

BOOK REVIEWS

METHODS OF PROTEIN AND NUCLEIC ACID RESEARCH

1. Electrophoresis, Isoelectric Focussing, Ultracentrifugation,
342pp, 1984, DM 156.
2. Immunoelectrophoresis, Application of Radioisotopes,
204pp, 1984, DM 98.
3. Chromatography, 505pp, 1986, DM 248.

LEV A. OSTERMAN

Springer-Verlag, Berlin, Heidelberg, New and Tokyo.

The three volumes represent a detailed practical guide to the study of proteins and nucleic acids. The techniques of electrophoresis, isoelectric focussing, ultracentrifugation, immunoelectrophoresis, radioisotopes and chromatography are described. Each section is up to date on theory, instrumentation and experimental detail. The books are well written and the illustrations are very helpful. Various books are published from time to time describing laboratory techniques however very few are as detailed as these volumes.

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FUNDAMENTALS OF IMMUNOLOGY (Completely Revised 2nd Ed)
O.G. BIER, W. DIAS DA SILVA, D. GOTZE and I. MOTA
Springer-Verlag — Berlin, Heidelberg, New York, London, Paris and Tokyo
pp 469, 1986.

Current interests in immunology has necessitated the publication of a completely revised 2nd edition of this already useful text. The present text has fourteen chapters dealing with all aspects of immunology. The text is well written and is a very good introduction to immunology for students of cell biology and the clinical sciences.

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SUPEROXIDE DISMUTASE, VOL. III
(Pathological States).

L.W. OBERLEY (Editor)

CRC Press, Inc., Boca Raton, Florida, 266 pp.

US \$110.00/Outside US \$127.00.

The discovery of superoxide dismutase in the late 1960s created an immense interest in oxygen radicals. In 1982 Larry W. Oberley expressed his enthusiasm for oxygen radical research with the publication of *Superoxide Dismutase*, a multiauthor work in two initial volumes with more volumes to follow from CRC Press. The object of Dr. Oberley seems to be to present a grand vision of superoxide dismutase research. His stated aim in Volumes I and II was "to present the basic science of superoxide radical and its scavenger enzyme superoxide dismutase" as a prelude to the subject of superoxide dismutase and disease. He succeeded reasonably well in his enterprise in Volumes I and II. Superoxide and superoxide dismutase by themselves are readily delineable and tractable subjects compared to superoxide dismutase and disease. The latter is a more daunting challenge. Research in this area is motivated by a very broad notion, that of oxygen radical tissue damage, which can obviously pervade thinking on many pathological states. Some concepts have emerged regarding the role of oxygen radicals in the aetiology of tissue damage which offer hope of better understanding of pathological mechanisms and therapeutic advances as in damage caused by invasion of polymorphonuclear leukocytes and damage caused by reperfusion of oxygen after ischaemia. Nevertheless the subject of oxygen radicals, superoxide dismutase and disease is riddled with problems at the fundamental level of formulation and testing of hypotheses. Any treatise on the subject has to address these problems.

Dr. Oberley predicts that "the subject of oxygen radicals in disease will be the most important field of research in medical sciences for some time to come, eclipsing some of the present very popular subject areas". However this may be, I do not think that medical scientists are likely to be carried away by Volume III of *Superoxide Dismutase*, dealing with pathological states. I could be expressing the opinion of a jaded reader of the copious oxygen radical literature but I found it difficult to agree with Dr. Oberley that the book provides "substantial evidence" for his enthusiastic prediction for oxygen radicals. I think the book falls short of expectation for two reasons. In the first place, it neglects to introduce the subject matter apart from a preamble about the contents made in the preface. The lack of a critical overview of the state of the entire problem of oxygen radicals in disease seriously detracts from the value of the book as a definitive monograph.

In the second place, the book is a curious mixture of review articles with no attempt at evenness in mode and depth of treatment. It has nine chapters. Chapter 1 is a racy account of "oxygen toxicity in eukaryotes" dealing with pulmonary oxygen toxicity. Chapters 2 and 4 are polished accounts of "the role of transition metals in superoxide-mediated toxicity" and "the role of superoxide dismutase in radiation injury", respectively. Chapters 3 and 7 are speculative accounts of "the possible role of reactive oxygen metabolites in cell division" and "free radicals, insulin action, and diabetes", respectively. The former is aptly brief. The latter has long digressions. Chapter 5 on "inflammation and active oxygen species" is a limited account of neutrophil-mediated

tissue injury, while Chapter 6 on "the role of superoxide in postischemic tissue injury" is a pared to the bone account of reperfusion injury. Chapter 8 on "oxygen free radicals in chemical carcinogenesis" is a tight account of the oxygen radical metabolism of chemical carcinogens. Finally, Chapter 9 is a specialized account of "the role of genes, antioxidants, and antioxygenic enzymes in aging of *Neurospora*".

Some material in the book can hardly be considered fresh reviewing: virtually the same ground has been covered elsewhere by the authors. This is not carping comment. Hopefully Dr. Oberley and his collaborators will instill more freshness in *Superoxide Dismutase* volumes to come. Hopefully the present volume will be read and used. All in all it is a useful guide to subject matter on oxygen radicals, superoxide dismutase and disease. The chapters are extensively referenced to literature up to 1984 (this alone is worth having) and the index has been carefully prepared.

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TOPICS IN AGING RESEARCH IN EUROPE. VOLUME 11
 FREE RADICALS AND ARTHRITIC DISEASES

A.J.G. SWAAK and J.F. KOSTER (eds) 204 p, 1986

Published by EURAGE, P.O. Box 5815, 2280HV Rijswijk, The Netherlands
 ISBN 80-71021-11-4

This volume presents the proceedings of the EURAGE Workshop on "Free Radicals and Arthritic Diseases" which was held at Noordwijkerhout, The Netherlands from June 26th to 28th 1986. As pointed out by the editors, the purpose of the Workshop was to exchange information and to foster cooperation between European research groups.

The book is divided into four general sections; Free Radicals and Immunology, Involvement of Metals, Protection Against Free Radicals and Free Radicals and Arthritis, with each section containing up to eight papers. As is inevitable with so many contributors, the style is uneven and the quality extremely variable with many author spelling errors and poorly labelled diagrams. It would be perhaps unfair to pick out particular papers for specific criticism or praise, but it is noticeable that some are competent reviews while others describe individual studies. Many of the papers report previously published results and draw conclusions from what can only be described as the absolute minimum amount of hard facts. It is difficult to understand how categorical statements can be made in the light of evidence which is, to say the least, open to question. In addition, methods are not always clearly reported – particularly those used for statistical analyses.

The overall impression is that the book is a collection of short papers rather than a coherent treatise on Free Radicals and Arthritic Diseases as the title may suggest. The editors state in the preface that: "Till now no conclusion could be drawn about

the importance of free radicals in the aetiology of arthritic disease". After reading this book, that statement still holds true. While it is a reasonable overview of the state-of-the-art of European research on this subject, and a useful source of references, it offers no general conclusions.

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