

PURE AIR, OZONE AND WATER. A practical treatise of their utilization and value in oil, grease, soap, paint, glue, and other industries. By W. B. COWELL. London: Scott, Greenwood & Co.; New York: D. Van Nostrand Co. 1900. vii + 85 pp. Price, \$2.00.

This is a small volume of 85 pages, and has to do with the applications of pure air, ozone, and water in industrial works. The author describes briefly the various uses to which air, ozone, and water may be put in technical works to aid in manufacturing processes, purifications, etc.

It is a practical book from the ordinary manufacturer's standpoint and is almost free from technicalities, but for the scientific man who is at all familiar with the methods used and principles involved in technical industries there is little new. One chapter takes up the purification of water and its uses for boiler purposes, all of which may be found in a dozen or more books.

There is an appendix which contains considerable valuable information, giving tables of temperatures, solubilities, properties of steam, and rules for measurements.

The book is well printed in large type on good paper.

W. B. BROWN.

EXPERIMENTS ARRANGED FOR STUDENTS IN GENERAL CHEMISTRY. BY EDGAR F. SMITH AND HARRY F. KELLER. Fourth edition, enlarged. 88 pp., interleaved. Philadelphia: P. Blakiston's Son & Co. 1900. Price, 60 cents.

The earlier editions of this book are already familiar to many teachers, and have been characterized by the good judgment shown in the selection of experiments and the clearness of the directions given to the student. The suggestive questions on the experiments and the problems in chemical arithmetic are also to be commended.

This edition brings the book more into line with the newer ideas in teaching chemistry, by the addition of quite a number of new experiments, but this is not done at the expense of those experiments which illustrate descriptive chemistry. Judging by recent books, there seems to be a tendency to-day to neglect all of chemistry which cannot be treated quantitatively. The authors have preserved a good balance in this respect, giving a fair number of quantitative experiments, such as the determinations of the weight of a liter of chlorine, oxygen, steam, nitrogen, and ammonia; the volumetric composition of water, and of hydrochloric

acid gas; the equivalent weight of zinc, and of tin; the volumetric analysis of caustic soda, and of iron; and the specific heat of tin.

In this improved edition, the book is one of the best of the many laboratory manuals in print. JAS. LEWIS HOWE.

IRON CORROSION; ANTI-FOULING AND ANTI-CORROSIVE PAINTS. BY LOUIS EDGAR ANDÈS. London: Scott, Greenwood & Co. New York: D. Van Nostrand Co. 1900. viii + 275 pp. Price, \$4.00.

The extensive and important use of steel as structural material, which practically began about ten years ago, owing to the improvements in metallurgy which lowered the price of steel until its use became economical, has made the subject of this book one of great importance. Cast iron is not very easily corroded; and moreover is used in thick pieces which will stand considerable corrosion; but the opposite is the case with steel. The last preceding book on the subject was issued in 1895, and was of little value; hence much interest attaches to a new book. Like other books about other things by this author, this treatise contains practically no original matter, but gives the results of some of the more important German papers on the subject. The comparison of different passages will therefore give contradictory views on the same topic; but in such a work this is inevitable, and is nothing against it. The numerous illustrations are of very little value; and the whole treatise, which is a short one (about 80,000 words), reads as though the author were rather short of material to fill the book. The chemical part of the work is of more interest to the general reader than to the analyst, as is proper; but references to chemical literature might have been added with advantage. A rather interesting chapter is given on the composition of patent and proprietary paints, and a few pages of much value on specifications. The book is probably the best one on the subject, to date, but it is fragmentary, does not give recent English or American work on the subject, and leaves one with the impression that there is still room for a more elaborate treatise on the protection of structural metal. A. H. SABIN.

TRAITÉ DE LA FABRICATION DES LIQUEURS ET DE LA DISTILLATION DES ALCOOLS. PAR P. DUPLAIS AÎNÉ. Septième édition, entièrement refondue par Marcel Arpin et Ernest Portier, en deux tomes. Paris: Gauthier-Villars, Quai des Grands—Augustins, 55. 1900. 1219 pp. Price, 18 francs.

This well-known work of Duplais, of which the earlier edition