
REVIEWS AND NOTICES OF BOOKS

Annual Review of Microbiology. (Vol. 30). Edited by Mortimer P. Starr, John L. Ingraham and Sidney Raffel. (Annual Reviews, Inc., Palo Alto, Calif.), 1976. Pp. 662. Price USA : \$ 17.00 ; elsewhere : \$ 17.50.

Every microbiologist gets the satisfaction that the publication of the Vol. 30 of *Annual Review of Microbiology* has "something for everybody." There are a number of articles which provoke interest in everyone; to quote a few—Genetic manipulation of microorganisms: Potential benefits and biohazards by Roy Curtiss III; The conquest of the major infectious diseases in the United State: A bicentennial retrospect by Rodney M. Wishnow and Jesse L. Steinfeld; Bacterial membrane structure by Milton R. J. Salton and Peter Owen. In the introductory autobiography, Dr. McElroy has very lucidly written the major influences on his scientific career and impressed upon us as to why a rich research environment is important in future career. The article "Endogenous viral enzymes involved in messenger RNA production" by Rajendra Raghov and David Kingsbury is a very useful survey. As mentioned in the introduction, this is the first review on the enzymes of RNA synthesis in viruses, and it has come at an appropriate time when voluminous amount of work was put, in this area during a short period, especially on the enzymes that modify 5' termini of the viral messenger RNA.

A conventional but interesting area of work "Glycerol dissimilation and its regulation in bacteria" has been reviewed by E.C.C. Lin. A regrettable shortcoming in this article is, however, the lack of citation of recent references in certain areas. For instance, the author refers to a review article in *Bacteriological Reviews* of 1951 but ignores a more recent review on the same subject in 1972. The hoped for, aim of this article is "to promote more studies on the diverse glycerol systems in a teleonomic context, as well as to summarize knowledge already gained."

In the article on "Production of extracellular proteins by bacteria," Dr. Glenn reviews the subject of molecular biology of secretion. It is a well-organized, concise survey of the subject and includes all the speculative theories of exoprotein secretion. As mentioned in the introduction, the fascinating problem of the process of secretion has drawn the attention of scientists belonging to different disciplines

and this review has very clearly presented to them, what the questions are which are not answered yet in the understanding of the synthesis and secretion of exoproteins, especially questions regarding the specificity of exoprotein synthesis and involvement of discrete classes of membrane-bound ribosomes in the synthesis and secretion of exoproteins.

In the light of the recent concern among scientists and the public that exciting new genetic-engineering techniques pose potential biohazards, Roy Curtiss III, who is a member of the NIH recombinant DNA molecule programme advising committee, has done a commendable job in reviewing the entire area, thus giving a clear-cut view of the problems in the genetic engineering field in his review "Genetic manipulation of microorganisms: Potential benefits and Biohazards." After briefly considering the potential beneficial applications of recombinant DNA research, he has given a comprehensive account of the potential biohazards and various ways to contend with them.

M. S. SHAILA.
T. RAMAKRISHNAN.

Magnetism—Selected Topics. Edited by Simon Foner. (Gordon and Breach Science Publishers, New York), 1976, Pp. xx + 748, Price £ 44.00.

In *Magnetism-Selected Topics*, the editor, Dr. Simon Foner, has achieved what he had set out to accomplish. The resulting compilation is indeed an advanced text of current reference and source book for researchers actively engaged in this rapidly developing field of magnetism in the itinerant interacting electron systems—transition and rare-earth metals and magnetic alloys. The fifteen chapters (748 pages) are written by experts in the respective areas and cover almost every aspect of the problem. The first two chapters develop the basic theory in terms of the Stoner-unrestricted Hartree-Fock (time-dependent) picture. A most welcome feature of these, and in fact of all the subsequent Chapters, is the consistent effort to make the theory bear on the experimental findings. Chapter III discusses the non-uniform spin and charge responses. Chapter IV through IX are concerned with dilute (isolated magnetic impurities) and concentrated (interacting impurities alloys and

nearly ferromagnetic systems and discuss in detail the transport properties of these systems and some many-body effects like the Kondo effect. Chapter VII on the local spin fluctuation, discusses in detail the formation of moment from a dynamical point of view. The rest of the book is devoted to the specific topics of current interest to such as hyperfine interaction in metal, photo-electron polarization, spin waves in insulators, neutron scattering, critical point phenomena, and cooperative effects in magnetic and biological system. The last mentioned is a new line of development in the spirit of cross-disciplinary endeavour. There are, however, some notable omissions. For example, one would have liked the elegant treatment of Kondo effect from the renormalization group theoretical point of view to be included. There are minor typographical errors (e.g., an annihilation operator is missing in Eq. 7 on p. 6). On the whole, one can say without reservation that the book will be a valuable addition to the Physics section of any Library.

N. KUMAR.

A Text Book of Algae. By N. D. Kamat. (S. Chand and Co., Ltd., New Delhi 110 055), First Edition. Pp. 1-162, 21.5 × 14 cms. Price Rs. Eight only.

As the author himself has indicated in the preface, this book has been written with the sole purpose of teaching Algae for the B.Sc. students of the Universities of India. Text books of this nature are welcome because they greatly help undergraduate teaching in the Indian Universities. After a brief introduction, the contents of the book are dealt under Procaryota—Cyanophyta, Eucaryophyta—Chlorophyta, Chrysophyta, Phaeophyta and Rhodophyta. Life histories of the types usually taught at the Indian Universities are described in detail in a fairly clear language, suitably illustrated by a number of line drawings. While most of the line drawings are adequate, it is seen at least some of them are very diagrammatic. This could be improved at least in the future edition. While describing the structure, modern concepts have also been included in simple language, even at the electron microscope level. This is certainly a redeeming feature, thus bringing the recent concepts on the structure of the algae. The errors in spelling of certain words in the body of the text-book could have been avoided. In general, it is a good attempt and is therefore recommended as a text for the B.Sc. students of the Universities of India.

K. SUBRAMANYAM.

Annual Review of Biochemistry. (Vol. 45). Edited by E. E. Snell, P. D. Boyer, A. Meister, C. C. Richardson. (Annual Reviews, Inc., Calif., U.S.A.), 1976. Pp. 1011. Price: USA \$ 18.00; elsewhere \$ 18.50.

The forty-fifth volume in this series contains 30 reviews covering 920 pages with another 80 pages of indexing. Approximately 8,000 references have been listed. The authors being different, readability of the articles varies and some tended to be too specialized on a localized topic. This series always gave the biochemists a chance to catch up with the developments in this fast-growing field. At present the growth of the subject is so massive that even these reviews cannot catch up. The coverage has been limited to 30 topics by which not all currently fascinating fields are covered, nor some of those covered fall into this category.

The topics can broadly be classified as proteins (5), protein synthesis (3), enzymes and regulation (6), polyprenoids (3), nucleic acids (5) and biological phenomena (8). No doubt each article makes a good survey of the field—not limited by admission of authors to the last year or few years—and summarize the developments in the opinion of each author. These have attained a style and quality over the past few years that these volumes have become classics and are worthy of possession in all libraries that serve biochemists. The editors and authors of this volume also richly deserve compliments. However, if the present method of selection of topics continues, this series will become an "annual collection of reviews in biochemistry" instead of "annual review of biochemistry".

One innovation, the editors have introduced in this volume is the section called "Perspectives and Summary" in which "the authors are invited to locate their particular district on the biochemical map...and to summarize...those developments they feel are most noteworthy". On a scrutiny, most of these fall short of the designs and when perfected they may become the only published sections. On the other hand, if the major findings are itemized at the end, it may be equally useful.

Looking purely from a localized angle, there are nearly 100 Indian names in the index and of these hardly a handful represent work carried out in Indian laboratories. Many authors claimed that they made no attempts to catalogue all publications in the field and have regretfully omitted several good papers. It is somewhat painful to see several good observations made in India, and known to this reviewer as worthy, in a number of the 30 topics covered were ignored. The authors have certainly the right to choose the papers. But the scanty coverage of

contributions from the developing countries needs to be taken note of.

T. RAMASARMA.

Prawns and Prawn Fisheries of India. By C. V. Kurian and V. O. Sebastian. (Hindustan Publishing Corporation, 6 U.B., Jawahar Nagar, Delhi-7), 1976. pp. xiii + 280, Price: Rs. 75.

In this compilation, the authors have attempted to provide all the information available on the prawns of India under one cover. The authors' concise writing and the many nice illustrations and diagrams make this book, one of good clarity. The text generally includes the most recent scientific knowledge and the chapters on the fishery clearly coordinate the available information. The book has attempted to cover too many topics but has succeeded in avoiding overlaps. The authors have had to blend a text for academic and popular use and they have succeeded in doing this in an interesting informative and readable way for the most part but too brief in a few places.

This volume is a welcome addition in a field which is to-day gaining very great importance in seafood exports. It gives a careful, well-balanced, up-to-date account of prawn fishery in India. A chapter on the parasites and diseases of the prawns would have made this volume complete and more useful. The authors have concentrated only on the commer-

cially important species but nevertheless, to justify the title, a detailed key on all the species of prawns of India would have greatly enhanced the value of this volume as an excellent reference source. The book can be recommended to all, and, contains much that will be of value to those interested in prawn fishery. The volume is reasonably priced and has a pleasant and durable appearance.

R. NATARAJAN.

Annual Review of Medicine: Selected Topics in the Clinical Sciences (Vol. 27). Editor: W. P. Cregor. (Annual Review, Inc., California), 1976. Pp. 530. Price: USA \$ 17.00; Elsewhere: \$ 17.50.

This volume presents highly informative review articles on selected topics in the clinical sciences. Included are chapters on cardiology, clinical pharmacology, endocrinology and metabolism, gastrointestinal tract, kidneys and urinary tract, neurology, psychiatry, haematology, neoplasia, infection and a few other miscellaneous topics.

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M. SIRSI.

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