

## NEW BOOKS

**Les Méthodes Physiques Appliquées à La Chimie.** (*Methods of Physics Applied to Chemistry.*) By P. JOB, Faculty of Sciences of Lyons. Librairie Octave Doin, 8, Place de l'Odéon, Paris, 1926. viii + 251 pp. 126 figs. 22 × 14 cm. Price, paper, 30 fr. net.

In his introduction to this volume, the author suggests that the physical chemist is still looked upon with some suspicion by his more orthodox colleagues, at least in France. It is, indeed, not so long ago that the following gibe was current in English-speaking countries: A chemist is a person who performs very inaccurate measurements with very pure materials. A physicist is a person who performs very accurate measurements with very impure materials. A physical chemist, therefore, is a person who . . . . . (The remainder of the libel need not be repeated.)

The abandonment of this attitude may be ascribed partly to the wonderful advances made in recent years in the boundary region between physics and chemistry, and partly to the popularization of physicochemical technique by means of simple texts such as Findlay's "Practical Physical Chemistry." If Dr. Job really has skeptics still to convince in his own country, the book here under review should not fail to effect their conversion.

The volume is divided into two parts and an appendix. The first part deals with pure substances in six chapters: (1) Identification and determination of purity, (2) Qualitative and quantitative analysis, (3) Molecular weights of gases, dissolved substances, pure liquids and solids, (4) Atomic weights, (5) Constitution of pure substances, (6) Allotropic modifications. The second part discusses mixtures, solutions and heterogeneous systems in six chapters also: (1) Analysis of gaseous, liquid and solid mixtures, (2) Constitution of solid mixtures, (3) Constitution of liquid mixtures in equilibrium, (4) Constitution of gaseous mixtures in equilibrium, (5) Reacting chemical systems, (6) Prediction of reactions. The appendix gives brief descriptions (frequently far too brief) of the methods by which the various physicochemical measurements are made.

The whole text occupies only 251 pages, index included, and it is astounding how thoroughly the ground has been covered in this limited space. The book is literally bursting with topics of interest, not only to the student and to the stranger, but also to the habitual physical chemist. The diagrams are particularly clear and striking, and the argument on each point is short, precise, and free from mathematical flourish. In fine, anyone who has become rather tired of the heavy diet offered by up-to-date Teutonic and pseudo-Teutonic treatises will relish the unaccustomed Gallic flavor with which the present text is saturated, but not supersaturated.

The student who wishes to obtain a rapid survey of the field of physical

chemistry and a reading knowledge of scientific French at the same time cannot do better than peruse this volume. The paper cover will dissociate before he has finished the first chapter, but what can one expect for a dollar? Besides, it has already been stated above that the book is bursting with topics of interest, and a practical demonstration of this fact to the reader at the very start may inspire him to proceed with greater caution in order to avoid any further disturbing disintegrations. When he has reached the end, he will probably decide that the book is worth a real cover and a permanent place on his reference shelf.

JAMES KENDALL

**Proteins.** Lectures given in the United States of America in 1924. By S. P. L. SÖRENSEN, Director of the Chemical Department, Carlsberg Laboratory, Copenhagen. The Fleischmann Laboratories for the Investigation of Fermentation and for Industrial Research, New York, 1925. xx + 142 pp. Illustrated. 15.5 × 24 cm.

This volume contains the lectures delivered by Professor Sörensen of the Carlsberg Laboratory during a visit to this country in the autumn of 1924. These lectures discuss in order, the solubility, the osmotic pressure, the coagulation and the characterization of the proteins. Each of them not only gives a general review of the subject, but also presents results of new research in this field not previously published. The lecture "Solubility of Proteins" is of particular interest to us, in that it was presented in part by Dr. Sörensen, at Ithaca, when he was elected to honorary membership in the Society, and was first printed in *THIS JOURNAL*, 47, 457 (1925).

In addition, there is a popular lecture on breadmaking, as well as an address on Louis Pasteur and an informal account of the Carlsberg Fund.

These clear and interesting lectures are not only of intrinsic value, but they also serve as a reminder to us of a very pleasing visitor.

ARTHUR B. LAMB

**Chemistry and Recent Progress in Medicine.** By JULIUS STIEGLITZ, Professor of Chemistry in the University of Chicago. The Johns Hopkins University, School of Medicine, The Charles E. Dohme Memorial Lectureship, Second Course, 1924. The Williams and Wilkins Company, Baltimore, 1926. viii + 62 pp. 22.5 × 15 cm. Price, cloth, \$1.50; paper, \$0.75.

This volume contains in book form the lectures given by the author under the Charles E. Dohme Memorial Lectureship at Johns Hopkins University, May, 1923. The first half of the book contains an interesting account of the application of preparative chemistry to recent developments in synthetic drugs, and in the isolation of vitamins, antitoxins and active principles of secreting glands. Under the application of physics and physical chemistry the author discusses Howland's use of the solubility product

in the study of rickets and bone formation and the work of L. J. Henderson, Y. Henderson, Van Slyke and McLean on the physicochemical equilibria of the blood. The last third of the book is devoted mainly to an exposition of the modern theory of oxidation applied to inorganic and simple organic substances. The author attempts to develop this toward a possible mechanism of oxidation in the body.

R. R. RENSHAW

**Das Kolloide Gold in Biologie und Medizin. Die Goldsolreaktion in Liquor Cerebrospinalis.** (Colloidal Gold in Biology and Medicine. The Gold Sol Reaction in Cerebrospinal Fluid.) By ERNST JOËL. Vol. II of *Kolloidforschung in Einzeldarstellungen*, edited by R. Zsigmondy. Akademische Verlagsgesellschaft m. b. H., Leipzig, 1925. iv + 115 pp. 21 figs. 22 × 14.5 cm.

This is a review of the reactions between gold hydrosol and biological fluids, particularly from the German viewpoint, since 129 of the total of 130 citations are from the German literature. The treatment of the Lange reaction is extensive and should be found of great value to clinicians and biochemists.

ARTHUR W. THOMAS

**Toxikologische Chemie.** (Toxicological Chemistry.) By Dr. E. MANNHEIM. Third revised edition, Dr. FR. X. BERNHARD, University of Bonn. Walter de Gruyter and Co., Genthinerstrasse 38, Berlin W. 10, 1926. 135 pp. 5 figs. 16 × 10.5 cm. Price, Rm. 1.50.

No pretence is made that this little book is an exhaustive treatise upon toxicology. "Syllabus of Tests" might perhaps be the best way to designate it, for nearly every important test known to toxicologists appears in its pages. Students looking for an outline to aid them in making a hasty review of toxicology will find the book useful, but analysts in search of a guide for serious toxicological investigation will prefer other books. In writing the book the author probably had no intention of recommending it for the latter purpose. Unless supplemented by close personal supervision and fuller directions as to procedure, this book can hardly be of much service to the student in the laboratory. Some changes in the order of treatment would add to the clearness of the book. For example, under heading IV is "Procedure for the Detection of Poisons," whereas logically it should begin the book. Instead of coming first, "Reactions of Metallic Poisons" might better be included under "Metallic Poisons" in the systematic course of toxicological analysis.

WILLIAM H. WARREN