

Book Reviews

Neuroanatomy, Basic and Applied. By M. J. T. FITZGERALD. (Pp. 293; numerous illustrations; £14.95.) London: Baillière Tindall. 1985.

The radical changes in the medical curriculum over the last two decades have led to widely differing lengths of time being devoted to the various aspects of anatomy in different medical schools and have made it very difficult to produce standard textbooks suitable for all courses. On a number of occasions many of us have been tempted to collate our lecture notes and produce a textbook for our own course. Faced with the actual task few have taken the final step. Professor FitzGerald thankfully has, and added this neuroanatomy text to his already successful embryology book.

The central nervous system is covered in similar detail to that in a number of other recent student neuroanatomy textbooks. The illustrations, all black and white, are well drawn but the addition of colour would help to clarify some of the more complicated. Where this book really scores is in its coverage of the peripheral nervous system which is dealt with at much greater length than usual in neuroanatomy books.

Every chapter is up-to-date and the author has miraculously succeeded in producing a textbook which is written clearly and concisely yet contains an amazing wealth of detail. It is very difficult to think of any neuroanatomical fact which a medical student or doctor would wish to know which is not included somewhere in this book. The clinical examples are relevant and add interest to the text. As a basic textbook it may be too detailed for the briefer neuroanatomy courses but even for these courses it would be invaluable as a reference book, particularly the parts which cover areas neglected in comparable books.

There are several good neuroanatomy textbooks now available for undergraduate use. This one ranks with the best of them and at £14.95 is excellent value for money. I should strongly recommend this book to undergraduate students of neuroanatomy and to postgraduates who wish an up-to-date, simple but comprehensive account of the subject.

R. R. STURROCK

Functional Vertebrate Morphology. Edited by MILTON HILDEBRAND, DENNIS M. BRAMBLE, KAREL F. LIEM and DAVID R. WAKE. (Pp. 430; many figures; £32.50.) London: Harvard University Press. 1985.

This is a splendid book and well worth its relatively high cost. It is aimed primarily towards more senior students reading for an honours degree in zoology or biological science, but it impinges significantly upon the interests of those reading basic medical science.

The volume is a compilation of eighteen contributions with a total of twenty one participating authors, their work having been coordinated by a team of four editors all of whom are, themselves, authors of articles.

In setting aside the classical approach to studies in comparative vertebrate morphology (these being covered in several high quality texts), the present volume gives a quite magnificent view of the work that has blossomed during the last twenty years and in which a functional approach to animal structure has been predominant. This work has, it is reasonably submitted "... brought renewed excitement to a previously declining field".

The first ten papers deal with various aspects of the biomechanics of locomotion, these predominantly reflecting the large amount of modern work in this area currently in progress. A single paper handles the comparative functional anatomy of respiration, while three contributions are devoted to food input and digestion. The two following papers deal with the special senses, but only a single contribution is directed towards the nervous system, and this to the neural control of locomotion. Possibly this choice is prudent in view of the considerable prominence properly given in the compendium to locomotor matters, and of the fact that an adequate comparative functional treatment of modern neurobiology and behaviour would almost need a further volume of comparable size.

The cohesion of the volume is, by any standards, and especially considering the number of authors involved, quite remarkable and in this and other respects, great credit reflects upon the editorial team. The presentation is of high quality, the numerous illustrations being invariably clear, always attractively tasteful and, in a number of instances, memorably outstanding.

But it is possibly in the concluding chapter that the true stature of the book is fully revealed. Here, and in contrast to what has repeatedly happened in so many newly emerging branches of biological science, there is no hint of over-enthusiastic authors believing that their field is supplanting its predecessors, but rather there is a refreshingly critical analysis of the way in which modern studies of comparative vertebrate morphology, so ably set out in the present volume, complement those of classical comparative studies.

In writing a modern text of this type, the introduction of an appreciable amount of mathematical analysis – some of a quite advanced nature – is unavoidable. Nevertheless (and here again, the greatest credit reflects upon the authors and editors) it is, as is pointed out in the preface, perfectly feasible to read and appreciate the text, even if the mathematical sections are omitted. It is manifest that many even advanced students will do just this. Equally, if their background permits, they will gain a great deal if the more formal analytical sections are worked through.

In the context of the basic medical sciences, any of the more interested preclinical medical students, and certainly those reading for an honours degree in anatomical science, who elect to dip into this volume – and especially into those parts dealing with locomotion – will find that their appreciation of human anatomy is significantly enhanced.

E. H. ASHTON

Human Sexual Dimorphism. Volume 24 of the Symposia of the Society for the Study of Human Biology. By J. GHESQUIERE, R. D. MARTIN and F. NEWCOMBE. (Pp. viii + 375; many figures; £24.) London: Taylor and Francis. 1985.

Analyses of natural selection in human populations have been a recurring theme in the Symposia of the Society for the Study of Human Biology ever since the inception of the series in the late 1950s. The present well produced and, by today's standard, not excessively priced volume, is the twenty fourth in the series, recording the proceedings of an international meeting held in April 1983 in the Catholic University of Leuven. It is a comprehensive and scholarly compendium dealing with the definition, morphogenesis and selective significance of sexual differences – principally, albeit not exclusively, in human groups.

The first group of papers, five in number, deals with the basic biological concept of sexual dimorphism and is introduced by a masterly overview of the field by L. A. Willner and R. D. Martin. This is followed by a series of comparative studies of the nature, extent and consequences of sexual dimorphism in subhuman Primates (including fossil Hominoidea) with some cross reference to other animal groups.

The second section of the volume comprises four papers and examines the embryonic emergence of sexual differentiation, while a third part, containing six contributions, examines the postnatal development of sexual dimorphism on a basis of comparative studies of various adult human groups and of human growth studies. Its expression in physiological as well as in morphological features is well highlighted in papers on, for instance, 'Sexual dimorphism in relation to the contractile properties of human muscle' together with 'Sex differences in anthropometric, endocrinological and behavioural traits in a group of Oxfordshire villages'.

The concluding section of the symposium (three papers) looks further into the biological basis of sexual contrasts and sets them into a wider context of the sociobiological (i.e. selective) environment.

The book is well edited and is presented in an economical although not unattractive format. It is a significant work of reference and one to which reference should be made, and made regularly, by workers and tutors in the basic medical and dental sciences. It is also a most worthy addition to the excellent series of symposia published by the Society for the Study of Human Biology.

E. H. ASHTON