Treatise on Analytical Chemistry

Edited by I. M. Kolthoff and Philip J. Elving, with the assistance of Ernest B. Sandell. Part 1: Theory and Practice, Vol. 5. Pp. xx+2707–3345. (New York and London: Interscience Publishers, a Division of John Wiley and Sons, 1964.) 120*s*.

FOR the analytical chemist this volume provides an admirable addition to the literature on applied analysis. It maintains the high standard set by its predecessors and few criticisms can be made of it. Its pages include a wealth of information, and the extensive use of diagrams and photographs adds considerably to its interest and usefulness.

One small criticism is that in a total of 639 pages the volume attempts to cover the fundamentals of the theory and practice of optical analytical methods. Optical methods (42 pages, 49 references), fundamentals of spectrophotometry (45 pages, 158 references), spectroscopy (32 pages, 49 references), light scattering (31 pages, 85 references), colour (64 pages, 148 references), ultra-violet and visible spectrophotometry (108 pages, 134 references), fluorimetry (17 pages, 157 references), X-ray methods (92 pages, 34 references), electron probe microanalysis (56 pages, 72 references), microwave spectrophotometry (54 pages, 55 references) and nephelometry and turbidimetry (34 pages, 160 references) are all dealt with in this single volume. It is therefore in danger of being a little sketchy in places. Notwithstanding, the book is packed with practical information of interest to the uninitiated and of value to the specialist, and since the apparatus for many of these techniques is rapidly becoming an everyday tool in all analytical laboratories the book is a 'must' for all libraries attached to such departments. J. Thomson

Constantes Sélectionnées

Rendements Radiolytiques. Par R. Bensasson, A. Bernas, M. Bodard, L. Bouby, M. Cottin, M. Duflo, F. Kieffer, A. Koulkès, N. Leray, J. Pucheault et C. Vermeil. Établi sous la direction de M. Haissinsky et M. Magat. (Tables de Constantes et Données Numériques: Organisme Affilié de l'Union Internationale de Chimie Pure et Appliquée, 13.) Pp. 217. (London and New York: Pergamon Press, 1963.) 168*s*. net.

THE editorial activities of Profs. M. Haissinsky and M. Magat, which led to the publication of authoritative reviews of rapidly developing areas in book form, have contributed much to increased interest in and understanding of the rapid post-War development of radiation chemistry. The appearance of the *Constantes Sélectionnées* is the culmination of a particularly ambitious, further project—a complete tabulation of the numerical data pertaining to radiation yields, culled from publications in the period from 1905 to the end of 1960. This has required the sustained, critical effort of a team of eleven co-workers. The result will be welcomed by everyone interested in the chemical effects of ionizing radiation.

The recorded information consists mainly of reactant-disappearance or stable-product-formation yields, each entry being accompanied by a succinct statement of the experimental conditions relevant to the figures quoted. For a particular system, concordant information from several laboratories is presented as a single entry accompanied by full references. Where major discrepancies exist, each contribution is given separate entry. This is a very valuable feature of the presentation. Apart from a succinct and limited statement of the yields of primary radiolytic species from liquid water, derived values of primary yields are not tabulated.

In a total of 178 pages, 77 are concerned with water and dilute aqueous solutions, 34 with hydrocarbons and 16 with high polymers. Five pages only are needed for inorganic gases and vapours, two for inorganic solids and the space devoted to many types of organic compounds is similarly limited. It is to be hoped that the appearance of this volume will encourage much increased investigation in such areas, where real understanding of the significant mechanisms is most inadequate. A more intensive investigation of mixtures is probably needed if any real progress is to be made in the practical application of radiation sources for preparative purposes.

Frequent reference over a period of months, and numerous tests suggested by one's own past experience, show that the compilation stands up extremely well with regard both to completeness and accuracy. The small print is very clear: six pages of introductory matter and four appendixes make surprisingly easy the rapid use of the contained information. The long interval between 1960 and the date of publication is regrettable, as is the high price. The subject has developed markedly in the intervening years. W. Wild

Theory of Difference Schemes

An Introduction. By S. K. Godunov and V. S. Ryabenki. Translated by E. Godfredsen. Pp. xii+289. (Amsterdam: North-Holland Publishing Company, 1964.) 60*s*.

MANY methods for the numerical solution of differential equations depend on replacing an ordinary or partial derivative by a difference quotient, thus arriving at a system of difference equations. The behaviour of the approximation may depend on the nature of the equation and the size of the quotient interval. Questions of convergence and stability of approximation may easily be vital to the utility of the process. *Theory of Difference Schemes* deals with the theory of such methods; it is not a text on numerical analysis, but an account of some of the ideas on which popular methods of numerical analysis are based. Concepts are brought in gently, often in special instances before full generality is attempted. After some elementary examples, the concepts of approximation and stability are precisely defined, and then applied to partial differential equations; the authors remind the reader that it is not enough to set up a system of equations, it may be necessary to solve the system, but they expect the reader to supply a lot of pencil and paper work for himself. In the final sections, stability for equations describing non-steady processes is discussed, requiring a little knowledge of general operators and spectral theory. Those interested in the theory rather than the practice of numerical analysis will find the volume in the main text, in the annotated bibliography, and in the appendixes on special problems, a useful item for the shelf. T. A. A. Broadbent

Candida albicans

By H. I. Winner and Rosalinde Hurley. Pp. ix+306. (London: J. and A. Churchill, Ltd., 1964.) 60s.

DURING the past decade there has been an almost world-wide increase in human disease caused by the yeast *Candida albicans*. It has stimulated a great deal of clinical interest and investigative work by internists, dermatologists, microbiologists and morbid anatomists. Dr. Winner and Dr. Hurley have both made active contributions to our recently extended knowledge of the pathogenicity of the organism. Their book is essentially a reference source which covers most of the literature pertaining to almost all aspects of *Candida albicans*. The authors admit that some papers have not been included, and refer to Kashkin's important work (in Russian) which was not available to them.

Following a text of 213 pages there are 92 pages of references. Because of the numerous references the text is not easy to read, and in places one may find it insufficiently informative in detail. There is little attempt to digest and critically analyse the vast literature. The book does not claim to be encyclopaedic, but is a reference guide to the original papers and reviews of the subject. In this objective the authors have been successful and are to be congratulated. C. D. Calnan

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