

A contribution more limited in scope, tauter and more incisive in argument, would have served the purpose better.

The author's style betrays a certain trans-Atlantic homeliness that may cause some elevation of English eyebrows. Thus the reader is urged to "get acquainted with gravitation" much in the same way as he might be advised in other quarters to make friends and influence people. It may also be surmised that the prevailing emphasis upon "outgoing human tendencies" owes more to American culture than to the scientific study of man.

It is encouraging to note that Prof. Woodworth retains something of his interest in the European scene. Although ethology appears to have escaped him, British work in experimental psychology is exceptionally well represented. O. L. ZANGWILL

## NUCLEAR ENERGY AND ANALYSIS

### Analytical Chemistry

Vol. 1. Edited by M. T. Kelley. (Progress in Nuclear Energy, Series 9.) Pp. vi+372+xii. (London and New York: Pergamon Press, 1959.) 105s. net.

THIS volume consists of a collection of some of the papers of interest to analytical chemists which were presented at the Second International Conference on the Peaceful Uses of Atomic Energy held at Geneva in 1958. These papers have already been made available in Vols. 3, 19 and 28 of the records of the Conference published by the United Nations, and this new book simply presents the material in a single volume of a more convenient size. The papers have been arranged in five groups as follows: "Reactor Applications", "Activation Analysis", "Spectrographic Technique", "Industrial Applications", and "Health Physics". All papers are in English with the exception of two which are in French. The reason for not publishing a complete volume in English is not clear, especially since these two papers are available in English in the United Nations publications.

The first group of papers contains one giving the Harwell experiences in analytical chemistry work connected with reactors. Two excellent review papers are also included, one dealing with most aspects of the analytical chemistry of thorium and the other on chemical methods for the determination of uranium in ores and associated materials. In the activation analysis section, much information is given about Canadian and United States experiences with this valuable technique for trace determinations, especially when used in conjunction with  $\gamma$ -spectrometry. A notable omission from this section is the excellent paper by Smales and co-workers reporting British experiences with this technique; this paper is available in Vol. 2 of the United Nations publications.

Other papers of note in the remaining sections deal with the use of infra-red spectroscopy for determinations connected with the use of heavy water in atomic energy work, and the use of non-destructive X-ray spectroscopy for the analysis of reactor fuel components. Fassel's spectrographic method for the determination of gases in metals is also described. In the section on "Industrial Applications", developments in the analytical services given to the programmes of the Industrial Groups of the U.K. Atomic Energy Authority are described. Other papers deal with the use of radioisotopes in Japanese

industry and the determination of tungsten in steels by employing the back-scattering of  $\beta$ -particles.

The editing of this book could have been better and the index should have been more detailed. A price of 5 guineas for a book of this type is very high.

G. W. C. MILNER

## NORTH AMERICAN MAMMALS

### The Mammals of North America

By Prof. E. Raymond Hall and Dr. Keith R. Kelson. Vol. 1: Pp. xxx+1-546+79. Vol. 2: Pp. viii+547-1083+79. (New York: The Ronald Press Company, 1959.) 35 dollars the set.

THE North American continent has a rich mammal fauna (995 species according to this compilation), and it has also a relatively high population density of mammalogists, among whom Prof. E. Raymond Hall is one of the best known. With Dr. K. R. Kelson, he has completed the enormous task of bringing together the most up-to-date facts and opinions about the taxonomy and distribution of North American mammals in an excellent production.

The costs of preparing the manuscript, with its 500 maps, 553 figures, and numerous line drawings, must have been high, even by New World standards. The completed work is a monument, not only to Prof. Hall's ability as a mammalogist, but also to his talent for raising funds from official sources.

Prof. Hall's attitude to the law of priority in nomenclature is regarded by some people as admirable, and by others as intransigent. It is certain that the vast majority of zoologists will regret his following Hershkovitz in calling the Virginian deer *Dama*, in the face of the request by the International Commission on Zoological Nomenclature to 'freeze' the situation pending its decision. If the change is accepted (and here we find it in what will be a standard work for generations), it means that the European fallow deer, known to all as *Dama*, must be called *Odocoileus*. The Commission will most probably decide to use its plenary powers to preserve stability in this instance. Likewise, the Commission is considering the question of the availability of Oken, 1815-16, "Lehrbuch der Naturgeschichte", and Morrison-Scott has asked it to validate, among others, the well-used names *Citellus*, *Vulpes*, *Panthera* and *Pan*. Hall and Kelson have rejected Oken while the matter is still, so to speak, *sub judice*, and have made some regrettable changes.

One is surprised to find Merriam's 78 species of bears still recognized, but this directs attention to the fact that the authors have not attempted to revise questions of status, but have put forward the views of the most recent workers on a group, even when those views are patently unsound. Many changes in taxonomic status will occur, and many subspecies recognized here will disappear, but here they are, all clearly listed, and it is far preferable to summarily dismissing them as synonyms without explanation.

Everyone will be able to find something to disagree with in such a large work as this, but on the whole the work will be welcomed by every worker on North American mammals. It is essentially for the professional, and outside the United States will have limited sales, but purchase by every university is obligatory. For zoologists in other countries the distribution maps alone are worth the price.

PETER CROWCROFT