

the evolution of sex, and he deals at length with the choice of a mate, mating behaviour, sexual dances of birds, and the sexual conduct of reptiles and mammals.

I have noticed only one tiny slip. On p. 128 Dr. Berrill suggests that a man's interest in the female disappears when he has insufficient male hormone; this is not necessarily true—it is, however, a triviality.

Dr. Swyer's book is not concerned with the evolution but with the manifestation of sex in the human. He gives first of all an outline and then goes on to describe reproduction in the male, the function of the adrenal cortex, and the female reproductive cycle. After this he deals with disorders of menstruation and the climacteric, and then with anomalies of sexual development. He describes conception, pregnancy and its special problems, child-birth and the problems associated with it, and breast feeding. He gives a chapter on fertility and infertility. Finally—most unusual in a book of this kind—Dr. Swyer devotes space to the psychological side of sexual behaviour and its development as well as the sexual anomalies and disorders. There are two appendixes: one on the anatomy of the reproductive organs and one on tubal patency.

There are innumerable popular books on the physiology of sex, but what makes Dr. Swyer's different from the usual 'outline' is that it is written by a specialist who is not only an endocrinologist, but also is consultant to the obstetric department of a large London hospital. He is thus able to approach the exposition of his subject with an intimate knowledge of both endocrinology and obstetrics, which the usual 'popularizer' lacks. The masterly way in which he explains the more complicated elements of female endocrinology in such conditions as menstruation, pregnancy and lactation makes his book well worth reading. Medical men who have lost touch with recent developments of sexual endocrinology could use his volume as a useful introduction; but it is so clearly written that it should be comprehensible to any educated person.

Once the subject of sex was regarded as scarcely a topic to be studied by the layman and not quite respectable. We have fortunately passed by such foolishness, and books such as these show that the ordinary man can be properly informed as to how sex was evolved and how it works. He will find the whole subject fascinating. CLIFFORD ALLEN

## ASPECTS OF BIOCHEMISTRY

### Essentials of Physiological Chemistry

By Prof. Arthur K. Anderson. Fourth edition. Pp. vii+480. (New York: John Wiley and Sons, Inc.; London: Chapman and Hall, Ltd., 1953.) 40s. net.

### Dynamic Aspects of Biochemistry

By Prof. Ernest Baldwin. Second edition. Pp. xx+544. (Cambridge: At the University Press, 1952.) 30s. net.

### General Biochemistry

By Prof. Joseph S. Fruton and Prof. Sofia Simmonds. Pp. xii+940. (New York: John Wiley and Sons, Inc.; London: Chapman and Hall, Ltd., 1953.) 80s. net.

IT would be difficult to find three such dissimilar books dealing with the same branch of science. In the handling of the subject-matter and in the scope of presentation each book differs sharply from

the others, but each has its own distinctive part to play in the biochemical literature.

Prof. Anderson's book is an elementary text of moderate size which first appeared in 1935 and which has now demonstrated its popularity, particularly in the United States, by reaching its fourth edition. It is essentially a book in which the beginner is introduced to biochemistry by the classical sequence of chemical structure of carbohydrates, lipids and proteins, their digestion, their metabolism and the excretion of the final products. The bias is heavily in favour of animal biochemistry, the physiological side is stressed—and rightly so in an introductory text—and the book is thus set to the level of the second-year medical student.

For the reader who has mastered Anderson—or its equivalent—Baldwin is the next logical step in his biochemical education, and the second edition of this remarkable book will be greeted with all the greater interest since the first edition achieved the unusual distinction of becoming a biochemical best seller. In spite of Prof. Baldwin's contention that this book is an elementary text-book, the reviewer cannot agree that it is an introduction to the subject, for the story does not begin at the beginning, and the reader who has not progressed to Baldwin from a more elementary text will soon find himself in difficulties. The book, moreover, does not attempt to cover the whole field of biochemistry, but deals briefly but comprehensively, at what is essentially an intermediate level, with the very body and bones of the subject—enzymology and metabolism, using the latter word in its broadest sense. The loose ends in the first edition have been tidied up and recent developments, including energetics, have been included with the same characteristic clarity and vigour of presentation as made the first edition so widely popular. In spite of the minor weakness due to the inadequate size of the bibliography, Baldwin's "Dynamic Aspects" has by now reached such an established place that no biochemical education is complete without it.

While Baldwin deals with aspects, Fruton and Simmonds cover the whole field, at what might be called a sophisticated level. As befits a text for advanced students, it plunges straight into the proteins before progressing through the enzymes and biological oxidations to a detailed study of intermediate metabolism. To attempt to write a comprehensive advanced treatise on a subject which is advancing and changing with disconcerting speed is a formidable task which few have attempted, but which has in this case been achieved with outstanding distinction. Of the two salient features of the book, one is its characteristic freshness of presentation; the authors have been fettered by none of the classical traditions which tend to stamp a pattern of uniformity on older books of a similar type, but have covered modern biochemistry in the way which seems to them—and to the reviewer—to be logical and systematic. The layouts of formulæ, figures and diagrams are entirely modern. The other characteristic feature is the wealth and breadth of documentation with chapter and verse given for each statement up to a remarkably recent date. Yet this comprehensive treatment of a big subject is compressed into 900 very readable pages. This book deserves to go through many editions—if the authors are prepared to face the formidable task of quinquennial, or even more frequent, revision.

J. N. DAVIDSON