cury in "ureine." Doubtless a soluble compound of mercury was formed in the "purification" process. Nitrate and oxalate, also introduced during this so-called purification, were constant constituents. Shaken repeatedly with excess of ether in a separatory funnel, "ureine" gradually separates into several layers of different color and degrees of transparency, and the ether itself takes on a yellowish tinge. Samples that had been allowed to stand exposed to the air for several months deposited crystals of urea. The amount of ash from four preparations varied from 9 to 24 per cent. A wax-like mass can be obtained immediately on treatment of the "ureine" with concentrated nitric acid. When this mass is broken up mechanically in an excess of nitric acid and examined under the microscope, crystals of urea nitrate are seen to cover the field.

Our general conclusions[1] have been that "ureine" is a *mixture*, containing several of the organic substances, and a considerable proportion of inorganic matter, ordinarily found in normal urine; also matter introduced with reagents in the so-called purification process. Further, the toxicity of "ureine" is due to some of the normal urinary constituents, such as the potassium and the alkaloidal bodies, and to the radicals introduced in "purifying." Consequently, much as it is to be regretted, "ureine" does not furnish a clue to the cause of uraemia nor can any of Dr. Moor's biological deductions regarding "ureine" be accepted.

Our criticism of Moor's work and conclusions in this connection have been endorsed by several investigators, but none of the questions raised by us has ever been answered by Dr. Moor. In the meantime, however, "ureine" is being exploited in the same manner in one journal after another, and impossible chemistry and biology receive wide circulation.

WILLIAM J. GIES.

LABORATORY OF PHYSIOLOGICAL CHEMISTRY
OF COLUMBIA UNIVERSITY.

NEW BOOKS.

THE ELEMENTS OF ELECTRO-CHEMISTRY, TREATED EXPERIMENTALLY. By DR. ROBERT LÜPKE. Second English edition, translated from the fourth German edition. By M. M. PATTISON MUIR. 250 pp. Price, $2.50. Philadelphia: J. B. Lippincott Company.

The work is divided into three parts: (1) Recent theories of

[1] Chace and Gies: "Some Facts Regarding 'Ureine,'" *Medical Record*, **59**, 329 (March 2, 1901); also Gies and collaborators: "Biochemical Researches," reprint No. 31 (1903).

electrolysis, 79 pages; (2) the theory of solutions of van't Hoff, 44 pages; (3) the osmotic theory of the current of galvanic cells, 119 pages. Under these headings, Dr. Lüpke has presented, in very readable and easily comprehended language, the present status of the subject. The experimental part is easily the best part of the book, the experiments being very well chosen and very suitable for bringing out the principal facts of the science. If the teacher using the work will confine his pupil's attention to the experiments and the facts which they teach, both teacher and student will be very much helped by the book. If, however, the student wanders into the theoretical part of the book, he will learn, along with much which is good, also much which is questionable, and he will need close attention from his teacher to keep him from receiving distorted ideas. The weak side of the theoretical part is that it presents many of the generalizations of the dissociation theory as if they were without exceptions, and ignores many recent proofs of the failure of the theory in some special cases. Part of Faraday's generalizations are credited to von Helmholtz, simply because, apparently, the latter discussed them in a lecture, while Le Blanc is credited with the discovery of a law regarding the voltage necessary to decompose a compound, which is merely a re-statement of Thomsen's rule, coupled with Hess's law of thermo-neutrality. These, perhaps unconscious, appropriations of electrochemical honors for German scientists will perhaps make the book more popular in Germany, but decrease its reliability for general use.

The translator and publishers have done their work very well.

JOSEPH W. RICHARDS.

ARBEITSMETHODEN FÜR ORGANISCH-CHEMISCHE LABORATORIEN: EIN HANDBUCH FÜR CHEMIKER, MEDIZINER UND PHARMAZEUTEN. VON PROFESSOR DR. LASSAR-COHN. Dritte, vollstandig umgearbeite und vermehrte Auflage. Hamburg und Leipzig: Leopold Voss. 1901–1903. xvi + 1241 pp. Price, 38 marks.

The second edition of this work is well known, both in the original and in the excellent translation of Alexander Smith. The material included in the present edition is more than twice as great as that of the second. The work consists, first, of a "General Part," (213 pages) which discusses general operations such as extraction with ether, distillation, dialysis, sealed tubes, decolorizing of liquids, filtration, crystallization, solvents, determina-