

by means of processes based upon the original procedure of Knorr.

Improved methods of making two simple reagents of wide use in organic chemistry are also included. There is, in the first place, an illustrated description of a useful laboratory apparatus capable of producing 300 grams of anhydrous hydrogen bromide per hour by the direct combination of hydrogen and bromine. Secondly, an account of Arndt's recent method for preparing diazomethane will be of service to users of this valuable synthetic reagent. Methyl urea is made from methylamine hydrochloride and potassium cyanate; alternatively, aqueous ammonia and dimethyl sulphate may replace the methylamine hydrochloride. Treatment with nitrous acid furnishes nitrosomethyl urea, which is then subjected to the action of aqueous potassium hydroxide in presence of ether. It is rightly emphasised that diazomethane is an especially insidious poison, the careless manipulation of which may induce a super-sensitive condition rendering the subject liable to attacks of asthma or fever. An appendix contains later references to preparations given in the preceding volumes. The subject index covers vols. 10-15 of the series.

J. R.

#### Van Nostrand's Chemical Annual :

a Hand-Book of Useful Data for Analytical, Manufacturing and Investigating Chemists, Chemical Engineers and Students. Edited by Prof. John C. Olsen. Seventh Issue. Pp. xvii+1029. (London : Chapman and Hall, Ltd., 1935.) 25s. net.

IN the preparation of the new edition, the editor has compared the data given in the previous edition with the "International Critical Tables", and in some cases later data than those given in this publication have been used. In all cases, critically selected values are given instead of all the values published. Many new tables appear, including those of physico-chemical data, boiling points, vapour pressures and latent heats, and tables for thermal observations and calculations.

The information contained in the book is such as will normally be required in the chemical laboratory and by the chemical engineer, and the revision appears to have been thorough and satisfactory. The manual is one which may be recommended as likely to be extremely useful, and its relatively small size will enable the user to have at his command in a very convenient form a large range of material, which otherwise would have to be sought in bulky and expensive volumes not always at hand when a figure is urgently required. It is strongly bound and should stand use in the laboratory and works.

#### Colloidal Electrolytes :

a General Discussion held by the Faraday Society. Pp. iv+422+6 plates. (London and Edinburgh : Gurney and Jackson, 1935.) 18s. 6d. net.

THE report on the Faraday Society's general discussion on "Colloidal Electrolytes", held in London on September 27-29, 1934, is noteworthy for its very wide scope, since it includes no less than 36 papers, with discussions to which a large number of speakers

contributed. Attention may also be directed to an improved binding, which appears to have been rendered necessary by the expansion of the report to more than four hundred pages (as compared with about forty pages for the first of these discussions in 1907), and to the very modest price at which it has been issued. In view of the importance of the subject with which it deals, its authoritative character, and the very favourable conditions under which it is available, it may be anticipated that the report will have a wide circulation beyond the boundaries of the Society to which the credit for its publication belongs.

#### The Teaching of Chemistry

By N. F. Newbury. Pp. xii+247. (London : William Heinemann, Ltd., 1934.) 6s. net.

THE young graduate who is taking up his duties in a school will be grateful to the author for the information provided in this book, and even the experienced teacher will find something useful in it. Not all the recommendations will meet with approval, and a good deal of space is taken up by statistical information which will rapidly become obsolete. The author's recommendation that the young teacher should discard his university lecture notes and rely on elementary textbooks for his material is one which should not be followed, since in this way he is likely to use a good deal of old-fashioned and obsolete material which is perpetuated in many books.

The author, like most teachers, has his preferences, and the use of microchemical methods seems to be one. He is not always consistent : on p. 140 he says the use of formulæ and equations should be "discouraged" in the first year, whilst on p. 166 he gives a "model" answer in which a formula is used by a boy who had studied chemistry only eight weeks. These are minor points of criticism. The book is on the whole a good one, and should be found useful. The lists of books recommended, however, seem to require some extension, since some popular and successful books are conspicuous by their absence.

#### Engineering

##### Piles and Pile Driving

By A. C. Dean. Pp. x+221. (London : Crosby Lockwood and Son, Ltd., 1935.) 42s. net.

IN his introduction to this book, the author points out that the use of piles for foundations is a practice of great antiquity. Although he does not allude to prehistoric times, it may even be claimed that it dates back to the remote period of lake-dwellers who perched their habitations on props driven into the beds of lakes. Yet, however ancient in origin, piling continues in vogue at the present day as one of the most serviceable methods of providing underground or subaqueous support for structures. At the same time, it is a branch of engineering which admits of considerable diversity of practice and opinion. Piles