

A careful reading of the volume, however, leads the reviewer to believe that this book should prove invaluable to the engineer interested in any of the many phases of hydrology. The treatise is by no means a handbook, nor can the reader get much from it by cursory reading; but the amount of information it contains, together with the compilation of precipitation records, evaporation data, etc., should almost make it essential to the engineer's library.

The profession is indebted to the author for presenting in this volume a correlated and crystallized treatment of what is practically a new subject.

Elementary Qualitative Analysis. By A. Beston Dales, Ph.D., and Oscar Leonard Barnebey, Ph.D. Published by John Wiley & Sons, Inc., New York, and Chapman & Hall, Limited, London; Canadian selling agents, Renouf Publishing Co., Montreal. 205 pages, 5 x 7 1/4 ins., cloth. Price, \$1.25 net. (Reviewed by C. H. Heys, Thomas Heys & Sons, Technical Chemists, Toronto.)

This textbook covers in a brief, but thorough and systematic arrangement, the study and practical examination of bases and acids, together with much valuable information to students of practical chemistry.

The authors rightly offer the book to students who have had a year's study of elementary chemistry.

Chapters 1 and 2 covers briefly, but clearly, an understanding of the principles of Qualitative Analysis, Chemical Reactions, and Equations.

Chapter 3 systematically defines the divisions and grouping of the bases and acids according to their analytical reactions.

Chapter 4 gives valuable advice in the care, handling and preparation of chemical reagents.

Chapters 5 to 8 deals with the bases, following the well-defined system of grouping the elements according to their reactions. The chemical tests numerated for the various elements have been well selected to enable students to readily recognize the results.

Chapters 9 to 11 cover the acids in the same commendable manner as the bases.

Chapters 12 to 18 continues systematically and thoroughly to prepare and carry out the analytical methods of testing unknown elements.

As a laboratory guide the book is highly recommendable to students in this grade of chemistry.

How to Make High-Pressure Transformers. By Prof. F. E. Austin, Hanover, N.H. Second edition. 48 pages, illustrated. Price, 65 cents. (Reviewed by Alfred S. L. Barnes.)

This book sets forth in a brief and simple manner the general principles underlying the design of transformers and then proceeds to describe the method of procedure to be adopted in designing and building a single-phase, 1,000-watt, 20,000-volt transformer, for 60 cycles, stepping up from 110 volts.

In such a small compass as this book furnishes it has, of course, been impossible for the author to do more than skim over the subject, but enough information is given to enable the amateur to gain a fair idea as to what a transformer is and does, and also to enable him to design and build a transformer, suitable for experimental or other work, having a fairly high efficiency.

Instructions for building a 1,000-watt, 4,000-volt transformer are given and these are followed by some five pages of matter dealing with "The possibilities of a

transformer as a frequency changer," and "How to obtain unity power factor," the usefulness of these latter in this particular book being very doubtful owing to the manner in which the subjects are treated; e.g., under the second heading the use of a condenser, for the purpose named, is proposed and calculations are given showing how to arrive at the required capacity but no beginner or amateur would have any idea as to what actual size his condenser would have to be, either as to the area of the plates or the number of them.

A slight knowledge of both electricity and mathematics on the part of the reader is presumed.

On page 14 a printer's error occurs where "page 2" should read "page 12," and again on page 22 the word "hysteric" should be "hysteretic."

Some very necessary cautions regarding the handling of high-pressure apparatus are given, and the book on the whole will prove very useful to anyone desiring to make a transformer for his own use, the cost working out, as the author shows, to about one-third of that of the ordinary purchase price from the manufacturers.

PUBLICATIONS RECEIVED

Precise Levelling.—Vol. 3, No. 8, publications of the Dominion Observatory, Ottawa. Issued by the Department of the Interior, Canada.

Magnesite Deposits of Grenville District, Argenteuil County, Quebec.—By M. E. Wilson. Memoir 98, No. 81, Geological Series, Department of Mines, Canada.

Association of Ontario Land Surveyors.—Annual report and proceedings of the twenty-fifth annual meeting, held in Toronto, February 20th to 22nd, 1917.

T-A Pumps.—Circular illustrating Tod-Attwood Patent Vacuum Pumps, giving data regarding the various sizes manufactured. G. H. Tod Co., Limited, Toronto.

Problems Relating to the Mineral Industry of Canada. By W. J. Dick, mining engineer, Commission of Conservation, Ottawa. Reprinted from the eighth annual report of the Commission.

The Utilization of Pyrite Occurring in Illinois Bituminous Coal.—By E. A. Holbrook. Circular No. 5 issued by the Engineering Experiment Station, University of Illinois, Urbana, Ill. Price, 20 cents.

Mineral Production of Canada.—Preliminary report for the calendar year 1916, prepared by John McLeish, B.A., chief of the Division of Mineral Resources and Statistics. Issued by the Department of Mines.

Concrete Ships.—A compilation of data collected by the House Committee, Sixty-fifth Congress United States Government, on the merchant marine and fisheries. Forwarded to us by the Portland Cement Association, 111 West Washington Street, Chicago.

The Macon Concrete Paving Roller.—Four-page illustrated leaflet issued by the Ransome Concrete Machinery Co., 115 Broadway, New York, describing the Macon concrete paving roller for finishing concrete highway pavements, originated by Capt. J. J. Gaillard, city engineer, Macon, Ga., and manufactured by the Ransome Company.

The Canadian Mining Manual, 1916-1917.—Edited by R. E. Hore. Published by the Mines Publishing Co., Toronto. This is the third edition of the new series of this useful handbook of information concerning the minerals and mines of Canada. Contains 448 6 x 9-in. pages. Bound in cloth. Price, \$3.