Wherever calculations or physical instruments of any other than stereotyped classes are described, the mathematics is adequately discussed and the apparatus illustrated by clear annotated diagrams.

In the following chapters are detailed the properties and general features of a very complete range of elements and compounds important in industrial hygiene and toxicology or used in chemical warfare. Methods of detection and determination adequately dealt with in the text are followed in all cases by valuable information on "physiological response", a notable and welcome feature of the work.

This volume is far too detailed to be classed as a text-book. It is a work of reference which should find a place in the equipment of the chemsits and works managers of all factories carrying out hazardous industrial occupations and in the libraries of universities, medical men and those working in the field of public and factory hygiene.

The paper, printing and diagrams are excellent and the bibliography is comprehensive and up to date. Printer's errors are few and far between but a rather more comprehensive subject index would have been an improvement as the present one does not contain many of the trade names or symbols of important compounds or preparations mentioned in the text. In cases of multiple references, it would also be an advantage if the page on which the principal and most detailed information is to be found were printed, as is common practice, in bolder type.

This minor criticism can easily be dealt with in a reprint or new edition which should soon be necessary to meet a demand stimulated by merit at a time when scientific method and control are being increasingly standardised in industry and social services.

H. B. DUNNICLIFF.

Experimental Physical Chemistry. By W. G. Palmer, D.Sc. (The University Press, Cambridge), 1941. Pp. xi + 321. Price 12*sh.* 6*d.*

This book by Dr. Palmer is obviously the outcome of a considerable amount of practical experience and demonstrates how many of the important principles of physical chemistry can be approached through the laboratory with the help of quite ordinary equipment. There is always a fascination in these home-made apparatus, particularly when they combine simplicity with reasonable accuracy. The book covers most of the syllabus for an Honours degree, and some of the exercises are indeed appropriate for more advanced students. Experiments which require special equipment such as Bomb Calorimeter, Refractometer and Spctroscope, are left over for reference to larger books. The chapters on Ionisation and Dilution will be found to be extremely useful to students and teachers in Universities and Colleges. A new and interesting feature is a chapter of exercises on crystallisation and properties of crystals. Lucid theoretical notes introduce each chapter and completely worked examples based upon data obtained with the apparatus as actually described elucidate in a most direct way the difficulties, demonstrate the possible accuracies, and assist in an orderly and significant exposition of data.

This book is to be highly commended to all Universities and Colleges.

M. A. G. RAU.

Analytical Processes—A Physico-Chemical Interpretation. By T. B. Smith. (Edward Arnold Co., London), 1940. Pp. viii + 470. Price 18*s.*

To incorporate, in the second edition of this useful book, the recent developments in the theory and the practical aspects of the subject, the author has effected considerable revision of the text. Matter adequately dealt with in standard text-books on physical chemistry has now been omitted and this has rendered it possible, with only a moderate increase in size, to have a discussion at length, of certain important aspects of analytical chemistry.

Notable topics considered in the book are: activity coefficients, modern conception of acids and bases, pH changes during acid-alkali titrations, hydrolysis, adsorption, adsorption indicators, oxidation and reduction processes. The chapters dealing with typical precipitations such as the sulphates of barium and lead, ferric hydroxide, the insoluble halides of silver, the separation of calcium from magnesium, are full of interest.

The book lays due emphasis on the theoretical principles of quantitative analysis. Without an adequate background of mathematics, however, the honours student in