

Advanced Five-Figure Mathematical Tables

By C. Attwood. Pp. v+69. (London: Macmillan and Co., Ltd., 1951.) 4s. 6d. net.

THIS book is intended as a continuation of the same author's "Practical Five-Figure Mathematical Tables", published in 1948. The collection of tables provided, however, is complete in itself, but the material might well seem strange to anyone unacquainted with the more elementary volume.

The trigonometrical tables are expressed in decimals of a degree, rather than in the usual intervals of six minutes, and an alternative set is also available with arguments in radians. As before, with emphasis on interpolation, small-interval tables have been supplied for the critical ranges, where the method of mean proportional parts is no longer adequate.

The tables of hyperbolic functions, which follow, include the hyperbolic tangent, not normally featured in books of this kind. Very detailed exponential tables for both positive and negative arguments between 0 and ± 7.5 (which incidentally render the presence of logarithm tables unnecessary) are followed by tables of the factorial function for intervals of 0.001 in the range from 0 to 1. In these, the author uses the symbol $x!$, instead of the more classical

$\Gamma(x+1)$, for $\int_0^{\infty} e^{-t} t^x dt$, with consequent minor modi-

fications in the recurrence formula.

The final tables should prove most useful, containing as they do complete elliptic integrals of both kinds (with k^2 as argument) and ordinates and areas of the normal probability curve. In conclusion, a very comprehensive set of explanatory notes and formulae, together with several numerical examples illustrating the correct use of the tables, serve to complete a book which is well produced and clearly printed.

J. H. PEARCE

Selective Toxicity with Special Reference to Chemotherapy

By Prof. Adrien Albert. (Methuen's Monographs on Biochemical Subjects.) Pp. xii+228+5 plates. (London: Methuen and Co., Ltd.; New York: John Wiley and Sons, Inc., 1951.) 7s. 6d. net.

MESSRS. METHUEN'S "Monographs on Physical Subjects" have long provided the student of moderate means with authoritative and modestly priced treatments of subjects not generally well covered by the orthodox text-books, and it is gratifying to know that similar provision is now being made in biochemistry. It is significant of the progress made by biochemistry in recent years that what might have been the first in the new series, namely, the late Dr. N. U. Meldrum's "Cellular Physiology", actually appeared in a series of monographs on biological subjects, and the publication of a series of monographs on biochemical subjects is a fitting tribute to the mature status to which biochemistry has now attained.

In this volume, based on a series of lectures delivered at University College, London, in 1949, students of biology and chemistry, coming fresh from their respective trainings in fundamental science to the hybrid subject of selective toxicity, will find much food for thought. While the choice of material in places emphasizes Prof. Adrien Albert's personal research interests and points of view, illustrations are drawn from a wide range of fields as far removed from each other as selective herbicides and local

anæsthetics. After defining selective toxicity and describing applications, Prof. Albert discusses physico-chemical aspects with reference to drug-receptor interactions, the role of ionization in the acridine antiseptics, chelation and trace metals. Chemotherapy is then reviewed, and various pharmacological themes are adumbrated in the closing chapter.

Chemical Indicators

By Prof. O. Tomiček. Translated by A. R. Weir. Pp. x+258. (London: Butterworths Scientific Publications, Ltd., 1951.) 21s.

THE subject of chemical indicators is of interest to many workers in the fields of pure and applied chemistry and biology, and, since advances are steadily reported in all its branches, a modern treatment is always welcome. The present volume, by an authority in the field, should be valuable to many kinds of workers.

The treatment is modern, the general theory of acids and bases being used throughout, and the fundamental equations are clearly deduced and their use explained in such a way that they should be easily understood by non-specialists. This is an important feature, since a proper use of indicators depends on a knowledge of recent advances in the theory of electrolyte equilibria which are not easy to follow unless simply presented. The equations are illustrated by numerical examples, which aid in elucidating their meaning.

The book includes a full account of apparatus and experimental methods, is provided with useful tables, and is very complete, since it deals not only with acid-base indicators but also with oxidation-reduction indicators, adsorption indicators, and fluorescent indicators. Full references to the literature are given. In every way this is a most useful and attractive book, which may be warmly recommended.

Theoretical Aerodynamics

By Prof. L. M. Milne-Thomson. Second edition. Pp. xx+414. (London: Macmillan and Co., Ltd., 1952.) 40s. net.

A REVIEW of the first edition of this treatise appeared in *Nature* of May 8, 1948. The fact that a second edition has been called for so soon is evidence of public appreciation of the book and of the vitality of aeronautical science.

The second edition is substantially identical with the first, except for the very notable addition of a chapter, running to 51 pages, devoted to supersonic 'conical flows'. By a conical flow is meant one in which the velocity vector, pressure and temperature are all constant on each straight line through a fixed origin. Such flows lend themselves to theoretical treatment of a relatively simple nature and there are many useful applications, for example, to wings of 'delta' plan form which are now being used on some high-speed aircraft. The new chapter is a valuable and welcome addition to the book. Some eccentricities of nomenclature have been amended in this edition; but the treatment of the mechanics of flight and of stability remains as before and is too short to be adequate.

In spite of the substantial increase in the size of the book and of the notorious increase in costs in recent years, the price of the book has not been raised. The author and publisher are to be congratulated on producing a book which, from all points of view, is good value for money.

W. J. DUNCAN