

man, but the whole of volume three is to be devoted to them. The next three chapters are about mammalian life on the ground, in the air and in the water and contain much about adaptation; they could well have been longer. There follows an interesting chapter on skin and its derivatives, hooves, horns, claws, scent and other glands, and the significance of moulting. Brains and senses are considered superficially; it is hoped that these important aspects will be dealt with fully in subsequent volumes. Three chapters discuss what mammals do, their aggressiveness and gregariousness, behaviour patterns, nesting, territory, feeding and self-rewarding activities, followed by a full account of viviparity, gestation, sex hormones and breeding behaviour. Next comes a chapter on the difficulties of studying populations, and on migration and hibernation as ways of coping with unfavourable environmental conditions. The last chapter considers mammals in relation to man, domestication, hunting, trapping and game-cropping. It ends with sobering reflexions on the ultimate role filled by mammals, which have already passed their peak in number of species and "are now travelling downhill towards their inevitable extinction".

The plates are of a high quality, illustrating the air-brake action of the patagium, the aerofoil of a bat's wing, and birth of kangaroos. Many line drawings are pleasing, especially those of heads. Others seem crude by comparison: those of some skulls and brains look like rough outlines made with a felt pen. The human embryo in Fig. 5 looks like Punch and the porpoise head in Fig. 33 could be made more informative.

R. J. HARRISON

BODY GROWTH

Human Growth after Birth

By David Sinclair. (Oxford Medical Publications.) Pp. x + 180. (Oxford University Press: London, October 1969.) 28s.

THIS book has been written specifically for use by pre-clinical students. It deals with many different aspects of growth and thus presents the whole subject with the breadth appropriate to an introductory text. The treatment of most topics is too superficial to suffice as anything more than an introduction, and the reader in search of information which he can put to practical use in either the laboratory or clinic must consult more specialized works.

In discussing the growth of cells and individual tissues, Professor Sinclair has successfully combined simplification with the presentation of sufficient information to enable the reader to understand these processes at an elementary level. On reaching the growth of systems, however, simplification has been carried rather too far. The accounts of some systems are so brief that they fail to give the reader even a simple picture of the changes which take place during development.

The growth of the whole body, as indicated by height and weight, is discussed in more detail. This part of the book is based largely on J. M. Tanner's publications and the student is introduced to such fundamentals as the interpretation of percentile charts and the distinction between cross-sectional and longitudinal studies. A slight over-simplification leaves the reader with the erroneous impression that it is possible to predict a child's ultimate height from knowledge only of his current height and his age. The fact, however, that individuals of the same age have not necessarily completed the same percentage of their total growth is brought out elsewhere in the chapter. This theme is developed further in an account of "indices of maturity" which appears later in the book.

There is an interesting chapter on changes of shape and posture together with the classification of physique. This probably imparts just the right amount of information.

Some growth disorders are mentioned briefly but only in sufficient detail to indicate to the student that the study of growth may have some relevance to his future clinical work. Chapters on the repair of tissues and on ageing illustrate the importance of growth throughout life.

It will be possible to judge the author's success in meeting the specific needs of medical students only when this book has been in use for some time. Certainly, it presents material which should form an important part of the preclinical student's experience.

W. A. MARSHALL

ENZYMES CATALOGUED

Enzyme Handbook

By Thomas E. Barman. Vol. 1: Pp. xi + 499. Vol. 2: Pp. iii + 500-928. (Springer Verlag: Berlin, Heidelberg and New York, 1969.) DM 78; \$19.50 the two volumes.

THESE volumes collect together the basic properties of all enzymes which have at least been partially characterized. The enzymes are arranged in the order of the Enzyme Commission classification scheme and the easy location of any specific enzyme is facilitated by an index of trivial names. The properties of each enzyme are listed under the following headings: equilibrium constant of the reaction catalysed, molecular weight, specificity, Michaelis constants, and inhibitors. The light absorption properties of substrates or products are also given where these have proved useful in the assay of the enzyme, although such data on reduced NAD and NADP are surprisingly not included.

In order to keep the size of this work within reasonable limits it was, of course, necessary for the compiler to impose severe restrictions on the nature of the information included and the data that he has selected are those most likely to be required by research workers, although it is unfortunate that references to X-ray analysis of tertiary structure are not always included. With any undertaking of this nature, some of the data presented must rapidly become outdated by later work; for example, recent work has shown aspartate carbamoyltransferase to be a dodecamer rather than a hexamer as given here. Such changes are, however, unavoidable and the commendable rapidity with which the publishers have produced this work has kept them down to a minimum.

Anything which will decrease the time and effort involved in finding details of specific enzymes is to be welcomed and the inclusion of selected references to each enzyme and references to review articles, where this is possible, permits additional information on individual enzymes to be readily obtained. The information collected in these volumes represents an enormous amount of work in compilation and Dr Barman should be thanked for and congratulated on his achievement in providing a work which will be of use to anybody working with enzymes. While these volumes may not be the only work consulted for information on individual enzymes, they will probably be the first.

K. F. TIPTON

NAMED REACTIONS

Named Organic Reactions

By Ronald C. Denney. Pp. viii + 252. (Butterworths: London, 1969.) 38s.

ALTHOUGH it has been deprecated in recent years, there is much to be said for the practice of naming organic reactions after their discoverers. It serves as a short and simple way of communicating what is often a complex series of individual reactions or reagents. The practice has, however, been overdone, and the author of this book has (unwittingly) provided some splendid examples.