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Book reviews

Progress in Industrial Microbiology: Volume 15, edited by M. J. BULL, Elsevier Scientific Publishing Co., Amsterdam, The Netherlands, 1979, vii + 265 pages + Subject Index, $63.00; Dfl. 129.00.

Progress in Industrial Microbiology, Volume 15, contains five articles. Article 1 is entitled "Microbial β-Glucanases" by G. Halliwell; 2, "Immobilized Microbial Cells" by K. Venkatasubramanian and W. R. Vieth; 3, "Starch-Degrading Enzymes of Microbial Origin, Part 1. Distribution and Characteristics" by W. M. Fogarty and C. T. Kelley; 4, "Yeast Genetics in Industry" by J. R. Johnston and H. Oberman; and 5, "The Microbiology of Interfaces in the Marine Environment" by P. S. Meadows and J. G. Anderson.

The topics covered by these articles are timely, and of importance or potential importance industrially and technologically. Enzymes or enzymological aspects of micro-organisms are considered in the first four articles. Specific subjects that are covered include production of enzymes by micro-organisms, genetic control of enzyme synthesis, action mechanisms of enzymes that degrade carbohydrates, properties of enzymes, and applications of enzymes. In view of the increasing importance of enzymes in industry, these subjects are very appropriate for a volume on industrial microbiology. The fifth article deals with basic and practical aspects of marine micro-organisms that inhabit solid–liquid, liquid–liquid, and liquid–gas interfaces. The economic importance of these organisms in relation to the corrosion of ships, oil-drilling rigs, and power stations is indicated.

Unfortunately, the industrial aspects of enzymes and micro-organisms are not stressed and, in fact, are barely mentioned in some of the articles. In reviews for industrial microbiology, it would be desirable to enumerate and discuss industrial applications in some detail.

For the most part, the book is scientifically sound. There are a few instances in which the accuracy of statements can be questioned; however, these are not serious. One specific problem is the use of abbreviations for designating glycosidic linkages. The abbreviation in common usage for such linkages is α-D-(1→4), etc., and not 1,4-α as has been used throughout article 1. A justification for the abbreviation system used in this article is not given.

The references are recent and appear to be all-inclusive. In view of the large number of references, some of the articles seem to be a cataloging of information rather than a critical evaluation of the status of knowledge in the field. However, perhaps the latter was not the intent of the editor. Many of the articles contain very complete listings of the types and strains of micro-organisms that produce enzymes of potential, technological value.

The book is highly specialized and should be useful to the research worker, but it is not suitable for a text in a course. A research scientist with an interest in one of the topics covered in the articles may wish to purchase this volume; however, the book is probably more appropriate for a library collection. In this volume, there appears to be a good balance between the articles, and overlaps in the various articles are minimal. For a book of only 283 pages, the price seems excessive.

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Advances in Carbohydrate Chemistry and Biochemistry: Volume 36, edited by R. STUART TIPSON AND DEREK HORTON, Academic Press, New York and London, 1979, xii + 332 pages + Author Index + Subject Index, $33.00.

We have come to take the excellence of this Series for granted, and generally speaking, this is another fine volume. It commences with highly interesting obituaries of two important, but perhaps not well-known, researchers in the field, namely, John A. Mills and Joseph V. Karabinos. The Chapter by Keglević on "Glycosiduronic Acids" is superb. The contribution by Ikehara, Ohtsuka, and Markham on "The Synthesis of Polynucleotides" ranks as the most concise, and well-written, current review on the subject (I am grateful to Dr. Paul F. Torrence for giving me his educated opinion on this Chapter). The article by Wilkie on "The Hemicelluloses of Grasses and Cereals" is thorough and long overdue; and the "Bibliography of Crystal Structures of Polysaccharides (1976)" continues the cataloging of this very useful information. In the opinion of this reviewer, the Chapter on "Nutritive Sweeteners Made from Starch", although adequately written, does not really belong here, as it is an account of industrial processes using methods whose scientific nature was established long ago, but, although this is not a report on an "advance" in pure carbohydrate chemistry, it is interesting, and useful to industrial chemists. The Chapter on "Exocellular, Microbial Polysaccharides" should have had "of Commercial Interest" added to its title, as it is quite limited and not a general review; also, large parts of this topic appeared in 1977 in the *ACS Symposium Series*, 45. All in all, however, this volume is extremely worth while for scientist and student alike, and anyone having an interest, however remote, in carbohydrate chemistry cannot afford to bypass this book.

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