Annual Review of Physiology

Vol. 22. Edited by Victor E. Hall, in association with Frederick A. Fuhrman and Arthur C. Giese. Pp. viii+725. (Palo Alto, Calif.: Annual Reviews, Inc., 1960.) 7 dollars.

THE "Annual Review of Physiology" has appeared regularly since 1939. The new number is much like its predecessors: it provides a fairly complete, but not very critical, summary of the year's literature. There is an interesting prefatory chapter by Dr. Franklin D. McLean, who has seen great changes in physiology since he took his degree in 1910—the year when Abraham Flexner's report on medical education appeared. He has come in close contact with many famous men—A. J. Carlson, L. J. Henderson, Otto Loewi, A. E. Cohn, Baird Hastings and many others, and has done much to make medicine scientific.

The new volume contains a cumulative index of chapter titles for Volumes 11–22. Articles on the adrenal cortex, heart, peripheral circulation, digestive system, kidney, reproduction, respiration, and three or four articles on the nervous system appear each year. This year there are articles on the comparative physiology of muscle and blood pigments and there are articles on nuclear function, genetics, the alimentary tract, vision, and the thyroid. There are no more reviews of Russian physiology.

The preface directs especial attention to the article on the regulation of volume of the blood by E. B. Reeve, T. H. Allen and J. E. Roberts of Colorado. In this article, quantities such as the rate of uptake of water from the gut, the rate of flow to and from the interstitial space, and the intracellular space are defined algebraically in terms of various symbols. The relations between these quantities are then expressed as formulæ. The precise definitions given facilitate the discussion of the experimental papers reviewed, and will help to clarify thought in a complex field. This is a new departure for annual reviews; it is a constructive article and will provoke thought and criticism. It is hoped that more such reviews will appear in later volumes. J. H. Gaddum

Ancient Mexico

An Introduction to the Pre-Hispanic Cultures. By Frederick A. Peterson. Pp. 313+24 plates. (London: George Allen and Unwin, Ltd., 1959.) 35*s*. net.

AN up-to-date account of Mexican archæology is badly needed, and this book goes some way towards meeting that need. The author clearly knows his material, and he has had the advantage of long residence in Mexico, but these very qualifications may be responsible for his writing in some places in a way which will be understood better by the specialist than by the general public to which the book is directed. Rather a serious drawback is the way in which its general arrangement and tone obscure the differences between the Classic and Post-Classic Periods, particularly the introduction of large-scale war and violence with the arrival of the Toltecs at the beginning of the Post-Classic.

There are a number of points of detail which could be criticized; however, most of these will affect the general reader but little. Two only will be noted here because they will increase the natural difficulty which that reader may be expected to find in grasping the essentials of the Maya calendar and numerical system. One is a statement that "all the day names come 5 days later in the following year"; what is meant is that the day name in the 260-day cycle of the first day of a 365-day year falls 5 days later in that list of names than that of the first day of the preceding 365-day year, so the result is that a given day name will be shifted backwards by 5 days, not forwards. The other is a misprint of 2259 against a Maya number 2258.

The publication of this book raised hopes that it might take the place of Vaillant's "Aztecs of Mexico", which is out-of-date in some respects though still very valuable in others. Although it is quite a useful work, by comparison with Vaillant's it is a dull production. G. H. S. Bushnell

Paper-Making Practice

By H. Hardman and E. J. Cole. Pp. xi+334. (Manchester: Manchester University Press, 1960.) 45*s*. net.

THOSE best qualified to write books on this subject seldom have the time or incentive to do so. This work was begun when the authors were lecturing at the Manchester College of Technology, and they have relied almost completely on the scientific literature and on machinery manufacturers' publications. It is therefore greatly to their credit that they have managed to assemble a remarkable amount of useful practical information, set out in simple language.

The book is a modified version of a series of articles which appeared in a trade journal, and it presupposes a fairly considerable knowledge of pulp and paper manufacture. Unfortunately, it is marred by some serious defects. Thus, the treatment of the subject is extremely un-even (wood pulping receives 74 pages, but rag and esparto pulping, of principal interest in Britain, are omitted); it is not particularly up to date (for example, in respect of methods of stock preparation, continuous pulping, fines removal, wire and felt construction); and of the approximately 110 literature references only two are subsequent to 1955. There are no index, no link-up between the body of the book and the bibliography, and no references to text-books (not even to "Clapperton"); and the text itself sorely needs editing.

Nevertheless, the book can profitably be read by the students and paper makers to whom it is addressed, and I hope that it will soon reach a second edition, when the above defects can be remedied and its value thereby greatly enhanced. J. Grant

Biographical Memoirs of the National Academy of Sciences of the United States of America

Vol. 34. Pp. vii+368+15 plates. (New York: Columbia University Press; London: Oxford University Press, 1960. Published for the National Academy of Sciences of the United States of America.) 40*s*. net.

WITH the exception of those of J. U. Nef (1915), L. V. Pirsson (1919) and L. B. Stillwell (1941) all the subjects of these memoirs died within the last decade, and most within the last three years. The memoirs are characterized by the high standard which has come to be associated with this series, and they will be valued also for the comprehensive bibliography which accompanies each memoir. Apart from those names already mentioned, those best known to British scientists are probably W. E. Bachman, R. A. Daly, C. F. Kettering, M. S. Kharasch, O. Meyerhof and W. R. Whitney.