BOOKS RECEIVED

Fluorescent protein tracing

It is always difficult to review a book that reaches its fourth edition; this fact alone is convincing commendation for it. First and foremost, "Nairn" is a reference book and a reviewer's problem is to study its highly condensed collection of facts in a relatively short time. One cannot go to this book and read the subject in a casual way. However, all the major facts of immunofluorescence are there and bearing in mind unavoidable delays in production the references are well up to date. Another achievement of this book is to provide a reference tome for many disciplines, from histopathology, microbiology and biochemistry, to scientifically orientated clinical medicine.

Most chapters are relevant to the microbiologist's point of view, and no one could think of venturing to use immunofluorescence without having consulted "Nairn". Although the overall merits of the book are recognised, it is necessary, however, to point out a few minor deficiencies.

For example, the authors favour two types of commercial microscope but others are of at least equal merit. New developments such as the Xenon burner are dismissed as too expensive when in fact they are more economical than other types because of their longer life. The section on filters is as good as usual but most readers would have appreciated a more detailed account of interference filters, which, in the last few years, have made so much difference to the subject. The indirect technique seems to have been relegated to a special technique. In diagnostic work there are many advantages to the indirect method and I am certain that these should have been emphasised.

One of the main problems in immunofluorescence is the quality of the reagents and most failures in technique are due to this. Perhaps fuller details of criteria for quality control of reagents should have been given. Autofluorescence of tissue may present problems; a number of excellent counter-stains are available, but only one is given any emphasis. A new and important technique is that of double staining; it is stated that this presents no problems. In fact, to achieve the best results, one needs the intelligent manipulation of filter systems, a point that is not discussed.

The two microbiological sections are full of key references and cover the subjects well, but one knows that these two sections can only whet the appetite and do scant justice to the two rapidly developing fields that they cover.

A reviewer's job is two-fold, one to point out weaknesses and the other to praise. The criticisms made are far out-weighed by the overall value of this book and one hardly needs to repeat the cliché that every worker in this field must have the volume on his shelf.

P. S. GARDNER

Chemotherapy of infection

"The scientific basis of antimicrobial chemotherapy" would have been a more exact title for this excellent book which deals, not with dosages, drug regimens, or MICs, but with the mechanisms of drug activity in terms of antimicrobial action, pharmacology and adverse effects. Dr Pratt has succeeded in drawing together in less than 450 pages of text (with over 1300 references culled chiefly, but not exclusively, from the American literature) a vast body of information on many important features of antimicrobial drug action that are frequently
neglected. The book thus nicely complements other manuals that tend to dwell more on the purely descriptive aspects of antimicrobial drugs and their use.

The scope of the book encompasses antibacterial, antifungal, antiprotozoal, anthelminthic and antiviral agents; the temptation to include anticancer chemotherapy has wisely been avoided. This unusually broad approach is very refreshing and has the added virtue of highlighting the striking versatility of some groups of compounds: the wide-ranging talents of metronidazole are now being appreciated and this book further reminds us that the antifungal drugs clotrimazole and miconazole and the singularly broad-spectrum anthelmintics thiabendazole and mebendazole are related imidazole derivatives. What emerges as even more remarkable, if the present rather speculative state of knowledge is borne out by future work, is that several of these imidazoles appear to have distinct modes of action.

The majority of antimicrobial drugs in common use come under Dr Pratt's scrutiny, but the book reflects current American usage, so that, for example, fusidic acid, novobiocin, flucl oxacinilin and the ampicillin esters such as privampicillin and talampicillin, fail to get a mention. Some relatively new drugs, such as the antitrypanosomal agent, nifurtimox, are cited, but in general the author has adopted a conservative attitude to new compounds: the amidinopenicillin, mecillinam, which has helped to throw new light on the mode of action of $\beta$-lactam antibiotics, is not referred to, and amikacin, squeezed into a short paragraph in the aminoglycoside chapter, is about the most up-to-date antibacterial to be included.

There is some inequality of treatment: penicillins get a good deal of the limelight at the expense of their cephalosporin cousins; isoniazid is accorded as much space as the rest of the antituberculous drugs put together (although streptomycin appears separately with the aminoglycosides); among antiparasitic drugs, antimalarial agents get the lion’s share with a long chapter.

It is pleasantly difficult to point to serious omissions from this book. The most notable deficiency is perhaps that mechanisms of drug resistance are not dealt with as extensively as one would like. The text contains some bizarre spelling, not all of which is attributable to the book's American provenance ("stearic hinderance" for "steric hindrance" is my favourite), but most of the misprints are of the irritating rather than the misleading variety. These blemishes apart, the text is highly recommended to all those who wish to acquire a more thorough understanding of the scientific principles underlying antimicrobial drug therapy.

DAVID GREENWOOD

**Bacterial reaction to radiation**


This monograph, intended for advanced students and research workers, describes the current views about the effects of ionising and UV irradiation on bacterial cells, with passing mention of higher cells. The recognition of repair mechanisms has tended to displace older ideas, such as the target theory, but there would still seem to be difficulties in proving any hypothesis.

The author points out that the study of the mechanisms of the effects depends on the isolation of appropriate mutants, and that a number of genetic loci are involved: this makes the allocation of a given effect to a genetic locus relatively complicated. He has tried manfully to present a complete picture, but, because of the very restricted length of the monograph, has had to adopt a style that does not make for easy reading. It would have improved matters if the author had distinguished more clearly between the effects of UV radiation and of ionising radiation. He does so in chapters 5 and 6 when discussing the all-important repair systems, but in the other chapters care is often needed to decide which type of radiation was responsible for an effect, or whether the effect was produced by both types of radiation. However, the monograph provides a very useful summary of current ideas on the subject, by a leading worker in the field.

L. O. BUTLER