

the fact that later investigations have not modified the theories advanced by Pasteur in any essential particular, and further that they must be considered as paving the way for the able and fruitful hypotheses of LeBel and van't Hoff on the relations of asymmetric carbon atoms, published many years later.

J. H. LONG.

A HANDBOOK FOR CHEMISTS OF BEET-SUGAR HOUSES AND SEED-CULTURE FARMS. BY GUILFORD L. SPENCER, D. Sc., of the U. S. Department of Agriculture. First Edition. New York; John Wiley & Sons. London: Chapman & Hall, Ltd. 1897. x + 475 pp. Price, \$3.00.

This work is the outcome of the favorable reception accorded the author's Handbook for Sugar Manufacturers, and of the increased importance of beet-sugar manufacture in the United States.

In it are given short and easily understood directions for sampling and analyzing the raw material and products which the chemist of a beet-sugar house or seed-control farm has to deal with; many hints on sugar-house work and chemical control; and a very complete set of tables; all combining to make a handbook which cannot but be of service to the man of wide, as well as the man of limited experience. It is to be regretted that so many sugar-house managers think it economy to employ as chemists, men with a very limited knowledge of chemical theory and manipulation, but such is the case, and this handbook contains much that will prevent such men from going astray, as well as much to encourage further study.

I can endorse the author's statement that many so-called "undetermined losses" are due to errors in measuring, sampling, or methods of analysis. Throughout the book the author gives evidence of an appreciation of the difficulties in effecting chemical control—difficulties which the merely theoretical man is apt to overlook or underestimate.

EDMUND C. SHOREY.

A PRACTICAL TREATISE ON MINERAL OILS AND THEIR BY-PRODUCTS, INCLUDING A SHORT HISTORY OF THE SCOTCH SHALE OIL INDUSTRY, ETC. BY ILTYD I. REDWOOD. London: Spon; New York: Spon & Chamberlain. 8vo. 336 pp., with 67 illustrations. Price, \$6.00.

The work opens with an interesting chapter upon the history of the subject, which is followed by a geographical and geolog-