

BOOK REVIEWS

Unclear Ear

The Auditory Periphery. By Peter Dallos. Pp. xii+548. (Academic (Harcourt Brace Jovanovich): New York and London, May 1973.) \$32.50.

IN 1947 the late Dr Lorente de N6 published *A Study of Nerve Physiology*, a massive tome of some 500 pages devoted to the behaviour of the nerve axon. This book contained discussions of many theoretical electrical networks, and page after page of experimental data. As students of the nervous system we read it all and emerged, if anything, with less understanding than when we started. This was not the author's fault; it was simply that the state of the art was such that it was all trees and no wood—indeed some of the “trees” turned out not to be trees at all. Shortly afterwards, of course, the Hodgkin–Huxley School, using new techniques and a great deal of insight, produced a theory which enabled nerve behaviour to be expressed coherently and succinctly, and among other things, greatly lightened the task of the student and the teacher. In reading Dr Dallos's book one is irresistibly reminded of the state of axon physiology thirty years ago. One is first and foremost lost in admiration at the industry with which the author has collected, in some 520 pages, what has been thought and written on the physics of the middle ear and the cochlea. After a short anatomical introduction, there follow chapters on the physical (though not the chemical) techniques which have been used, on the middle ear, on cochlear mechanics, and a long chapter on the author's own field, that of cochlear potentials. Finally, the subjects of non-linear distortion and feedback mechanisms are treated—the last necessarily fragmentarily because of limitation to the periphery. There are inevitably some omissions of quite well known work, but most of it is there.

Yet it is not, as the opening sentence of the preface proposes, really a book suitable for teaching students. It contains (like Lorente de N6's book) some basic mathematics which workers in the field hope ought to apply, electrical networks which could be useful if only we knew the parameters, and a great mass of experimental observation, often of a conflicting nature.

Because of the gross nature of our tools and lack of knowledge of the significance of the fine structure of the

cochlea, it is difficult to get results which are at all comparable between one laboratory and another, let alone to find a common interpretation. An example is the twenty-year-old observation quoted on p. 363 *et seq.* of the effect of K^+ in scala tympani on the cochlear microphonic. This result has not, to my knowledge, ever been confirmed in print by others, and we have failed repeatedly to reproduce it in our own laboratory. Yet there are presumably conditions under which it happens. One cannot, I think, ask that a book for teaching be more critical, because no one is really in a position to criticise, but it ought continually to emphasise the precarious nature of the ‘facts’ on which we are trying to build our theories.

It has recently been claimed in a letter to *The Times* that a major motivation for scientific investigation is the urge to demolish other scientists' theories. If this be true (and there may be an element of truth in it), this book will be invaluable to the budding auditory research worker. Dr Dallos has done all his homework for him and lined up all the theories and observations ready to be shot at.

I. C. WHITFIELD

Nucleotide Metabolism

Nucleotide Metabolism: An Introduction. By J. Frank Henderson and A. R. P. Paterson. Pp. xvii+304. (Academic: New York and London, May 1973.) \$15.

THE metabolism of nucleotides embraces a very wide field in biochemistry and one of the consequences of this is that there is a large volume of literature dealing with the many aspects of the subject, scattered widely in original papers and review articles. The authors of this book have set out to produce, in their own words, “a textbook rather than an exhaustive monograph”, and this is what they have succeeded in doing.

The volume contains a total of sixteen chapters in four sections under the headings “General Aspects of Nucleotide Metabolism”, “Purine Ribonucleotide Metabolism”, “Pyrimidine Ribonucleotide Metabolism” and “Purine and Pyrimidine Deoxyribonucleotide Metabolism”. The individual chapters provide accounts of the present state of knowledge in most areas of

nucleotide metabolism and, although these are very condensed and at times even a little superficial, each chapter contains a well selected list of key references which should certainly be sufficient to enable an interested student to pursue his study in greater depth. The book is well written and contains many tables, figures and diagrams, often reproduced from original papers, to illustrate the material being discussed. The very concise style of presentation manages not to sacrifice too much in clarity and enables the authors to cover a wider range of topics than would otherwise have been possible.

The book will be useful to undergraduates and to a lesser extent as an introduction for postgraduate students whose research leads them into the field of nucleotide metabolism. It will not be of great value to research workers who are established in the field of nucleotide metabolism or in related areas.

R. M. S. SMELLIE

Haematology

Haematology. Edited by William S. Beck. (Harvard Pathophysiology Series, Vol. 1.) Pp. xii+366. (MIT: Cambridge, Massachusetts and London, May 1973.) \$14.95.

THIS short book on the pathophysiology of haematology is a collection of lecture notes by various authors produced for first and second year students at Harvard Medical School. It is very likely that these notes fit admirably with the lectures given and that the whole makes a useful course of haematology. For other students too much information is condensed on some pages that further explanation is necessary before the reader can follow the text.

There are also some important omissions. The sections on the clinical features and treatment are, as the name of the series implies, very thin. It is unlikely that lectures at other medical schools would dovetail in well enough with the book to make up for these deficiencies and I would recommend students to use one of several other books on haematology of similar size. They will not only find it easier reading but will also get a more balanced knowledge of haematology.

E. R. HUEHNS