enhanced. Instead of being strictly a treatise on commercial organic analysis, it has taken on something of the character of a technology. It now treats not only of the tests and methods of estimation of organic substances of commercial value, and of methods for detecting adulterations in them, but it gives in many instances their history, chemical structure, and commercial methods of preparation.

Dr. Matthews has certainly proved himself a worthy successor to Mr. Allen's former collaborator, the late Dr. Leffmann, judging by his work in this volume which includes the tannins, dyes, coloring-matters, and writing inks, all of them subjects with which he is thoroughly familiar, practically as well as theoretically.

The aromatic acids which were in Part I, Vol. III of the second edition, have been transferred to Part III, Vol. II of the third edition, which is in preparation.

The old material has been practically rewritten in bringing it up to date for this volume. The new tannin materials are described, and our best knowledge of tannin analysis, which is far from what it should be, is given in detail. The arrangement of the chapter on dyes and coloring-matters is entirely changed, making decided improvement, and the amount of material is largely increased. Eight pages, at the end of the volume, are devoted to the constitution and analysis of writing inks, and to the chemical examination of ink marks. Almost the whole of this matter is devoted to the iron inks with only a passing mention of the aniline writing fluids. WM. L. DUDLEY.

CHEMICAL TECHNOLOGY OR CHEMISTRY IN ITS APPLICATION TO ARTS AND MANUFACTURES. EDITED BY CHAS. E. GROVES AND WM. THORP. VOL. III. GAS LIGHTING, BY CHAS. HUNT. Philadelphia: P. Blakiston's Son & Co. 1900. xviii+312 pp. Illus. Price, $3.50.

It is eleven years since the publication of the first volume of this work which treated of fuels; and it was six years later that the second volume, on "Lighting by Solid and Liquid Illuminants," made its appearance.

The present volume discusses the manufacture, purification, and distribution of illuminating gas, and its application for lighting purposes, much in the same manner as other works of its kind. The processes and methods refer mainly to English practice.

It is not to be expected that an author can give within the compass of 300 pages, a complete statement of even the present condition of the gas industry and its collateral branches. The present volume, however, might have been considerably enlarged with great advantage, inasmuch as some subjects are treated inadequately or not at all.

Works of this character are, of necessity, largely made up of matter, which in some form has been published or discussed in the technical journals, and we should be much better equipped with such works of reference if there were fewer of them, but if those published treated the subjects in a more exhaustive manner.

The volume will be found of much value on many points connected with the gas industry. It is well printed and liberally illustrated. E. G. LOVE.

A TEXT-BOOK OF CHEMISTRY, INTENDED FOR THE USE OF PHARMACEUTICAL AND MEDICAL STUDENTS. BY SAMUEL P. SADTLER, Ph.D., F.C.S., and VIRGIL COBLENTZ, PH.D., F.C.S. In two vols. Philadelphia: J. B. Lippincott Co. 1900.

This is a revised and enlarged edition of the work brought out some years ago by Sadtler and Trimble. Volume I, which is devoted to physics, general and inorganic chemistry, and organic chemistry represents a third edition, while Volume II, on analytical chemistry, is a second edition.

In the presentation of the subject of chemistry to students of medicine and pharmacy it is extremely difficult to select the proper amount as well as the proper kind of information. In earlier attempts in this direction text-books offered to students in these specialties were characterized by a meagerness in detail and inaccuracy in statement which were discouraging to the teacher in search of a suitable manual for class instruction. Even yet we find books designated as "essentials" of chemistry for students of medicine and pharmacy.

But there is now great danger of going too far in the other direction in the production of text-books for these classes of students. The attempt is made to cover a little of everything in the field of chemistry and we have, as a result, treatises quite beyond the needs or capabilities of the embryo drug clerk or physician. If clearness and conciseness of statement are anywhere in order it certainly is in the chemical text-books for such students who are usually beginners, and who, as a rule, suffer