derived from kinetic studies—important topics which are often brushed aside too casually. The control of adrenocortical steroidogenesis is also considered and the possible mode of action of ACTH, the renin/angiotensin system and other regulatory mechanisms is discussed. Not least, this chapter concludes with an extensive table in which are collected a mass of data concerning adrenal steroid formation in a large number of species. Clearly, the authors are to be congratulated on their ability to review some 750 papers on adrenocortical function which have appeared during the past five years.

For many steroid laboratories the question "to automate or not to automate" is becoming increasingly important to answer. Drs Grant and Hall discuss the pros and cons of automation and give a critical survey of the various methods available for steroid analysis, pointing out which of these can be modified for automation. Dr R. D. Bulbrook reviews the mass of data now accumulated concerning the prognostic value of steroid assays in human breast cancer—a particularly welcome contribution in the light of the recent controversy concerning the value of the urinary discriminant. Other valuable chapters are concerned with the biosynthesis of sterols, the mode of action of insect hormones, the sterols of marine invertebrates and plants, the effects of steroids on tryptophan metabolism, cervical mucus and vaginal epithelium and the control of reproduction in farm animals.

It is to be hoped that the second volume in this series will attain the same high standard as this volume.

D. B. COWER

MOLECULAR IMMUNOLOGY

Biochemistry of Antibodies

By Roald S. Neuzlin. Translated from the Russian by Michel C. Vale and edited by Fred Karush. Pp. xiii + 381. (Plenum: New York and London, 1970.) \$25; 234s.

ANYBODY involved in teaching "molecular immunology" must have been faced with the difficulty of recommending suitable textbooks. This book is not the complete answer but it does provide a useful addition to the limited bibliography. No textbook in such a rapidly advancing field can hope to be up to date. In this case there is the added delay involved in translation of the original Russian text. The English edition has been updated by the author and also the original commentary has survived the test of the time lag very well. The methodological sections are lacking in current details; this in part must reflect the isolation of Russian science. But there is a good discussion of the methods covered. The physico-chemical properties and structure of antibodies are well reviewed. The longest chapter on antibody biosynthesis provides a most welcome condensation of an extensive body of data and phenomena. From this background must eventually come an understanding of the immune response at a macromolecular level. This review could prove of value to the biochemist newly approaching antibody biosynthesis. The book closes with brief clear accounts of genetics and theories of antibody production.

There is, throughout, extensive referencing. Because of its origin the book contains many references to the Soviet literature which provide an interesting window on immunological studies in the Soviet Union even if those in Russian will be unhelpful to the majority of readers.

The translation is pleasing with an easily readable style and few ambiguities in the scientific English. The rare slip such as: "The allelic exception is also known not to apply to hemoglobin" will cause more amusement than confusion. The general production standards deserve praise, particularly the clear attractive type.

This volume should prove of value to students, teachers and researchers embarking on, or engaged in, the field of immunology.

A. R. WILLIAMSON

RECENT SOIL STUDIES

Écologie Microbienne du Sol

By Yvon Dommergues and François Mangenot. Pp. viii + 796. (Masson: Paris, 1970.) 180 francs.

THIS volume provides a thorough, up to date and international coverage of information which is only otherwise available from numerous monographs, journal articles and symposium reports. The 800 closely printed pages are grouped into five unequal sections. First, a systematic account covers very briefly the principal groups of microorganisms (bacteria, actinomycetes, fungi, algae, protozoa and viruses). Then there is a long section dealing with the effect of microorganisms on chemical processes and cycles in the soil. This is followed by sections on the influence of physio-chemical factors on the microflora, on interactions between microorganisms and vegetation and, finally, on interactions between the different groups of microorganisms.

The last section (reflecting, of course, today's inadequate understanding) is somewhat superficial and disjointed, especially the brief sections on interactions with the soil fauna. The penultimate section (interactions with vegetation) reflects the current preoccupation with *Rhizobium* studies but is extremely brief on mycorrhiza. There is, however, a useful section of about 50 pages on the properties of the rhizosphere.

The major biochemical section (part two) is written chiefly by Dommergues and deals in turn with cycles of the major chemical elements (through carbon and nitrogen to iron, manganese and the like). Details are given of the principal intermediary compounds involved in decomposition processes, and there follows a fairly full discussion of recently explored topics such as humidification, the soil atmosphere, organo-metallic compounds and the effects of microbes on soil structure. Thus, a most useful summary of some of the chief research interests of the Nancy CNRS laboratory is placed in a general context and made available to a wider audience.

The fact that I was periodically frustrated by the terseness of the treatment is less a reflexion on the writers of the book than on the spectacular growth of soil microbiology over the past few decades and of the magnitude of the task undertaken. The authors have successfully assimilated the international literature and have provided an entry to the field for all who are interested in the ecology of soil. As a textbook of this kind it would have benefited from a much fuller and more informative index, but it certainly deserves a wide readership and would merit translation into other languages.

A. MACFADYEN

OVERPRODUCTIVE LAKES

Eutrophication in Large Lakes and Impoundments

Compiled by C. P. Milway. (Uppsala Symposium, May 1968.) Pp. 560. (OECD: Paris; HMSO: London, 1970.) 70s; 46 francs; \$10; 37.50 Sw. francs; 30.40 DM.

THE problems caused by the excessive enrichment of waters by fertilizers from sewage, industry and agriculture are world-wide. It is at last admitted by almost everybody that even the largest lakes should not be accepted as limitless repositories for rubbish. The Organization for Economic Cooperation and Development (OECD) has been collecting and collating facts about the problem for some years. This report is a valuable account of the situation in certain large lakes in Europe and North America, and in the Oslo Fjord. The first part, in English and French, discusses the aims and achievements of the symposium, research and management, and matters discussed during the meeting, together with synopses of facts about the lakes which form the case studies described in English