

num, 30,000 lbs.; tungsten, 45,000 lbs.; and Fuller's earth, 13,360 tons.

Among special articles of note are those on "Progress in the Aluminum Industry," by John B. C. Kershaw; "The Occurrence and Genesis of Californian Asphalt," by A. S. Cooper; "Notes on the Metallurgy of Bismuth," by W. Borchers; "Calcium Carbide," by John B. C. Kershaw; "The Hydraulic Cement Industry in the United States in 1899," by Frederick H. Lewis; "Notes on the Metallurgy of Chromium," by W. Borchers; "Notes on the Coarse Pottery Production of Great Britain," by Wilton P. Rix; "Fuel and Its Economical Utilization," by William Kent; "Progress in the Electrolytic Refining of Copper during 1899," by Titus Ulke; "Hofmann's Method for the Manufacture of Blue Vitriol," by Ottokar Hoffmann; "The Cutting and Polishing of Precious Stones," by Leopold Claremont; "Glass," by Robert Linton; "Rare Elements," by Victor Lenher; "The Electrolytic Production of Caustic Soda," by Alfred T. Weightman; "The Manufacture of Sulphuric Acid Stronger Than Chamber Acid," by F. J. Falding; and "The Sulphur Industry of Italy," by Giovanni Aichino.

This list is only a partial one. Many of the articles are illustrated, and not a few contain real contributions to the literature of the subjects treated.

E. H.

ANNALI DEL LABORATORIO CHIMICO CENTRALE DELLE GABELLE.
DIRETTI DEL DR. VITTORIO VILLAVECCHIA. VOL. IV. Roma Tipografia Elzeviriana, di Adelaide ved. Pateras. 1900. 528 pp.

The report of the Central Chemical Laboratory of the Italian Customs, Vol. IV, by Dr. Vittorio Villavecchia for the years 1898 and 1899 contains nineteen papers or reports on the methods of analysis or examinations of the character of manufactured articles and natural products which are of commercial importance to the country. They comprise the following.

1. "The Composition of Wines Imported into Italy during the Period from 1890-1897." V. Villavecchia.

2. "Methods for the Analysis of the Essential Oils of Bitter Fruits (Lemon, Orange, Bergamot)." G. Fabris. Contains interesting details of the methods of extraction as well as an account of the composition of the pure essences and the methods of detecting adulteration. The principal adulterant seems to be

oil of turpentine but the detection of its presence in small proportion does not seem very certain.

3. "Artificial Turpentine." G. Fabris.
4. "On the Analysis of Coal Tar and Its Preparations." G. Fabris.
5. "Contribution to the Analysis of Oils." M. Tortelli and R. Ruggieri.
 - I. The detection of cottonseed oil, oil of sesame, and peanut oil in olive oil.
 - II. The quantitative determination of peanut oil.
6. "A Method for Determining the Absolute Iodine Index of Fatty Substances." M. Tortelli and R. Ruggieri.
7. "The Oil and Wax (Vegetable Tallow) of the *Stellingia Sebifera*." M. Tortelli and R. Ruggieri.
8. "The Composition and Analysis of Vermouth." A. Bianchi.
9. "A Modification of Milliau's Test for the Presence of Cottonseed Oil." G. Armani.
10. "Boiled Vegetable Oils and Their Detection in Admixture with Other Oils." Tortelli and Ruggieri.
11. "The Quantitative Determination of Invert Sugar and Glucose in the Presence of Dextrine." A. Bianchi.
12. "The Determination of the Point of Solidification of Fatty Acids." R. Morischini.
13. "The Analysis and Composition of Certain Qualities of Commercial Bread." G. Fabris and D. Marino.
14. "On the Heating of Certain Gums Used in the Manufacture of Varnishes." G. Armani.
15. "The Characteristics and the Illuminating Power of Stearine, Paraffin, and Spermaceti Candles." R. Ruggieri.
16. "A Contribution to the Knowledge of the Distinctive Characteristics and the Illuminating Power of American Petroleum as Compared with the Russian." G. Rossi.
17. "The Chemical Analysis of Commercial Inks." G. Malagnini.
18. "A Study of the So-called Spices or Powdered Condiments of Commerce." S. Camilla.
19. "Artificial Silks and the Tests to Distinguish Them from Natural Silks." A. Salaro.

Most of these papers are interesting and valuable but from their nature they are difficult to abstract.

The number of samples examined in the laboratory in 1898 was 6,158; in 1897, 5,533. The majority of these consisted of beer, wine, and oils, but almost everything dutiable is represented.

ANDREW A. BLAIR.

(1) EXPERIMENTAL CHEMISTRY. BY L. C. NEWELL. 12 mo. xvi+410 pp. 114 illustrations. D. C. Heath & Co. Price, \$1.10.

(2) THE ELEMENTS OF INORGANIC CHEMISTRY. BY W. A. SHENSTONE. London: Edward Arnold. 12mo. xii + 506 pp. 142 illustrations.

(1) The purpose of this book, as the preface states, "is to promote the more efficient teaching of chemistry by modern methods. The choice and arrangement of subject-matter is based on the author's extended experience with students of varied ability. The book as a whole is the outcome of a desire to provide a course in chemistry which shall be a judicious combination of the inductive and deductive methods." Considerable care has been taken to eliminate errors since it appears from the preface that the entire MS. has been read by three other teachers of chemistry and the proof by fourteen.

Laboratory methods are given prominence—there are 201 experiments in all—and the interrogation point is freely used; some teachers will think too freely. Sixteen pages are included in the chapter on acids, bases, and salts and 25 under atoms, molecules, and related subjects. This latter chapter is open to serious criticism. The statements contained in it are well enough, but such topics as the methods for determining atomic weights, ions and ionization and applications of the theory of electrolytic dissociation, are out of place in a first book on chemistry. When teachers of chemistry learn not to give as a first course more than is necessary, and to follow this up by supplementary courses, we shall have better results. Shooting over the heads of students is still the most common fault in textbooks and teachers. The book is an excellent piece of work mechanically.

(2) Like the book noticed above this is evidently intended as a first book in chemistry. The author says: "I have endeavored to provide a book which begins with a course of experimental work for quite young students and develops at the later stages