Book Reviews

Traité de Zoologie: Anatomie, Systématique, Biologie: Échinodermes, Stomocordés, Procordés. (Tome XI.) Pierre-P. Grassé. (Ed.) P. Brien, M. Caullery, L. Cuénot, A. Dalcq, C. Dawydoff, P. Drach, H. Harant, and G. Waterlot. (Contribs.) Paris (VI): Masson et Cie., 1948. Pp. 1077. (Illustrated.) 3800 fr.

There is always a need, in every branch of science, for up-to-date, authoritative, and comprehensive summaries of knowledge. In the field of descriptive zoology the wealth of new information that was amassed at the turn of the century made the task of compiling such treatises a difficult one, because they frequently became outdated before they were finished. In recent years, since the majority of zoologists have turned their attention towards experimental studies, the time has been better suited to the preparation of such works, which may now be written with reasonable assurance that they will remain useful for many years before extensive revision becomes necessary.

The publication of Miss Hyman's *The invertebrates: protozoa through ctenophora* in 1940 was an event of importance. It was the first attempt in the English language to summarize the existing knowledge of the invertebrates since the unfinished work of Lankester some forty years before. The publication under review is of similar importance, and serves to replace and extend such works as Delage and Herouard's *Traité de zoologie concrète* (1896–1903).

Tome XI is the first of a total of seventeen volumes planned for the series, which will cover the entire animal kingdom. The eight contributors are well chosen for the sections assigned to them and are known for their original contributions to the groups of animals concerned. The entire work is to be shared among a distinguished body of about eighty authors.

Illustrations are adequate in number and in clarity, being, for the most part, original or redrawn from original sources. In spite of the difficulties inherent in this type of collaboration, the editor is to be congratulated upon the consistency of style, and the authors upon the clarity of language. It is a pity that the arrangement of material within each phylum varies somewhat with the different authors. The use of the word *Stomocordés* in place of *Hémicordés* is an example of several innovations that may not receive universal approval, but these minor criticisms are far outweighed by the general excellence of the book.

Further volumes due to appear in 1949 are Tome VI (Onychophores, Tardigrades, Arthropodes: généralités, Trilobitomorphes, Chélicérates), Tomes IX and X (Insectes) and Tome XII (Vertébrés: généralités). These and further volumes will be awaited with interest.

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Aviation medicine in its preventive aspects: an historical survey. John F. Fulton, London-New York: Oxford Univ. Press, 1948. Pp. viii + 174. (Illustrated.) $3.50.

A series of lectures delivered by the author at the London School of Hygiene and Tropical Medicine in 1947 provide the substance of this book. Dr. Fulton's long and intimate association with the field and his broad experience are reflected in the informative and authoritative contents. His scholarly style appeals alike to the initiate and to the layman.

The title is hardly specific. For aviation medicine has been, all along, a thoroughly practical branch of applied medicine and physiology and, as such, has always stressed the preventive aspects. The subtitle is more indicative of the subject matter. It is the author's labors in tracing the beginnings of aviation medicine back to Hooke, Boyle, Priestley, Lavoisier, Bert, and others of the 17th, 18th, and 19th centuries and even farther back, with accounts of early animal experiments and observations on humans in mountain climbing and balloon ascents, that will make the book particularly interesting and valuable to workers in the field.

The first three chapters are devoted to effects of abnormal barometric pressure—the first to anoxia, the second to effects of reduced pressure *per se* (bends, chokes), and the third to very rapid reductions of pressure (explosive decompression). The first two subjects are developed historically; the third was evidently not considered by early investigators. The rich opportunity for discussing preventive aspects, particularly in the first chapter, are not exploited, no mention being made, for example, of the long series of basic respiratory studies conducted in the U. S. Air Force laboratories that resulted in successful preventive techniques for altitudes to 40,000 feet and above. There is also no mention, except in the references, of the explosive decompression studies of Major H. M. Sweeney, whose name will always be associated prominently with this subject by his co-workers.

The fourth chapter gives a good, brief account of the physiological effect of acceleration. The important case of acceleration, too brief to produce displacement of blood (as in ejection seats, etc.), is not discussed. It is gratifying to note that the studies of RAF Wing Commander W. K. Stewart, which preceded all the U. S. centrifuge experiments, are given full recognition.

The fifth and final chapter is devoted to problems of crash injury.

In a dissertation which manages to have its say in a modest 170 pages, some omissions are unavoidable. By no means all of the important omissions, however, are alluded to in the preface, so that the uninitiated reader may receive a less than well-balanced impression of the subject. Of the three broad classical fields of investigation in aviation medicine—extremes of temperature, low