tiquity has grown into dozens of full volumes, hundreds of chapters and thousands of special papers, not to include the tens of thousands of ill-recorded scientific utterances and literal millions of press items. This vast literature is not easily summed; it must suffice to say that the evidence seems to establish the existence of man in Asia and Europe and northern Africa during later Tertiary times, and thus before the glacial periods of the Pleistocene; but that the earliest Americans lagged behind, coming in probably before all the ice-periods closed, possibly nearer the earlier than the latest. Despite the wealth of literature, there is a woeful dearth of definite knowledge concerning the date or dates of man's appearance in different lands—and herein lies another of the present problems of anthropology.

Such are some of the larger problems of anthropology, that youngest science whose field touches those of all the rest. The special problems are legion: those of general sort are at once problems of science and of statecraft, of the daily life and welfare of millions, of greatest good to the greatest number. Fortunately all are such as to be solved by the slow but sure processes of observation and generalization; and it is especially pleasing to see—and to say—that these scientific processes are more steadily and successfully under way now than ever before. W J McGee.

SCIENTIFIC BOOKS.

Post-mortem Pathology: A Manual of Post-mortem Examinations and the Interpretations to be drawn therefrom. A Practical Treatise for Students and Practitioners. By Henry W. Cattell, A.M., M.D. Second revised and enlarged edition. Philadelphia and London, J. B. Lippincott Co. 1905. Pp. xii + 551. Copiously illustrated.

Pathological anatomy as a control of clinical observation has formed, and to a large extent still forms, the main basis of our more exact knowledge of disease. After the study of human anatomy had revealed to them the parts into which the body is divided, it was a very natural curiosity which prompted medical men to examine after death the bodies of human beings who during life had manifested phenomena which deviated from the normal. Indeed, before the era of modern experimental inquiry developed in medicine, facts of normal and pathological physiology had for the most part to be reached through the combined results of clinical and post-mortem observation. The discovery of the seat of disease, it was believed, would be most helpful in leading to a knowledge of its cause; this idea was shared by Morgagni, the distinguished founder of the science of pathological anatomy, as is evidenced by the title of his chief treatise: *De sedibus et causis morborum per anatomen indagatis,* and it was believed in by the great pathological anatomists, like John Hunter, who followed him.

At first, post-mortem pathology confined itself largely to the determination of variations in the gross form, consistence, appearance and weight of the more conspicuous organs, but gradually this naked-eye study became extended in a methodical way to all parts of the cadaver until to-day the macroscopic side alone of a completely performed autopsy has assumed formidable proportions. The microscopic study of pathological anatomy received a great impetus in the first half of the last century through the activities of the so-called pathological-anatomical school in France, the representatives of which, including Cruveilhier, Chomel, Andral and Louis, maintained that one of the chief functions of the physician consists of a search for pathological-anatomical alterations and of the investigation of the local products of disease; this view exerted an extraordinary influence in transforming the methods and theories of medical men. The tendency was transplanted by the celebrated Rokitansky to Vienna, where it was further developed. It reached its acme, however, in the work of Virchow, who, passing from macroscopic studies to microscopic examinations and taking advantage of the histological discoveries which were being made,

founded the so-called 'cellular pathology,' which refers all vital process, including the phenomena of disease, and all alterations of the organs and tissues, to the activity of the cells of which the body is composed. Microscopic pathological anatomy has been enormously in vogue since the middle of the last century, and histological technique has gradually attained to a manifoldness and complexity which is nothing less than appalling.

Still another phase of post-mortem pathology appeared when the relation of certain micro-organisms to the infectious diseases began to be established. Following upon the discoveries of Pasteur and Koch, the methods of bacteriology were applied at autopsies and our knowledge of disease has, as every one knows, been notably forwarded through such application. American pathologists especially have insisted upon systematic routine bacteriological examinations at autopsies.

Finally, the chemical study of the organs and tissues at post-mortem examinations remains to be developed. Only the crudest of beginnings has been made thus far in this direction; the whole field is as yet practically unexploited. That the time is about ripe for its cultivation seems obvious to many; a German scientist, writing to a friend in this country the other day, made the prophecy: 'Der zweite Virchow wird ein pathologische Chemiker sein.'

Coincident with the expansion of the subject, the technique of post-mortem pathology grew in extent and complexity. Two or three main types of books have been published as guides thereto—small works like those of Virchow, Chiari and Nauwerck, large books like Orth's 'Pathologisch-anatomische Diagnostik,' and others of intermediate size such as Mallory and Wright's 'Pathological Technique.' The volume before us, by Dr. Cattell, is of about the same size as Orth's book, but the plan followed is somewhat different and the subjects dealt with are more numerous.

After certain introductory chapters on the general features of post-mortems, the order of examination, the keeping of records, the use of instruments, and the care of the hands, the author takes up the examination of the external surface of the body. Then follows the opening of the great cavities and the study of their contained organs, the examination of the nervous system, of the sense organs, and of the bones and joints. Intercalated between the description of methods of examination, the diseases which may be met with in the individual organs are described and the corresponding pathological changes referred to. The first seventeen chapters of the book are devoted to the above-mentioned portions of the subject. The accounts given, though brief, are clear, and on the whole commendable. Occasional slips are made, some of them, perhaps, due to compression, as, for example, the classification of osteitis deformans under acromegaly.

The post-mortem examination of the newborn is dealt with in chapter XVIII.; in chapter XIX. the making of restricted post-mortem examinations is discussed, and in chapter XX. the student is told how to restore and preserve the body. The mode of preparation of the tissues for macroscopic and microscopic purposes occupies a special chapter, as does the topic of bacteriological investigation. Comparative post-mortems receive especial attention; one whole chapter is devoted to medico-legal suggestions, and another to an account of the Prussian regulations for the performance of autopsies in medico-legal cases. Toward the end of the book the usual causes of death are classified, and their nomenclature, complications and synonyms successively taken up. The volume closes with twenty-four pages in italics of references to the literature of the subject.

It will be seen from the above statement that many phases of post-mortem pathology rarely dealt with extensively in text-books have been carefully considered by Dr. Cattell. The number of methods given for any particular procedure varies; in some instances only the method of examining an organ preferred by the author is described; in other cases, a whole series of different methods is outlined, *e. g.*, for the examination of the brain, where Virchow's, Meynert's (modified), Pitres', Dejerine's, Hamilton's and Giacomini's methods, are all separately described. The

different chapters are copiously illustrated, largely by means of half-tone reproductions or photographs of stages of actual autopsies. Indeed, the book is much more fully illustrated on the side of macroscopic technique than are most manuals; there are only a few pictures, however, representing anatomical lesions. The index is full and well-arranged.

The fact that a second edition has been called for within two years of initial publication indicates that the book has met a distinct need in the country. Several improvements over the first edition have been introduced, including the chapter on the bones and joints, and nearly thirty new illustrations. Important changes have also been made in various chapters during the revision. The parts of the book dealing with the more modern and refined methods for microscopic examination of the tissues might with advantage be expanded in another edition; room for this could be obtained, perhaps, by omission of some of the chapters on pathology proper, as the latter will be thought by some to be too long for a book on autopsy-making and yet they are not full enough to serve as a text-book of pathology. There are but few things connected with autopsies that will not be found mentioned in the volume. Some professors of pathology may be inclined to use smaller manuals in connection with their practical teaching, urging that more than Dr. Cattell thinks desirable should be left to the intelligence of the student; instructors who desire a full account of all the technical processes, helped out by a large number of good illustrations, will find what they want in this book.

The publishers, too, have done their work well. The volume is satisfactorily made and is attractive in appearance. It deserves, and will undoubtedly acquire, a wide distribution among American medical students.

Lewellys F. Barker.

Orchidaceæ: Illustrations and Studies of the Family Orchidaceæ, issuing from the Ames Botanical Laboratory, North Easton, Massachusetts. Fascicle I., by Oakes Ames, A.M. Boston and New York, Houghton, Mifflin & Co., The Riverside Press, Cambridge. 1905. Pp. viii + 156. Royal octavo.

From the preface we learn that the purpose of this work 'is to illustrate from type material, when possible, new or recently described orchid species, and species heretofore inadequately figured; to publish the original descriptions of all species so figured, with additional characterizations, full synonymy and geographical distribution; to furnish descriptions and descriptive lists of orchidaceous plants, which may prove useful in the study of regional floras; and to communicate the results of critical investigations among special genera.' This is certainly an ambitious undertaking, reminding us of a number of similar botanical projects undertaken during the last half-century, such as Gray's 'Genera' (1848–9); Gray's 'Forest Trees of North America' (begun in 1849, but never completed; published as a mere fragment in 1891, after the author's death); Goodale's 'Wild Flowers of America' (1879); Eaton's 'Ferns of North America' (1879–80); Sargent's 'Silva' (1891–1902) and Sargent's 'Trees and Shrubs' (1902–5). It is reassuring to know that the present undertaking is not dependent upon popular support, and that it is certain to have a reasonable permanence.

This fascicle includes descriptions and plates of five new and fourteen old species, a descriptive list of orchids collected in the Philippine Islands by United States Government botanists, a description and figure of a hitherto unrecorded orchid in the United States, and a paper entitled 'Contributions toward a Monograph of the American Species of Spiranthes.' We note with pleasure that all new descriptions are in Latin, as recommended several years ago by Professor Robinson as a corrective for the shocking illiteracy of some systematists. Following the Latin descriptions are somewhat more voluminous descriptions in English, followed by general notes, also in English. The plates are beautifully drawn, and illustrate the anatomical details with great clearness and fidelity.

The author shows a commendable conservatism in regard to specific distinctions, as is shown by the fact that he describes only five