced by addition of values for the melting points and specific rotations of the compounds.

Biosynthesis of steroids and the actions of microorganisms on steroids are covered briefly. A chapter is devoted to a systematic summary of metabolic changes of specific chemical groups which occur *in vitro* and *in vivo*. Some attention is given to the enzymes which are known to affect steroids.

A chapter entitled "A Complete System of Steroid Metabolism" occupies 64 pages. In this system a chart is provided for each compound which possesses a Δ^4 -3-keto and a 17- or 20-keto group and all possible steroids derivable from that compound by changes in those groups; compounds isolated from natural sources are indicated and blank spaces are provided for addition of information as new steroids are isolated.

The specific relations of the steroid hormones of tissues to urinary steroids are summarized in tabular and graphic forms. It appears that the C_{21} -metabolites of C_{21} -hormones are predominantly compounds with the 5 β -configuration, whereas the metabolites of the C_{19} -hormones include considerable proportions of the 5 α -configuration. The latter