

Hypolipidemic Agents

Edited by D. Kritchevsky

Springer-Verlag, Berlin, Heidelberg, New York, 1975

xvi + 490 pages. Cloth DM 178., \$ 73.00

This volume represents an effort to elucidate the origins and metabolic behavior of lipoproteins and their components, to describe aspects of the morphology, biochemistry and experimental induction of atherosclerotic heart disease and to describe modalities of treatment. Partitioned into 10 chapters written by specialists, an up-to-date account of the state of knowledge in the fields of cholesterol (M. E. Dempsey and H. S. Sohdi) and bile acid (T. A. Miettinen) metabolism as well as of mechanisms of hyperlipidemia (J. M. Felts and L. L. Rudel) and lipoprotein metabolism (S. Eisenberg and R. I. Levy) is presented. Most important for future perspectives in atherosclerosis research, a short presentation of animal models (D. Kritchevsky) and a synopsis of ultrastructural and functional aspects with emphasis on liver (W. Stäubli and R. Hess) and on vascular tissue (T. Zemlenyi) are also given. The book is concluded with a chapter on hypolipidemic agents (W. L. Bencze) and one regarding the application, the rationale for hypolipidemic therapy (I. D. Frantz).

One has the impression (and hope) that the book reflects a 'critical mass' of knowledge and concepts in basic research that will launch further efforts for an

understanding of the action of hypolipidemic agents and, ultimately, of the causes and effects connected with the hyperlipidemic state. This is supported by the freshness of approach indicated, for example, by the incorporation of new basic knowledge from cell biology so far not considered in direct relationship with the metabolism of lipoproteins.

The book, appearing as Vol. 41 in the Heffter-Heubner New Series Handbook of Experimental Pharmacology, will undoubtedly find its place as a useful source for experts. While the articles have been amply referenced, it is somewhat unfortunate that the Subject Index (6 pages) is overwhelmingly outweighed by the Author Index (66 pages). Further, it appears in some places that long passages of text could have been replaced by a readily intelligible and less time-consuming graphical scheme, allowing better access to the material by readers not so familiar with the subject. However, such considerations are secondary regarding this useful treatise and authors and editor should be congratulated on this overview incorporating surprisingly recent information.

H. Sies

Concepts of Membranes in Regulation and Excitation

Edited by Rocha e Silva and G. Suarez-Kurtz

Raven Press, Publishers, New York 1975

xi + 226 pages. Dfl. 45.00, \$ 18.75

The book represents proceedings of a symposium held in Rio de Janeiro in June 1974. Of the 18 articles,

on widely diversified topics centered around the problem of excitation-contraction coupling, 15 are

written by Brazilian authors. Thus, the volume provides a comprehensive view of current interests in Brazil in the field.

While demonstrating a high standing with respect to

methods and concepts, the book may suffer from the extreme diversification of the research fields represented by the short and well-written chapters.

H. Sies

The Molecular Basis of Circadian Rhythms

Edited by J. Woodward Hastings and H.-G. Schweiger
Dahlem Konferenzen; Berlin, 1976
462 pages. £ 15.50, DM 75.00, \$ 27.50

One way of defining a circadian rhythm is 'an oscillation with a period of about 24 hours'. Since there is a five year periodicity for conferences, summer schools etc. on this topic one can only conclude that such gatherings must be subject to entrainment by a non-circadian Zeitgeber.

Nevertheless if one masters the hyper-jargon of the subject this latest volume, the report of the Dahlem Workshop held in Berlin in November 1975 should make many researchers consider the basic physiological status of their experimental organisms more circum-spectly. Commencing with a retrospective review of the nature of circadian clocks, six Workshop group reports follow covering:

- (1) Basic features
- (2) Mathematical problems
- (3) Regulation at the enzyme level
- (4) Participation of membranes
- (5) The role of genes and their expression
- (6) Other types of periodic systems

The primary problem which faced workers in this area a decade ago, namely to define in molecular terms the nature and operational mechanism of the 'biological clock', remains ever present ten years later in the accounts brought together by this publication.

At best the experimental data collected so far, be it fluctuations in enzyme activities, the phase changes induced by either protein synthesis inhibitors, impairing membrane function or inhibiting phosphodiesterase, appear to be the modulations of processes controlled by the clock and not the fundamental basis of it. For example present knowledge does not even enable an answer to the question as to whether a single common molecular basis exists for the various circadian rhythms known, although such an assumption underlies a considerable amount of the current research work in this fascinating and yet tantalising field. Warnings are sounded however about possible convergent evolutionary pressures resulting in the existence of functional isomorphisms with different underlying physiological mechanisms.

Sections 3, 4, and 5 have obvious interest to biochemists interested in control mechanisms. Some of the circadian phenomena described in the other sections also present a somewhat different view of the regulatory facets of biological systems to that commonly found in orthodox text books and are worth reading for this alone, providing the reader is prepared to see the problems stated rather than the answers to be given.

A. K. Huggins