

CHEMISCH TECHNISCHE UNTERSUCHUNGS METHODEN. VON DR. GEORG LUNGE. Zweiter Band mit 150 Abbildungen, Funfte Auflage. Berlin: Julius Springer. 8vo. xx+842 pp. Price, 16 marks; bound, 18 marks.

The fourth edition was printed in 1900, which shows that the book is in demand. The part treating of iron, by Th. Beckert, comprises 104 pages. The process for the determination of silicon in iron with nitric and sulphuric acids is ascribed in this, as in the fourth edition, to Brown. It should read Drown. No reference is made to the numerous forms of platinum apparatus, of which Shimer's was the first, for burning the carbon in air or oxygen. The combustion of the separated carbon in oxygen takes up just about one-fourth page—far too little space for satisfactory treatment. Knorre's method of precipitating manganese as dioxide by ammonium persulphate is given, but the colorimetric process, founded upon the conversion into permanganate in a nitric acid solution in presence of silver nitrate, is not mentioned. The number of pages devoted to iron (104) is the same in both editions. The section on "Metals Other Than Iron," by Dr. O. Pufahl, comprises 276 pages. Under silver no mention is made of the use of cement cupels. Under the electrolytic determination of copper no reference is made to the use of rotating electrodes. The examination of artificial manures, by Dr. O. Böttcher, takes up 67 pages, 25 pages are devoted to fodders, edited by Dr. F. Barnstein; 44 to explosives, edited by O. Guttmann; 30 pages to fireworks, edited by Wladimir Jettel; 161 pages to gas and ammonia, by Drs. Otto Pfeiffer and G. Lunge; 19 pages to calcium carbide and acetylene, by Dr. G. Lunge; 72 pages to coal tar, by Dr. H. Köhler; and 46 pages to the inorganic colors, by Dr. R. Gnehm.

In a work of such magnitude, contributed to by so many persons, some unevenness of treatment, and some errors both of omission and commission are to be expected, but the book, like preceding editions, is well written and carefully edited.

EDWARD HART.

CHEMISCHE TECHNOLOGIE UND ANALYZE DER OELE FETTE UND WACHSE, VON DR. J. LEWKOWITSCH. Zwei Bände, Band I, 448, Bd. II, 768 Seiten. Braunschweig: Friedr. Vieweg und Sohn. Preis geheftet, 32, gebunden, 34 Marks.

This work appeared originally as a translation and enlargement of Benedikt "Die Analyse der Fette und Wachsarten," and now after passing through two English editions, expanding each time, reappears in a German edition from the third English. When it

came out in 1895, it was immediately recognized as the best book in its field—particularly on the analytical side; this proud distinction it has maintained for ten years, and has now added to it the technical side.

The work is exhaustive, encyclopedic—as nearly complete, perhaps, as it is possible for one person to make it; only those methods are described which have been shown to be practically valuable, most of them having been tried by the author and his assistants—and in many cases the rich experience of twenty years is brought to bear in suggesting opportunities for improvements in these processes and their criticism. It contains further numerous original investigations which have not been previously published.

While the constants of the animal and vegetable oils are so complete, the reviewer feels that it would have added to the value of the treatise had a few pages been devoted to such constants as are available for the petroleum products, as specific gravity, flash test, fire test, viscosity, and cold test; it would have been of advantage furthermore, to have had a statement of what these constants should be, or what are usually considered admissible, for oils for various purposes, as a spindle oil, engine oil, gas engine cylinder oil, etc. This would oftentimes enable the oil chemist to settle vexed questions dealing with lubricating oils with the same authority as in the case of fatty oils—olive oil, for example.

No mention is made of turpentine oil, that being possibly considered as a volatile or essential oil, and not expected to be discussed here; as supplementing the work on linseed oil and varnishes its inclusion would certainly have seemed appropriate, and would have been very convenient. No extended notice is paid to rosin oils, which find considerable use in this country.

On the other hand, no fatty oil is omitted—one finds goose grease and rattlesnake oil, as well as the rare fats from India and Africa; the waste fats, too, receive particular attention, as is given in no other work—some twenty pages being devoted to them.

A noticeable feature of the book is the polyglot nature of the numerous references to the literature of the subject, which is not usual, particularly with books published in the German language. Italian, French, English, American and German periodicals are quoted.

The typography and illustrations are executed with the care and skill for which the house of Vieweg is noted.

A. H. GILL.

TECHNO-CHEMICAL ANALYSIS. BY DR. G. LUNGE. Authorized Translation by ALFRED I. COHN. New York: John Wiley & Sons. 1905. 136 pp. Price, \$1.00.

This little book is perhaps best described as an extended index to Lunge's "Chemische-Technische Untersuchungsmethoden." It deals in a general way with all the analytical methods involved in chemical manufactures. In its small compass it is not to be expected that other than the more important methods could be described in detail, and such is the case. Nearly one-third of the volume is devoted to gas analysis and the measurement of gases, perhaps because this branch of volumetric analysis is coming to be more extensively employed in technical work.

In some cases the translator has followed the German idioms too closely; this is seen in carbonic-acid-free-lyes, pyrogallol-potassium, steam cylinder oils, araeometer, a gas burette enclosed in a water mantle, and Stassfurter potassium chloride.

The work will, doubtless, be found valuable to those wishing a general view of the field of analytical chemistry as applied to the industries of the Continent, no reference being made to English or American literature.

A. H. GILL.

METHODS OF ANALYSIS OF THE CENTRAL LABORATORY OF THE ITALIAN CUSTOMS HOUSE. BY DR. VITTORIO VILLAVECHIA, Director. Rome: P. Scott & Co. 1904.

Volume V of the report of the Central Laboratory of the Italian Customs Service is published in two parts. Part First, 602 pages, is devoted to a description of the methods used for the examination of water, chemical products, fertilizers, cementing materials, combustibles, coal tar and its products, mineral oils and products derived therefrom, fatty substances, artificial industrial products coming from fats, and milk and its products.

The second volume, 663 pages, treats of essential oils, turpentine and its products, starches and derivative products, sugar and substances containing sugar, spirits and liquors, beers, wines, coloring-materials, varnishes, and textile fabrics.

In the year 1903, 11,668 samples were examined in the Customs Laboratory. Of these sugars represented 6,230; beers, 1,653; mineral oils, 1,253; wines and vermouth, 674; fats, soaps and