BOOKS RECEIVED

β -lactam antibiotics. Mode of action, new developments, and future prospects

By M. SALTON and G. D. SHOCKMAN. 1981. Academic Press Inc., Ltd, London. Pp. xv and 604. £26.20.

The broad-spectrum penicillins remain the most frequently used—and abused—antibiotics in most countries and even vie with the benzodiazepine tranquillisers as the best-selling of all drugs. Their cephalosporin cousins are, however, close behind, and have indeed already overtaken the penicillins throughout Japan and in many American hospitals. But despite their pre-eminence for 40 years, the β -lactam antibiotics have suffered prolonged periods of neglect by authors. There was an auspicious enough beginning, however, for within a few years of the introduction of penicillin for general clinical use, two separate treatises were published dealing with every known aspect of this revolutionary antibiotic. Appropriately, the first of these volumes, which appeared in 1946, was edited by Alexander Fleming, and the second, by Howard Florey and his Oxford team, was published in 1949. Since then, although the progeny of penicillin F and subsequently of cephalosporin C have multiplied almost exponentially, there has been a remarkable dearth of books devoted to the β -lactam antibiotics. The monograph by Gordon Stewart appeared as a solitary oasis in 1965, after which a further 15 years elapsed before a comprehensive book was devoted exclusively to this now bewildering family of antibiotics.

In contrast, the volume under review contains a somewhat arbitrary series of symposium papers. Yet, although the historical introduction is sketchy and often inaccurate, and such important themes as pharmacokinetics and the use of animal models for evaluation are entirely omitted, the overlapping chapters on the target sites in cell wall synthesis, drug resistance due to β -lactamases or other mechanisms, and chemical aspects of the continuing development of β -lactam antibiotics are all presented in detail by acknowledged masters of each super-speciality.

Sir Edward Abraham's characteristically modest account of his chemical researches, which led to the introduction and further development of the cephalosporins, will give readers particular pleasure. It sets the scene for full discussions by chemists in the pharmaceutical industry on the investigations of structure-activity relationships and other properties that led to the selection of recently introduced derivatives. The chapter on cefaclor, however, fails to mention that any of its possible in-vitro advantages over the older oral cephalosporins are outweighed by its poorer stability and pharmacokinetic properties. The non-specialist reader of this book will indeed seek in vain for a critical approach to help counteract aggressive marketing policies that have led one company to promote in the United Kingdom the sale of six ostensibly competing members of the cephalosporin family. There is rarely even a mention of the disconcerting paradox that desirable properties of new cephalosporins such as anti-pseudomonal activity or enhanced resistance to β -lactamases seem inevitably to be accompanied by losses in activity against gram-positive bacteria or by pharmacological disadvantages.

Although poorly illustrated and produced with an uneven quality by the camera-ready copy method, this is an expensive book. It is likely to find a place only as a convenient reference source in libraries specialising in the antibiotic field.

SYDNEY SELWYN

Antibiotics of the beta-lactam group

By D. GREENWOOD. 1982. John Wiley and Sons, Ltd, Chichester. Pp. ix and 84. £8.95.

This small volume differs in every respect from the weighty tome edited by Salton and Shockman (reviewed above). Despite its comprehensive sounding title, it is a microbiologist's