Although claimed to be comprehensive, it is inevitable that a book of this kind is going to have some imbalances and gaps. For example, the economic importance of the deterioration of wood, metal and petroleum products far outweighs the impact to the wearer due to the deterioration of footwear, where one might be pleased if the shoes have a mechanical life long enough to permit microbial degradation. Nevertheless the topics of wood, tobacco and footwear deterioration, which may seem relatively unimportant and obscure to most microbiologists, are infrequently mentioned in textbooks, and the editors can be commended for bringing them to our attention. The value of the book would have been increased if the first chapter on ‘Organisms for biodeterioration testing—moulds and fungi’ had been complemented by one on bacteria. Also, a chapter on biodeterioration of consumer products such as cosmetics and toiletries would have been useful.

The emphasis throughout the book is one of economic loss due to the activities of micro-organisms. Although briefly mentioned in the chapter on pharmaceuticals, more attention could have been paid to possible health hazards presented by micro-organisms in materials, e.g. in cutting oils and cosmetics.

The book has the same high standards of production as the previous ones in the series and is immensely readable. Although the book is aimed at the microbiologist bench worker, it will serve as a valuable source of information to the biochemist interested in biodeterioration.

B. N. HERBERT

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Biochemical Fluorescence Concepts

RAYMOND F. CHEN and HAROLD EDELHOCH (Editors)

Marcel Dekker, New York, 1975, pp. 408, $29.50

Biochemical Fluorescence Concepts is a collection of articles written by specialists in the field on selected areas of fluorescence theory. The articles make no effort to cover the whole scope of fluorescence, but rather concentrate on those areas of fluorescence theory in which there have been significant developments in the past few years, and as such the book is written for the dedicated biophysicist or organic chemist, and not for novices wishing to gain an introduction into the field. As a specialist text the book has articles varying in mathematical complexity, and hence perhaps in comprehensibility to the average biochemist.

The opening chapter, on ‘Decay of fluorescence anisotropy’, gives a mathematical treatment of the subject, followed by some biochemical applications of the method that serve to illustrate the potential promise of the technique. The second chapter, on ‘Time decay fluorimetry by photon counting’, is experimentally orientated and discusses instrumentation for studying fluorescence decay, including flash sources, electronic circuitry and computer programs. This chapter is of general interest, as it illustrates nicely some of the problems and solutions of single photon counting, a technique that is rapidly becoming more widespread for measuring low light intensities.

The third chapter discusses the problems associated with measuring fluorescence polarization, and as a cautionary tale will hopefully prevent workers from over-interpreting their results; and the fourth chapter illustrates the full mathematical complexity of polarized excitation energy transfer and contains a block of 89 pages of computer-simulated models guaranteed to baffle even the most ardent reader (or reviewer!). The fifth chapter is a mathematical treatment of the measurement of intramolecular distances by energy transfer, and includes examples drawn from biochemistry. This technique is of great potential use to biochemists if appropriate derivatives of proteins can be synthesized in an unambiguous manner.

The sixth chapter deals with fluorimetric kinetic techniques, and includes experimental details for constructing fluorescence stopped-flow and temperature-jump equipment,
together with a number of experimental results showing the potential of this method of analysis; and the last chapter deals with stopped-flow polarization measurements, again with enough experimental results to illustrate the use of the method.

The chapters of this book that combine experimental findings with a theoretical approach to fluorescence give useful insight into the new developments in the field, but those containing a theoretical treatment alone must appeal to a very limited audience. The second volume of this series on newer applications of fluorescence spectroscopy is likely to be of more interest to biochemists than the first, which, though scintillating in parts has a low overall quantum yield.

D. W. YATES

Chemistry and Biochemistry of Thiocyanic Acid and its Derivatives

A. A. NEWMAN (Editor)

Academic Press, London, 1975, pp. 351, £12.00

Of the six chapters in this book, only one is concerned exclusively with the biochemistry of the thiocyanates. It seems unlikely that many biochemists will be interested in the chapters on co-ordination chemistry and molten thiocyanates, which I have therefore not reviewed. However, in the chapter 'Technology and Industrial Applications' by H. A. Beekhuis, there is a short account of the toxicology of thiocyanates to animals and plants and a section on the biological decomposition of thiocyanates, with particular emphasis on problems arising during disposal of industrial wastes and sewage. The book also contains a useful review of the general chemistry of these compounds by M. N. Hughes and a valuable survey of methods for their analysis by M. R. F. Ashworth.

The chapter on the biochemistry of the thiocyanates by J. L. Wood reviews their occurrence and determination in plant and animal tissues and fluids, their biological formation and metabolism, physiological aspects and pharmacology. It should prove useful as an introduction to the field. It is a pity that this chapter is marred by a considerable number of irritating typographical errors and by inconsistency in the use of units. It would be greatly improved by careful editing.

M. R. ELLIS

Publications Received


Hypolipidemic Agents, D. Kritchevsky (Editor), Springer-Verlag, Berlin, Heidelberg and New York, 1975, pp. 488


Oxford Biology Readers No. 41: Primate Locomotion, J. R. Napier, Oxford University Press, London, pp. 15


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