

any physiological function or pharmacological action that currently merits explanation in molecular terms. In the event, the contents prove to be a very arbitrary selection of topics. No doubt this is inevitable and it would be foolish to criticise it for what it leaves out: better to judge it by the Series' own criteria as "a comprehensive and critical survey of progress in research". At this level it needs to stand comparison with other series designed to keep the average biochemist up to date. Here it seems to fall between two stools: it is neither as definitive in its survey as, say, Annual Reviews nor so unassuming of specialist knowledge as, say, Essays in Biochemistry.

Active Transport (W. Wilbrandt) is covered adequately, but rather too sketchily to make interesting reading. Membrane ATPase merits only half a page and mitochondrial active transport – both calcium and anion transport – need only two pages. In contrast the chapter on the mechanism of action of general anaesthetics (J. C. and K. W. Miller) is a much more detailed account of a specialized subject and proves to be more stimulating to read. The chapter on clotting and lysis in blood plasma (L. Lorand and K. C. Robbins) is an excellently concise and useful summary of the field. It differs from the other contributions in omitting text references in favour of a

classified list of references at the end. The account of renal excretion of strong electrolytes (G. Giebisch) is straight-forward physiology and might have seemed more appropriate to a volume in the physiology series. That on muscle contraction (A. Miller) brings us back to structural and biochemical aspects. Though adequate in coverage it suffers from being a little outdated – not necessarily the author's fault if publication was delayed. There is, for example, no mention of α -actinin. The contribution on monoamine deamination systems and mammalian tissues (M. B. H. Youdim) suffers from some irritating errors. The references in the text to fig.6.2 (p.181) and refs 355 and 229 (p.191) turn out to be incorrectly assigned. The last chapter on detoxication mechanisms (R. T. Williams and P. Millburn) is of doubtful value. It attempts a wide survey of different compounds and different mechanisms of conjugation. Yet it cannot, in the space available, hope to be a work of reference, such as the standard work by the senior author. In particular, it fails to emphasise that part of the subject – the general aspects, including the enzymology of drug metabolism – that would surely have been of much greater interest to most readers.

A. J. Turner

Biochemistry of Steroid Hormones

Edited by H. L. J. Makin

Blackwell Scientific Publications; Oxford, London, Edinburgh, Melbourne, 1975

x + 358 pages. £ 16.50

Medical students, teachers and those requiring an up-to-date introductory account of steroid biochemistry will welcome this excellent, well-produced book. Although much of the text refers to work on animals, this is a text orientated towards steroid biochemistry in human subjects. It provides a compact discussion of subjects relevant to medical and other students which was not previously available at this level. The authors are steroid research workers, most of whom hold teaching positions in medical schools.

The book covers steroid structure and nomenclature; biosynthesis and metabolism of cholesterol, corticosteroids, androgens and oestrogens; properties and cellular location of enzymes involved in, and the regulation of, steroidogenesis; steroid catabolism and excretion; and methods used in steroid analysis. The physiological and pathological aspects are covered by chapters on the pituitary-adrenal axis; the endocrinology of the menstrual cycle and pregnancy; inborn errors of corticosteroid biosynthesis; and the androgens. A

chapter on the biochemical action of steroid hormones at the subcellular level concludes the book. Lists of references for further reading are given at the end of each chapter.

One can find little wrong with this book. Perhaps mention and a diagram of the formation of the isoprene unit and a brief description of the biosynthesis of cholesterol are out of place in the chapter on Structure and Nomenclature, since these are covered in detail in the next chapter. It is also regrettable that in a diagram dealing with steroid structures, that for cholestane is in error and contains only 26 carbon atoms. In another chapter, discussing the effects of corticosteroids on transaminases, one of the products, *p*-hydroxyphenylpyruvate, from tyrosine

and α -oxoglutarate, is given as '*p*-phenyl pyruvate'. Can free corticosterone really be called a metabolite of corticosterone and free 6 β -hydroxycortisol one of 6 β -hydroxycortisol? This occurs in one of the tables. Some terms well known to steroid biochemists, such as 'carrier steroids', 'solvolysis' and 'Porter–Silber chromogens' should be explained for the benefit of those new to the subject.

These are minor criticisms and the editor and contributors should be congratulated on the high standard maintained throughout and the clarity of presentation and illustrations.

H. Braunsberg

Chemical Induction of Cancer

by J. C. Arcos and M. F. Argus
Academic Press Inc.; New York, 1974
Vol. IIA, xv + 387 pages. £20.75
Vol. IIB, xv + 379 pages. £20.45

These two volumes are the second and third of a projected six volume reference work on all aspects of chemical carcinogenesis. A staggeringly complete review of the literature of this field is promised in the provisional lists of contents, to include discussion of carcinogen testing, structure–activity relationships, carcinogen metabolism, tissue interactions, cocarcinogenesis and mechanisms of tumour induction. The chemistry, biological activities and metabolic transformations of polycyclic aromatic hydrocarbons are covered in volume IIA; IIB deals with the recently expanded field of aromatic amine carcinogenesis.

The major problem confronting authors of a work of this kind in a multi-disciplinary, rapidly expanding area of research must be the combination of comprehensiveness and appeal to the non-specialist, with immediate relevance to the specialist or research worker. In an attempt to overcome this problem, the text is peppered with 'supplementary notes' and 'notes added after the completion of the text'. Note 2

following section 5.1.1.6.4 (!), for example, explains the physics of n.m.r., while, the use of radioactive tracer techniques in biological studies is described in supplementary note 2 appended to section 5.1.1.5. Clearly the format of the text has been sacrificed to the authors' attempt to appeal to such a wide potential readership. These are unattractive books and are often tedious to read. However, the work is well researched and referenced (up to 1973 in some of the added notes), and is certainly thorough. In these two volumes alone, 291 numbered compounds, mostly without trivial names, are discussed. There is no doubt that these will be useful source books for the specialist.

On the dust jackets of these two books, the publishers predict that 'they will be indispensable to both established investigators and newcomers to chemical oncology'. I suspect that they are almost half right.

D. J. Williams