

Book reviews

Foetus into Man: Physical Growth from Conception to Maturity. By J. M. Tanner. (Pp. 250; illustrated + tables. £7.95 hardback, £4.50 paperback.) Open Books: London. 1978.

To describe the physical growth and development of children in a manner that is stimulating to the biologist and the non-technical general reader alike, must have been a difficult undertaking but the author has succeeded magnificently. The subject matter is at the crossroads of many disciplines, thus requiring a broadly-based approach. There are chapters not only on fetal growth, sexual differentiation, the growth curve and puberty, but also on cellular mechanisms, tissue and organ growth, and the relevant endocrinology. However, there is total coherence, and several themes, including reference to Darwinian theory, recur throughout.

Perhaps the best chapter is that on the interaction of heredity and environment in the control of growth, for which data have been carefully selected and interestingly analysed, with emphasis on the problem of malnutrition. For paediatricians, the chapters on puberty, early and late maturation, and standards of normal growth, are of great practical importance; a clear outline of the normal variations of pubertal development is useful. I wondered if a more specific reference should have been made to the possible role of the pineal gland in the control of the onset of puberty, but it is inevitable that the more specialised reader will complain that a particular section was not expanded and that he will disagree with some points of interpretation. However, he will be educated by finding those concepts with which he is familiar set in a much wider context.

All readers will find themselves drawn from one chapter to the next by fascinating items of information which make the book so readable. For example—did you know that, in one study, shorter girls more often married men in manual jobs, that the correlation between dental and bone age at a given chronological age is only 0.4, that the shape of the human growth curve is shared only by other primates, and that boys in certain boarding schools

grew more poorly during term than in the holidays? In the closing chapters an outline is briefly given on some clinical growth disorders and, at considerable length, a 'do-it-yourself' kit is produced for parents, teachers, and health visitors to enable them to estimate the ultimate height of a child and to determine whether growth is normal. Once more the author attempts, for the best of reasons, to seduce us from the Gregorian to the Tannerian decimal calendar!

It is a short book of some 250 pages, tightly argued, lucidly written, comprehensively illustrated, and with an excellent bibliography. Professor Tanner, uniquely qualified to write such a book by the outstanding contributions he has made to the study of human growth and to child health, has produced an account which is compulsive reading for the paediatrician and which should be compulsory reading for the medical student.

D. A. PRICE

Human Growth: volume 1, Principles and Prenatal Growth; volume 2, Postnatal Growth. Edited by F. Falkner and J. M. Tanner. (Pp. 634 each volume; illustrated + tables. £24.75 each volume, hardback.) Baillière Tindall: London. 1979.

These are the first two volumes of a 3-volume comprehensive textbook about human growth from conception to adult life edited by 2 well-known authorities, one from each side of the Atlantic. Of the 21 chapters in vol. 1, 4 are about developmental biology including changes with age in biochemical constitution and the way the body handles drugs, 3 consider the methodology of growth studies, 4 are on the genetics of biochemical, intrauterine, and postnatal growth, and the rest are about aspects of intrauterine growth including the placenta. Vol. 2 is concerned with postnatal growth. It begins with chapters on cellular growth and on measuring techniques. These are followed by chapters on the pattern and control of growth before and during puberty, and a series on the growth of individual tissues including muscle, fat, bone, and teeth. Rather surprisingly the book ends

with 2 chapters [about low birthweight babies.

Each chapter is written by a different author, altogether in the three volumes over 60 from 10 countries. This leads to wide variations in style and aims; some chapters are very detailed reviews with many references—for example those on biochemical development and perinatal endocrinology—while others are less comprehensive; some present new information, but a few chapters are poor, unintelligible, or boring. Although variation is good, it is a pity that some chapters do not have a summary, that some subjects—for example the effect of smoking in pregnancy and the maternal deprivation syndrome—have slipped between chapters and almost disappeared, and that the index which is large is not more comprehensive. But the books are pleasing, of reasonable size, and well produced and illustrated. As a series of essays related to growth, they are fascinating and instructive. If you want to know why the newborn hippopotamus is larger than the newborn human baby, or the effects of swimming on bone age, or the male/female ratio for lean body mass, or thousands of other facts not easy to find elsewhere, these books will help.

But are they needed? The great interest in the biology of human growth during the last decade has led to a massive increase in knowledge and there is a place for such a scholarly and detailed review of the subject for the clinician and the scientist concerned with the growing human being. Unfortunately the importance of growth makes it a subject with long tentacles and a book like this that aims to be comprehensive must be huge and expensive, and will both overlap greatly with other books dealing with the basic science of childhood and be incomplete. Nevertheless this will be a useful reference book and at least deserves a place in university and paediatric departmental libraries.

The third volume is now available and shares the strengths and weaknesses of the other. It is devoted to neurobiology, with a wide ranging series of chapters on the development of the brain and the relationship between this and behaviour; the effects of variations of nutrition upon growth;