the old days, a mere three years between writing and publication would barely have been noticed.

The author, one of the leading lights in the modern phase of scrapie research, and a member of the powerful research group at the Institute for Research on Animal Diseases, Compton, has written a useful survey of the present state of the art and shows us how today's biochemists, geneticists and cell biologists are tackling the problems. Scientists who work with scrapie need to be imaginative and optimistic, yet prepared for long waits and set-backs; seers, but at the same time stoics. Theirs is a difficult path, and they are to be admired for their dogged pursuit of truth through the scrapie labyrinths.

Understanding scrapie will be of more than academic interest. Scrapie remains an important disease of sheep, and man also is infected by closely similar transmissible agents, causing kuru and Creutzfeld-Jacob disease. Both are rare but both are fatal, and when we understand the pathogenesis of scrapie these, too, will be understood. Doubtless we shall then also be in a better position to understand the origins of various other chronic diseases of man.

C. A. MIMS

Epidemiology and infections

Dr Gordon Smith has given us a very broad and useful survey of epidemiology and infections. He has successfully avoided the miasma of generalities and definitions that dismay and discourage the occasional reader of epidemiology texts, and has instead concentrated on the solid meat of examples and phenomena. Undaunted by the prodigious area to be covered, he has made his short book eminently readable, and given a well balanced survey of a fascinating subject. The writing is at times hurried, and one can always point out omissions and errors, but this reviewer learnt about several interesting epidemiological happenings, and hopes that this book will have a wider readership.

C. A. MIMS

Essentials of bacterial and viral genetics

This is a very readable book, covering, as the title claims, the essentials of microbial genetics though an undergraduate in microbiology would certainly have to consult more detailed texts. It is commendable for its historical approach and also for devoting two chapters to mutations, a subject vital to the study of genetics. The mention of industrial applications is useful, as well as the reference to genetic engineering.

The first chapter summarises the laws of genetics, and this is followed by a chapter on the structure and replication of DNA, and by one on protein synthesis and control mechanisms. The two chapters on mutation are next. The last third of the book deals with the genetic mechanisms of bacteria, the properties and genetics of bacteriophages, plasmids (it was pleasing to see the retention of the term "episome"), and briefly with eucaryotic organisms, including fungi, algae, protozoa, higher plants and man. A valiant attempt is made to provide a limited bibliography for each chapter. This is a good, digestible introduction to the subject.

L. O. BUTLER

Microbial response to mild stress

This small book is one of the series "Patterns of progress" published under the general editorship of Dr J. Gordon Cook. A "mild stress" is defined in this book as being one that results in some or no loss of microbial viability, and damage that may be partly or completely
reversible, contrasting with a severe stress that causes rapid or irreversible loss of viability. As is stated in the Introduction, this is not a comprehensive monograph on the subject over the whole field of microbiology, but is a review of work published up to 1973 on certain phenomena associated mainly with mesophilic bacteria (indeed, its title should have referred to bacterial rather than microbial response). The stresses considered are starvation, mild heat, cold shock, osmotic shock and aerosolisation. In addition to the chapters appearing under these headings, there is a final "progress section" that reviews papers on the subject published between 1973 and 1976. The topics are discussed concisely and readably, but it is clear that the approach has been rather too narrowly selective. Of approximately 200 references in the bibliography (almost exclusively to papers in English-language publications) there are only half-a-dozen that show a date before 1950, or that refer to work published in journals having a medical interest; for example, no references to work in the Journal of Medical Microbiology or its predecessor are to be found. This may of course be because the topics received less attention than they deserved from medical bacteriologists. Nevertheless, this is an interesting little monograph, and the bibliography provides a useful starting-point for a more extensive search of the literature on any of the topics reviewed.

G. R. F. HILSON

Concanavalin A as a tool

Concanavalin A sprang into the limelight 7 years ago when it was recognised that certain plant lectins agglutinated tumour cells. Unfortunately, hopes that this might lead to the identification of a site at the cell surface involved in the control of growth and movement have not been fulfilled, but, on the credit side, a great variety of new approaches to the study of the cell surface has been developed.

This book sets out to summarise this work. It avoids too much speculation, and is essentially a laboratory handbook. Apart from a short but reasonably complete summary of the known facts about the chemistry of concanavalin A and its reaction with cells, it is a compendium of methods described by leading workers in the field. They deal with the localisation of concanavalin A by microscopy and electronmicroscopy, assay methods, agglutination, molecular and cellular separations by concanavalin A, and biological uses, for example in the mitogenesis of lymphocytes. The contributions are concise, authoritative, and (in those cases where I am able to judge) complete. This book is to be recommended to anyone interested in the cell surface.

C. H. O'NEILL

Recent advances in clinical virology

This is the first issue of the well known Recent Advances series that deals exclusively with virology, a subject that was previously included in the general microbiology text. For better or for worse this reflects the increasing divergence of the pathways of virological and bacteriological advance.

A wide range of virological topics of either clinical or academic interest is covered, respiratory viral disease being the only major subject of current interest that is omitted. Exactly half of the contributions are concerned with neurological disease, a bias that is understandable as this is the field where there is growing anticipation of important advances in the near future. This part of the book begins with an account of the diagnosis and treatment of herpes encephalitis, a disease that is still unfortunately proving refractory to antiviral chemotherapy. There are also accounts of the respective roles of measles virus and the papovaviruses in subacute sclerosing panencephalitis and progressive multifocal leukoencephalopathy: the first account concentrates on pathogenesis, and the second contains