A number of Kramers's papers were published in not too accessible journals, but will now be readily available. Among those are his thesis, the paper on the Kramers-Kronig relations, and the papers on his renormalization theory (Como, 1937; Solvay, 1948). Indeed, the fact that modern mass- and charge-normalization procedures were anticipated by Kramers in his radiation theory of 1937 is only too little realized.

The papers are broadly arranged according to subject, and within each group chronologically. The first group contains the papers from Kramers's Copenhagen period on the quantum theory and later papers on quantum mechanics. It includes his paper in the *Philosophical Magazine* on X-ray absorption, the Kramers-Heisenberg paper, and the paper on the *W-K-B* method. It also includes his papers in the *Proceedings of the Amsterdam Academy* on the so-called symbolic method. The second group deals with paramagnetism and ferromagnetism. The last group is a mixed one. It includes his papers on quantum electrodynamics, the Kramers-Wannier paper on order-disorder, and the paper on charge conjugation in the Dirac hole theory.

It is impossible to do justice to this book in a short review. It shows better than any obituary could do the many-sidedness of Kramers's work as a physicist. Unfortunately, it was decided not to include Kramers's philosophical and popular papers. These show his wide understanding of the human aspects of physics. They are practically inaccessible, especially to those without a reading knowledge of Dutch, and a selection of them (in translation) would have been a very valuable addition. (His Leyden inaugural lecture, "Physicists as Stylists", was translated (*Naturwiss.*, 24, 297; 1935) and rewards the reader with a broad vista of physicists as human beings.)

His semi-popular book on early quantum mechanics, written in collaboration with Helge Holst, has long been available in many languages, and his text-book on the foundations of quantum mechanics is about to be published in an English translation, so that Kramers's complete works will now be readily available, apart from his popular papers.

D. TER HAAR

TRENDS IN ANATOMICAL TEACHING

Lehrbuch und Atlas der Anatomie des Menschen
Von Dr. Fr. Kopsch. In zwei bänden. Band 1:
Allgemeines, Skeletsystem, Muskelsystem, Gefäß-
system. Pp. viii + 736. 64.50 D.M. Band 2:
Eingeweide, Nervensystem, Sinnesorgane. Pp.
viii + 768. 64.50 D.M. Neunzehnte Auflage. (Stutt-
gart: Georg Thieme Verlag, 1955.)

THESE volumes have an interesting pedigree for the British reader. It was in 1870 that Carl Ernst Emil Hoffman prepared the first German edition of this work, which he based upon the seventh edition of Quain's "Anatomy". The Quain-Hoffman text was then, in 1892, taken in hand and revised by Dr. Rauber. The present editor, Prof. Fr. Kopsch, became responsible for the seventh edition in 1906, and has remained in charge of the work until this, the so-called nineteenth edition, so that he has had ample

time in which to impress upon it to the full his own anatomical personality.

Printed on good-quality art paper, the two volumes between them contain more than fifteen hundred pages. The type is clear, the binding is robust, and the format of the volumes as a whole is a pleasing one. The illustrations have been conceived and executed on a generous scale. Many of them occupy an entire page, and they appear to have been drawn with great care, though Figs. 528 and 529, showing the segmental areas of skin innervation, seem to be somewhat at variance with what is generally accepted in Britain.

Vol. 1 begins with a general section (pp. 1-100) and then continues with osteology, arthrology, myology and angiology; Vol. 2 deals with splanchnology, the nervous system and the sense organs. The general section gives an account of the basic properties of the cell, and a description of the different cell types—including an estimate of 8 billion as the total number of cells in the human adult (excluding the blood cells). This section also includes a description of the body as a whole, a brief consideration of body build, various body measurements and an account of anatomical terms. In addition to the general histology contained in this section, the special histology of the various organs, beautifully illustrated, is given throughout the text together with the gross anatomy.

A review of an anatomical text-book is an appropriate occasion for recalling that anatomy is one of the oldest of the scientific disciplines, and that the publication in 1543 of the "De Corporis Humani Fabrica" of Andreas Vesalius was one of the great landmarks in the history of modern science. During the centuries which followed, anatomy has had its ups and downs, periods of stagnation alternating with periods of progress.

Towards the end of the nineteenth century, when the young and vigorous sister science of physiology broke away to enter upon a period of rapid expansion, most anatomists devoted their attention to the study of form, as opposed to function. But even when the study of anatomy was confined almost exclusively to the dead body, the boundary between these two facets of biology was never perfectly clear-cut, and in recent years has become blurred to an increasing extent. There has been an anatomical revival, which has steadily been gaining momentum, based on a variety of new techniques for the study of the living organism and its component tissues. As a result of this development, the fields of anatomical and physiological studies have tended to overlap more and more.

However, not all anatomists have welcomed the newer developments with the same degree of enthusiasm, or thought it necessary to incorporate them into anatomical teaching to quite the same extent. Prof. Kopsch takes care to emphasize in the preface that he is adhering in the main to well-tried morphological methods of presentation, and is concerned with form rather than function. But the changes in form which occur during life can only be studied intelligently against a background of function, and if one is too resolute in the avoidance of functional considerations, one is bound to lose much valuable information in the field of living morphology. Thus, to give but one example, there is no reference in the present work to cholecystography.

Subject to considerations of this nature, and within the author's self-imposed limitations, these volumes constitute an impressive tribute to the deservedly high standing of Prof. Kopsch in the anatomical world.

J. M. YOFFEY