

differentiation, and integration—than on applications of mathematical conceptions, by which alone their real significance can be made intelligible.

A. A. NOYES.

CONVERSATIONS ON CHEMISTRY: PART II. THE CHEMISTRY OF THE MOST IMPORTANT ELEMENTS AND COMPOUNDS. By WILHELM OSTWALD. Translated by STUART TURNBULL. New York: John Wiley & Sons. 1906. viii+373 pp. Price, \$2.00.

The second part of Professor Ostwald's latest book is largely descriptive and deals with the more familiar elements and compounds. There is included, however, a very lucid series of dialogues on combining proportions and the laws connected therewith. The atomic, molecular, and ionic hypotheses are also set forth, and are used to explain chemical facts. Electrolysis is discussed and much attention is given to acids, bases, and salts.

The characteristics which made Part I so brilliant a piece of work, and which were described in the former review,¹ are equally conspicuous in the part before us. The author is to be congratulated on having given to all his readers, and particularly to teachers, an example of how to bring elementary chemistry up to date without destroying its simplicity.

The translator seems to be unfamiliar with Ostwald's other works, and on the last page confuses the "Outlines of General Chemistry," translated by Walker, with the "Principles of Inorganic Chemistry," translated by Findlay, the latter being the work whose title is given in the original. In all other respects the translator has performed a difficult task with distinct success.

A. S.

CHEMISTRY OF THE ALBUMENS. By S. B. SCHRIVVER, Lecturer in Physiological Chemistry to University College, London. Philadelphia, Pa.: P. Blakiston's Son & Co. 1906. Price, \$2.00.

This book, as its name indicates, deals almost wholly with the chemistry of the "Albumens," that is, with the decomposition products which they yield and with the structure of these products.

Facts relating to the solubility, physical properties, precipitation by salts, coagulation, behavior towards acids and bases, etc., which have, in the past, formed so large a part of the accounts that have been written of these bodies occupy in this book but a very insignificant place. This fact shows the great progress made

¹ This Journal, 27, 1020 (1905).

during the past five years in our knowledge of the chemical side of this subject, for it is now possible to give a condensed account of the purely chemical facts that are known which is sufficiently extensive to warrant their publication in a separate volume.

Schryver's book contains a series of lectures delivered in the Physiological Department of University College, London. The first lecture, which deals with the general properties of the "Albumens" occupies only 16 pages. The seven lectures which fill the succeeding 123 pages deal with purely chemical facts, while the last two lectures, which discuss "General Theories of Biochemical Action," form the remaining 28 pages.

The author uses the word "Albumen" as a generic term to designate the class of bodies commonly called proteids by English and American writers, thereby hoping to bring English and German usage into harmony, for the Germans use the word "Proteide" as a name for a particular group of these bodies. With this purpose the reviewer is in accord and, led by the same reasons, has employed the word protein as a designation for these substances. This latter word seems to him, however, to bring English and German usage into closer harmony than the word albumen, a translation of *Eiweiss*, for the Germans are already using the word protein as a substitute for their *Eiweisskörper*, and this practice seems to be increasing. Fischer used this term throughout his late address before the German Chemical Society.

Schryver writes throughout his book as though convinced that the protein molecule contains, in most cases if not in all, a carbohydrate complex and, like most writers, considers the Molisch reaction to give satisfactory evidence of this. This, a furfural reaction, is given by almost all proteins, but Schryver seems to have overlooked the fact that furfural, as such, cannot be obtained from any of the proteins, except those from which a carbohydrate has already been isolated. Proteins of the latter kind are few and there is good reason to consider them to be combinations of a protein molecule proper, with a non-protein group, which latter contains the carbohydrate complex.

Schryver also treats the proteins as pseudo bases and acids, citing Cohnheim as authority, but this view has been abandoned by Cohnheim, for in the last edition of his "Chemie der Eiweisskörper" he says that the fact that the amino acids behave in exactly the same way has made this hypothesis unnecessary.

A considerable part of Schryver's book is occupied with the chemistry of the nucleic acids and their decomposition products, especially the purine and pyrimidine bodies. In this he has followed a general practice of writers on proteins for which, however, there is little warrant, as these bodies bear no chemical relation to the protein molecule proper. The only reason for including the nucleic acids is the fact that they are always found in nature together with the proteins or the protamines. This practice, while convenient for those familiar with the proteins, leads to confusion among those who take only a general interest and read such books as the one under consideration in order to obtain a general knowledge of the chemistry of the proteins. Schryver's book gives a good review of the present knowledge of this branch of chemistry, contains few errors and omits but few of the important facts that are known.

THOMAS B. OSBORNE.

A TEXT-BOOK OF CHEMISTRY FOR THE USE OF STUDENTS AND PRACTITIONERS OF MEDICINE, DENTISTRY AND PHARMACY. By WILLIAM RUSSELL JONES. Illustrated. Philadelphia: P. Blakiston's Son & Co. 1905. 462 pages. Price, \$2.50.

This is one of the books usually classed as "Medical Chemistry" and contains, according to the preface, "all that is needed in chemistry for students of medicine, dentistry and pharmacy." It is divided into six parts, including sections on Physics, Chemical Philosophy, Inorganic Chemistry, Organic Chemistry, Methods of Quantitative Analysis and Physiological Chemistry. The tests of qualitative analysis are included under Inorganic Chemistry; the section on Quantitative Methods consists of but 7 pages, not very clearly written. While the book contains a fairly satisfactory compilation of facts, it abounds in loose and inaccurate statements and can be recommended only to those teachers who believe that medical students require but little knowledge of chemistry.

J. H. LONG.

THE CYANIDE INDUSTRY. By R. ROBINE AND M. LENGLEN. Translated by J. ARTHUR LeCLERC, with an appendix by C. E. MUNROE. New York: John Wiley & Sons. 1906. 8vo. xi+401 pp. Price, \$4.00.

The great development in the manufacture of commercial cyanides, during the last fifteen years, has followed as a natural result of their increased use in gold extraction by the MacArthur-Forrest process. Considerable literature upon cyanides is