cult because of the fragmentary nature of the mass of intricate detail and the lack of co-ordinating principles. At the present moment the science is in a transitional state growing out of the rapid elaboration of functional units in morphology, and the reformulation of old static anatomical elements in terms of these units must necessarily be a slow process. But this reformulation is well under way and the renaissance of comparative neurology has already come.

One should also bear in mind that in the preface of the first edition of his lectures Professor Edinger forewarned his readers that statements might sometimes be made in more dogmatic form than the facts at hand fully justify. No doubt too great advantage has at times been taken of this liberty. It is, however, true that this is one of the elements of Edinger's brilliant literary style which has had no small influence in popularizing the concepts of comparative neurology and emphasizing their great value to human neurologists. Because of the far-reaching influence which Edinger as a pioneer and notable exponent of the comparative point of view has exerted and will continue to exert I have chosen in this review to point out some of the imperfections of this book rather than to dwell exclusively on its obvious excellences, thus hoping to do a service to both reader and author, for Edinger's lectures will long continue to be, as they have been, a standard reference work for all neurologists.

C. Judson Herrick.

"HUMAN ANATOMY, INCLUDING STRUCTURE AND DEVELOPMENT AND PRACTICAL CONSIDERATIONS," by Thomas Dwight, Carl A. Hamann, J. Playfair McMurrich, George A. Piersol and J. William White. With 1734 illustrations, of which 1522 are original and largely from dissections by John C. Heisler. Edited by George A. Piersol. Philadelphia and London: J. B. Lippincott Company, 1907. Price, \$7.50. 2088 pages.

In this, the first complete text-book of human anatomy of any considerable importance written and produced in this country entirely by American authors, a distinct step in advance has been attained that must be gratifying to all American anatomists. We are no longer dependent upon England or Germany for a text-book of the first rank. Quain's Anatomy has been for many years the best standard work in English, and to equal or excel it is indeed a difficult task, yet we feel

that this new work approaches its excellence in many respects. Piersol's Anatomy is the only American work which covers the same ground as does the Quain, including descriptive anatomy, histology, embryology, neurology and practical anatomy. The two anatomies are of about the same length, the Piersol containing a few more pages. In general arrangement, however, they differ in that in Quain the embryology, histology, descriptive anatomy and practical considerations are in separate volumes, while in the Piersol these subjects are treated for the most part in the sections devoted to the various systems of the body, and the whole bound in one volume. There are certain advantages and disadvantages in this scheme, but it serves the purpose somewhat needed in this country of emphasizing the fact that the field of anatomy is not limited merely to the dissection of the human body. Students in embryology or histology, however, may find it rather inconvenient to carry about such a large book when using only a small part.

In reviewing a book of this size, some 2088 pages, the reviewer can scarcely be expected to read every page, much less attempt to indicate either all its virtues or defects. But during the past winter I have had frequent occasion to consult the text, which has proved excellent and concise, while its use by a number of my students to their entire satisfaction indicates that it will soon be widely and extensively used in this country.

The editor points out in his preface that three chief considerations were in mind in the preparation of the work. (1) "The presentation of the essential facts of human anatomy in its broadest sense by a descriptive text which while concise should be sufficiently comprehensive to include all that is necessary for a thorough understanding not only of the gross appearances and relations of the various parts of the human body, but also of their structure and development." In this he has been assisted by several distinguished American teachers. Dr. Thomas Dwight has written the description of the skeleton including, along with the various bones, the joints and ligaments, certain anthropological data and statistics of sex differences. Prof. Dwight's numerous osteological contributions render him especially suited to deal with this section, which is quite complete, covering some 350 pages of carefully prepared text and clear-cut illustrations. Professor Dwight has also contributed the account of the gastro-pulmonary system and of the accessory organs of nutrition.

Prof. J. Playfair McMurrich in his treatment of the muscular system has classified them upon a morphological basis; their embryological significance forming the guide for the arrangement in the following groups: I. The branchiomeric muscles arising from the mesoderm of the branchial arches, including (a) trigeminal, (b) the facial, and (c) the vago-accessory with the trapezius and sterno-mastoid muscles. II. The metameric muscles, divided into two main groups, the axial and appendicular. The inclusion of the orbital muscles with the metameric axial musculature has not at present sufficient embryological support nor is there direct evidence that the hypoglossal musculature is metameric in origin. This classification is the most logical and satisfactory for a systematic text. The blood- and lymph-vascular systems were written by the same author.

Prof. Carl A. Hamann contributed the account of the cerebro-spinal nerves and sympathetic system. Dr. George A. Piersol has written the introduction, the histological and embryological paragraphs, as well as the account of the central nervous system.

There is thus combined in this one carefully written volume sufficient histology, embryology, neurology and gross anatomy to carry the medical student through these subjects. It is quite remarkable that the publishers are able to sell the volume for \$7.50, which is less than one-half the cost of Quain's Anatomy. This very remarkable price will contribute much to the success of the book.

The second consideration, "adequate emphasis and explanation of the many and varied relations of anatomical details to the conditions claiming the attention of the physician and surgeon," has been adequately treated by Dr. J. William White, a surgeon and teacher of anatomy. The various sections dealing with these practical applications of anatomy are scattered in their appropriate places throughout the book and are both helpful and valuable to the student, diverting to a certain extent his attention to that side of anatomy with which he must become more familiar later on in his medical course.

The great number of original illustrations gives distinct character to the book. It must have been an enormous task to have executed such a large number of drawings, and one wonders if it would not have been better to have drawn more upon those already in existence, of which there are many of equal excellence. To one familiar with the wonderful illustrations in the atlases of Sobotta, Toldt and Spalteholz there is a feeling of disappointment that the figures in Piersol have not greater clearness and depth. This is possible even in text figures, and

that, too, without departing from faithful records of actual dissections. The details in many of the figures, especially at the periphery, are not carefully worked out and often are mere smudges, as in Figs. 506, 507, 570, 590, 598, 619, and many others. Again, in many of the figures illustrating the blood vessels the muscular and skeletal background lacks the clearness and detail to enable one easily to recognize the relations. The figures of the peripheral nerves are subject to even greater criticism. The diagrams of the plexuses and anastomoses are quite too crude, while the nerves in many of the more elaborate figures are so indistinct that often only by very close and careful attention can one identify the smaller branches (Figs. 1082, 1079, 1084, 1087, 1088, 1090, 1137, 1138, etc.), while the background and relations are often miserable. One depends greatly on figures when looking hastily for small points, and I have often found it necessary to turn to figures in other books, not because the views are not well chosen, but because the artist has often failed to draw with the eye of an anatomist.

The day has come, I think, when American anatomists can no longer neglect the BNA terminology. Its partial use in the last edition of Morris by McMurrich is a step in the right direction, but would have been more effective had it been used as completely as in Barker's translation of Spalteholz. The question of the Latin or of the English translation is perhaps unimportant, but as the BNA is international, it would seem advisable to adhere strictly to the Latin terms. The editor in his preface states that he gave very earnest consideration to the question of terminology, and concluded that the retention for the most part of the terms in use by the English-speaking anatomists and surgeons would best contribute to the usefulness of the book. Many of the BNA terms appear in the text as synonyms having a special type. The changes from our English terminology to the BNA are neither so great nor so numerous as to introduce much confusion, and as the BNA norm is used it would have added to the book had this terminology also been used throughout with the occasional use of the English synonym in parenthesis. The use of anterior for ventral and posterior for dorsal, for example, has led to much confusion and should be discarded.

We regret that more references to the literature have not been added. Such references are extremely valuable to the student, and as an introductory method into the literature serve as a distinct educational feature. The anatomy as a whole is a decided success, and the editor and his collaborators are to be congratulated for giving us a truly first-class text-book.

W. H. Lewis.