

Plasma scattering

Plasma Scattering of Electromagnetic Radiation. John Sheffield. Pp. xii+305. (Academic: New York and London, January 1975.) \$29.00; £13.90.

In this book John Sheffield covers those aspects of the Thomson scattering of laser radiation by a plasma that are relevant to diagnostic applications. The technique, perhaps the most powerful and elegant to have emerged from work on controlled fusion and other laboratory plasmas, presents particular experimental difficulties in view of the very low ratio of scattered to incident light ($<10^{-12}$ – 10^{-14}). In appropriate circumstances, however, it is unique in the direct relationship between observed quantities and basic parameters such as electron velocity distributions and number densities, and in other cases it provides more complex information. Consequently, various aspects have already formed the subject of many reviews.

Problems arise in devoting an entire book to this topic because of the difficult

choice that must be made between presenting a detailed re-exposition of plasma kinetic theory or assuming a background knowledge and adopting an approach more typical, perhaps, of a review article. By and large John Sheffield copes well with this balance. Though highly specialised, the book will clearly be of considerable use to anyone involved in Thomson scattering measurements, as much for physical explanation and theoretical development as for a reference source. Within the confines of the subject the scope is quite wide, with, for example, chapters covering experimental constraints and optical techniques as equally as, say, the theory of scattering from unstable plasmas. The biggest limitation is that the particular theoretical approach chosen is perhaps not the most suited for comparison with scattering processes operating in systems other than plasmas, so that the book is necessarily limited to a very specialised field within plasma physics. Within that constraint, however, I think the book will prove worthwhile and useful. **D.D. Burgess**

Animal development

Practical Studies of Animal Development. By F. S. Billett and A. E. Wild. Pp. xi+251+6 plates. (Chapman and Hall: London, 1975.) £4.80.

Cellular Interactions in Animal Development. By Elizabeth M. Deuchar. Pp. x+298. (Chapman and Hall: London, 1975.) £6.50.

THERE are several good laboratory manuals available for classes in developmental biology. None is, or could be, comprehensive in the sense of dealing with the provenance and manipulation of all the major developmental systems. Each is of most value to teachers not themselves greatly experienced with the material described. *Practical Studies of Animal Development* by Billett and Wild should encourage enterprising teachers of this kind to attempt new laboratory experiments with their classes. The book provides guidance for work with an unusually wide range of animals—echinoids, ascidians, gastropods, annelids, nematodes, insects, teleosts, amphibians, birds and mammals. The exercises are set in the context of their scientific significance, so the book is not just a collection of recipes. Their selection could not suit everyone, but few teachers of developmental biology will fail to find useful matter in this book. In a second edition it might be worth adding a separate section on organ and tissue culture techniques, giving guidance on the nature and source of some of the materials mentioned (for example, MS 222).

We have had for some time in Ebert and Sussex's *Interacting Systems in Development* an admirable introduction to processes which must necessarily play a big part in any epigenetic event. Deuchar, with her *Cellular Interactions in Animal Development*, now offers a more extended, and more detailed, treatment both of the best known and of many less celebrated cases of cell-interactions in animals. There is virtue in reminding students that the more famous examples form but the tip of an iceberg, and I believe that this book will be successful in exciting student interest not just in ideas, but in the systems on which they can be tested. Not many developmentalists, could hope to survey so wide a range of phenomena as Deuchar does, and although she is still only introducing the reader to the problems she deals with, the end result is a very substantial coverage of those parts of developmental biology that are not 'molecular' or 'genetic'.

Her stories are open ended and she indicates areas of doubt with scrupulous care. I could, indeed, have wished that she had given a more forceful statement of her own views in some cases. It wouldn't matter if some later turned out to be wrong. **D. R. Newth**

Allergic diseases

Immunological Aspects of Allergy and Allergic Diseases. Edited by E. Rajka and S. Korossy. Volume 1, Pp. x+456. Volume 2, Pp. xii+457-759. (Plenum: London and New York; Akademiai Kiado: Budapest, 1974.) \$42 each.

THE unprecedented rate of expansion in immunology during the late sixties and the seventies has not been conducive to the compilation of textbooks. Their place has been taken by numerous excellent monographs of an advanced nature while medical students have been catered for by a number of introductory booklets to modern immunology, mostly of exceptionally high standard. The revolutionary new concepts, however, particularly in this field of cellular immunology, have now become consolidated and these two volumes represent one of the first attempts to contain the avalanche of recent information under one roof. The authors are an almost exclusively Hungarian team and have largely succeeded in producing a reasonably up-to-date handbook of immunology for clinicians, with the special interest of the editors-in-chief in atopic allergy largely underplayed.

The first volume deals with the more theoretical basic aspects of modern thought on immune induction and unresponsiveness, whereas the second discusses diagnostic procedures, transplantation and tumour immunology, with two further volumes of a more clinical nature yet to come. Each chapter is generously supplied with references up to and including 1973.

The occasionally quaint phraseology may charm or irritate, but the text is usually clear and controversial matter well argued. In spite of a chapter devoted to terminological aspects, however, confusion sometimes arises from old and new terms being used interchangeably by some authors, and a much needed glossary is lacking.

On page 349 now hardly relevant theories on reagin structure are given a reference to a much later factual paper containing first numerical data on reagin persistence in skin and showing that reagins do not belong to any then known Ig class, but can be assayed by passive sensitisation of chopped lung, data later ignored in their proper context. There is a somewhat irrelevant though well-written chapter on non-Ig serum proteins. In a detailed chapter on the Schwartzman phenomenon, conclusions about its non-immunological nature are reiterated, ignoring recent evidence on massive complement activation as the trigger mechanism. Immunological aspects of nematode infections are not covered in spite of their recent basic interest as regards reagin formation. And although autoimmunity is discussed at length, modern ideas on the bypassing of antigen-specific T-cell cooperation as a fundamental and for the first time integrated mechanism are ignored. The subject index is deplorably incomplete and there is no author index.

Publication of this book coincides with that of an excellent third edition of an established English textbook covering similar ground at roughly half the price for twice the number of pages. **R. Augustin**