

International Commission for Uniform Methods of Sugar Analysis

Report of the Proceedings of the Twelfth Session held at the National Bureau of Standards and at the Shoreham Hotel, Washington, D.C., U.S.A., from June 2nd to June 6th, 1958. Pp. vii+130. (Keston, Kent: International Commission for Uniform Methods of Sugar Analysis, Tate and Lyle Research Laboratories, New York: Sugar Research Foundation, Inc., 52 Wall Street, 1959.) 25s.; 3.50 dollars.

THE twelfth session of the International Commission for Uniform Methods of Sugar Analysis was held in Washington, D.C., in June 1958.

Its proceedings, which have now been published, contain detailed papers and discussions concerning some twenty-six problems which are primarily of special interest to those concerned with technical aspects of the sugar industry. The subjects for discussion included, among many others, such matters as the determination of sucrose and reducing sugars in molasses, the inorganic and organic constituents of raw sugars and sugar products, and factors causing deterioration of raw and refined sugars in storage and during transport. In each instance the problem had been referred to a group of experts from the various countries concerned. Their reports and recommendations for analytical methods are printed with full details of the experimental procedures. A verbatim account of the discussion which followed the presentation of each report is then given and finally the decisions of the Commission are recorded.

In some cases the referees' recommendations have been accepted only for guidance by analysts, no final decision being taken. It will be evident that this volume will be of interest mainly to professional analysts; but the methods described may be of great use also to investigators who have to deal with any aspects of carbohydrate chemistry which involve the separation and quantitative analysis of sugars.

E. L. HIRST

Precipitation Processes in Steels

Report of a Conference held in the University of Sheffield, 2-4 July, 1958, and organized by the Department of Metallurgy. (Special Report No. 64.) Pp. xiv+322. (London: Iron and Steel Institute, 1959.) 84s.

THIS account of a conference organized by the Department of Metallurgy of the University of Sheffield in July 1958 has been deemed of such interest by the Iron and Steel Institute as to justify its being published as a special report. With this opinion one must heartily concur. Twenty-one papers were contributed, grouped around the general themes of precipitation in ferritic and austenitic steels respectively, intergranular fracture and precipitation during creep. Such precipitation processes in alloy steels are obviously of the greatest practical importance and of very much theoretical interest; the time was ripe for such a discussion, and Prof. A. G. Quarrell, who appears to have initiated it, has clearly performed a most valuable service.

The quality of the contributions is high, a great deal of first-rate original work is included, and it is outside the bounds of possibility to review this in short space. One aspect of these papers, however, is outstandingly evident in the profuse use of electron-micrographs. After getting off to a slowish start in metallographic investigations, this technique has now established itself as an essential tool in this

field. Where all is so good, it is quite unfair of a reviewer to single out for special mention the papers concerned with intergranular fracture in steel, but these four contributions, one from France and one from Sweden, go far to clarify a most important and elusive phenomenon.

This is a publication which it would not be easy to welcome in too high terms. F. C. THOMPSON

Health Physics Instrumentation

By John S. Handloser. (International Series of Monographs on Nuclear Energy. Division 5: Health Physics, Vol. 1.) Pp. x+182. (London and New York: Pergamon Press, 1959.) 42s. net.

THIS book is primarily designed for those familiar with the basic physics of radiation detection who now wish to make measurements for radiation control purposes.

The commercial instruments discussed and the laboratory practices described are those currently used in the United States. This does not detract from the value of the book to users in other countries, as the writer in the chapters on portable survey instruments, fixed monitors and neutron monitors gives the basic principles used, and then describes the way in which they have been applied and developed by different instrument designers. The writer thus describes briefly the range of techniques and instruments used for the measurement of neutrons, γ - and β -radiation and leaves the reader to judge which method is most suitable for his problem. In all chapters the brief details are supported by adequate references.

The techniques described cover the range of energies from tens of kilovolts to tens of megavolts. There is no discussion of the measurement of radiation from the highest-energy accelerators as the writer considers that health physics instrumentation in this field is still a research problem.

Chapters are also devoted to counting rooms and their equipment, calibration techniques and miscellaneous instrumentation, and an introduction which discusses units of measurement and acceptable limits of exposure.

The book is a useful introduction to health physics instrumentation for those entering the field and is also interesting reading for those concerned with radiation measurement for protection purposes.

B. S. SMITH

A Manual of Practical Vertebrate Morphology

By J. T. Saunders and S. M. Manton. Third edition. Pp. viii+272. (London: Oxford University Press, 1959.) 30s. net.

"THE aim of this Manual is to provide the student with an accurate description of the anatomy of certain vertebrate types which are dissected in an elementary course of Zoology." Since 1931, when the first edition appeared, it is clear that this aim has been well justified. In the second edition (1949) there was a welcome addition of six chapters dealing with the dissection of certain muscle systems in the rat, pigeon, frog and fishes. Until this third edition, however, there has been no guide to the general dissection of a mammal. The new chapter on the rat has been prepared by Dr. M. E. Brown and Dr. S. M. Manton. There is little that I need add, for 'Saunders and Manton' needs no introduction to classes studying vertebrate morphology.

N. B. MARSHALL