

Machines atomiques

Cyclotron et autres accélérateurs, piles atomiques. Par Dr. Maurice E. Nahmias. Édition remaniée et complétée de l'ouvrage 'Le cyclotron' (1945). Pp. 310+28 plates. (Paris: Éditions de la *Revue d'optique théorique et instrumentale*, 1950.) 1200 francs,

FEW books have been written for the relatively small public wishing to read at length about accelerating machines, and very few indeed have been really satisfactory. In "Machines Atomiques" Dr. M. E. Nahmias has failed to strike a proper balance between over-elaboration of technical detail, on one hand, and adequate explanation and description, on the other. The book is a new edition of "Le cyclotron" (1945), slightly modified and with additional chapters on the newer machines and on chain-reacting piles. About one-half of the space is used in a repetition of the earlier book, and includes a considerable amount of technical detail which can scarcely be of great interest to any but would-be specialists in work with conventional cyclotrons—a fraternity which has always been small and is tending to diminish. In contrast, the newer accelerators are rather sketchily treated, and there are some serious omissions—particularly in the treatment of linear electron accelerators.

There are some inaccuracies: a list of cyclotrons includes at least two which do not exist, while several important installations are not mentioned.

The book is well illustrated and contains much useful information; but on the whole it is less satisfactory than its predecessor. In 1945 the original edition gave a reasonable survey of the technology and applications of cyclotrons as they were at that time; but it would be better, five years later, to omit or to prune drastically the chapters on conventional cyclotrons, to expand the chapters on other machines, and especially to expand the bibliography.

T. G. PICKAVANCE

Colloques Internationaux du Centre National de la Recherche scientifique, 5

Échanges isotopiques et structure moléculaire, Paris, Avril 1948. Pp. iv+109. (Paris: Centre National de la Recherche scientifique, 1949.) 700 francs; 15s.

THIS valuable volume of international discussions issued by the Centre National is a collection of contributions from some of the best scientific workers in this field, of which the names of C. A. Coulson, C. C. Evans, M. Haissinsky, G. Hevesy, C. K. Ingold, F. A. Paneth and L. Pauling—to give only a few—have a familiar ring. As the title indicates, the discussions deal mainly with the application of isotopic exchange reactions to the study of molecular structure, and with other fields more or less related to this topic. They have already been reviewed in considerable detail (see *Nature*, 161, 901; 1948) and little can be added to this.

But it may be worth while to direct attention, in a general way, to the great advantage of publishing in one volume collections of contemporary scientific papers on one or two closely related subjects. They give the reader who may not necessarily be a specialist in this field a much closer insight into the subject by showing up both the similarities and differences of present-day opinion, and thereby give rise to that process of speculative combination which very often is the starting point for research in new directions. "The sum of the parts is not the whole," said a Chinese philosopher 2,500 years ago; and

indeed, as is recognized in the increasing popularity of international discussions on well-defined fields of science, the value attributed to a symposium as a whole exceeds that of the sum of similar papers printed in different journals at different times.

E. GLUECKAUF

Counting Tubes

Theory and Applications. By Dr. S. C. Curran and Dr. J. D. Craggs. (Laboratory Technique Monograph.) Pp. xi+238. (London: Butterworths Scientific Publications, Ltd., 1949.) 35s.

RADIOACTIVE measurements are finding ever-widening fields of application, and the counting tube, particularly the Geiger counter, has become an article of almost household utility. Parallel with this, recent years have brought many contributions to the understanding of the mechanism of action of counting tubes, and a need was therefore felt for an authoritative book on the theory and applications of detecting devices for the general reader who is unable to follow the numerous papers on the subject in periodicals.

Among the several monographs which have appeared recently, this book by Drs. S. C. Curran and J. D. Craggs comes perhaps nearest to meeting this need, although its emphasis is definitely on the theoretical aspect. The main subject is the Geiger-Müller counter, which is treated thoroughly, beginning with a general introduction on the theory of discharges and ionization in gases, and leading to a detailed theory of 'slow' and 'fast' counters. The associated electrical circuits and the efficiency of counters are also extensively discussed. The actual construction of counters is dealt with in one chapter; but a large part of the book is devoted to their uses, both for scientific research and in technical applications.

The main shortcoming is the sketchy treatment of scintillation counters, which are developing very rapidly and are beginning to replace the Geiger counters; but this is scarcely the authors' fault, since the book was written some time ago. A second edition of this valuable book should remedy this, and also the few minor but irritating misprints.

J. ROTBLAT

Identification of Snakes of the Gold Coast

By Frank Leeson. (Published on behalf of the Government of the Gold Coast.) Pp. x+142+33 plates. (London: Crown Agents for the Colonies, 1950.) 18s. net.

THIS guide to the snakes of the Gold Coast and its nearby territories has been published on behalf of the Government of the Gold Coast with the object of helping resident collectors and medical officers to determine poisonous species. The descriptions are based mainly on preserved material in the Medical Research Institute at Korle-Bu, Accra, and Achimota College.

Special attention is directed to the identification of snakes by the use of plates and scales, and "specific lepidosis" is summarized in a series of indexes. It is doubtful whether these tables could be followed by anyone without an expert knowledge of the subject, and in any event they are so artificial that snakes not only of different genera, but also of different families, are brought into the same sections. The author states that coloration and colour patterns have lost status in the specific sense, and yet provides numerous plates with crude illustrations of the heads