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Book Reviews

The Pathology of Transcription and Translation. (Biochemistry of Disease Series, Vol. 2, 1972). Edited by Emmanuel Farber with seven contributors. Marcel Dekker, New York, N. Y. 1972. x + 176 pp. 16 × 23 cm. \$10.50.

The first chapter of the book, a brief examination of clearly defined lesions produced by alterations in DNA, asks more questions than it answers. However, it is a stimulating discussion of the pathology of DNA. Acidic nuclear proteins and their role in gene expression in eukaryotic cells are discussed in the next chapter together with diseases where gene expression appears to be implicated. This is followed by an analysis of the relationship between DNA damage and cell death.

The remainder (and majority) of the book deals with the pathology of RNA. The authors emphasize RNA inhibition and the response of the nucleus and nucleolus, cellular lesions produced by α -amanitin, and finally the pathology of translation. The section on the nucleus and nucleolus (Chapter 5) is the only discussion presented in what might be termed classical pathology.

The most striking aspect of the book is the relationship of fundamental biochemical lesions and the observed changes in the diseased cell. As the authors point out, this is the first systematic description of how interference with the synthesis and metabolism of DNA, RNA, and protein is related to disease in higher organisms, including man. In this book the authors have successfully presented some long overdue fresh views on the subject. Investigators in all fields of medicinal chemistry will appreciate the broad scope the authors present in this work.

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Biosynthesis. T. A. Geissman, Senior Reporter. Vol. 1. Specialist Periodical Report of the Chemical Society, London. 1972. viii + 249 pp. 13.5 × 21.5 cm. £6.50.

This book is the first volume of a series of "Specialist Periodical Reports" dealing with the synthesis of organic compounds in living organisms. The series is intended to provide systematic and comprehensive review coverage of the progress in the major areas of chemical research. This book reviews the literature on biosynthesis published during 1970 and 1971 and consists of five chapters. The first chapter discusses in a concise but adequate manner the methodology involved in modern biosynthetic experimentation with major emphasis on isotope tracer methods. Following the introductory chapter on methodology, the book is organized into four other chapters with the following headings: Biosynthesis of Terpenoids; Biosynthesis of Triterpenes, Steroids and Carotenoids; Biosynthesis of Phenolic Compounds; and Biosynthesis of Alkaloids. Each individual chapter appears to represent a comprehensive and up-to-date picture of the state of knowledge in the area of biosynthesis. However, a major lack in the book is the absence of a chapter on biosynthesis of proteins, nucleic acids, and fatty acids. While the chapter on the Biosynthesis of Alkaloids does not cover

all groups of alkaloids, due to lack of sufficient data published in 1971 as well as previous coverage in recently published books and monographs, the author reports per cent incorporation of various labeled substrates into alkaloids in a table form which should make this chapter a useful reference.

This book will be outstandingly useful not only to those working in the area of biosynthesis but will serve as an extremely useful introduction to those who wish to become acquainted with the current status of knowledge in this area of research.

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The Bile Acids—Chemistry, Physiology, and Metabolism. Edited by P. P. Nair and D. Kritchevsky. Vol. I: Chemistry. Plenum Press, New York and London. 1971. xi + 372 pp. 16 × 23.3 cm. \$19.50.

The bile acids are the principal end products of cholesterol metabolism and perform key roles in normal and abnormal physiological processes. Volume I of "The Bile Acids" is the first reference to comprehensively review the modern chemical literature of this important class of steroids. The book discusses the chemical literature through 1970, and a second volume will discuss physiology and metabolism. Volume I includes chapters on the biosynthesis and synthesis of the bile acids; their chemical reactions, physical constants, extraction, and chromatography; mass spectra; and the solubility and micelle formation properties of the bile acids. While the coverage of a few topics is superficial, good references are given to more complete sources in the literature. Many laboratory procedures and techniques are completely described. The extensive use of trivial nomenclature and an ambiguity of drawing angular hydrogens as methyls may be a problem to some readers. However, Volume I of "The Bile Acids" will be an indispensable reference to workers in the field.

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Methods and Techniques in Clinical Chemistry. By Paul L. Wolf, Dorothy Williams, Tashiko Tsudaka, and Leticia Acosta. Wiley, New York, N. Y. 1972. xiii + 417 pp. 16 × 23.5 cm. \$11.50.

Every clinical chemistry laboratory must have carefully written instructions for all of their procedures in order to minimize errors. This book represents the procedure manual for the clinical chemistry laboratory at Stanford University Medical Center. At least it represents the procedures in use at the time the manuscript was turned over to

the publisher before the time lag of publication. Surely, this laboratory has already made some changes in their clinical chemistry methodology. The rapid progress in this field has led most University Hospital laboratories to spend their efforts on evaluation and revision of new procedures using a loose-leaf format which easily accommodates changes in individual procedures rather than a hard cover format which requires revised editions to keep "up-to-date." The buyer in essence gets a "stop action photo" in this photo-offset volume.

The directions are clearly written and often several alternate procedures are given although without preferences. No information is given on precision or comparison between the other procedures to measure the same entity. Normal values are given as a range rather than statistically and there is no information as to the number of normals sampled. The reference for many of the procedures is R. J. Henry's "Clinical Chemistry: Principles and Techniques," but the text is incorrectly cited as by J. B. or R. B. Henry and as published in 1965 rather than 1964.

The methodology does not have the same authority as the series volumes, "Standard Methods of Clinical Chemistry," published by the American Association of Clinical Chemists (Academic Press) in which one finds methodology checked by two or three different laboratories. This book represents one laboratory's opinion and as such is going to be of most value to the employees and students, technologists, and clinical pathology residents at that institution. This group will still need to consult textbooks of clinical chemistry such as that edited by Tietz for choices of alternative methods and greater detail on clinical significance of the results of a given procedure and the pathophysiological setting for the determination. Such a textbook would be a much better investment for the student than would be this volume. One could easily obtain a copy of any individual procedure of interest by writing to the chemistry laboratory at most medical schools.

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