

of the *mucor* family, while the third deals with fermentations by yeast proper.

This last section contains three interesting chapters and is evidently but the introduction to a full discussion of alcoholic fermentation in general, to appear in a later portion of the work. The scope of these chapters is suggested by their titles: Morphology and Life History of Yeasts; The Anatomy of the Yeast Cell; Chemistry of the Yeast Cell. The completed second volume will doubtless prove as useful to chemists interested in fermentation industries as was the first. The mechanical work on the book is excellent.

J. H. LONG.

THE AMERICAN YEAR-BOOK OF MEDICINE AND SURGERY. Vol. I. GENERAL MEDICINE. Philadelphia: W. B. Saunders and Co. 1903. 691 pp. Cloth, \$3.00 net. Half-morocco, \$3.75 net.

This is a valuable annual publication which has already been noticed in this Journal in a review of the volume issued in 1902. The work has not as wide a scope as the *Jahresbericht für Chemie* and the reviews it furnishes are often critical to some degree. But it furnishes an excellent survey of all that is really important in medical literature from the whole world and in readable form. The rapidly increasing importance of chemistry and chemical physiology in general medicine is shown especially in this last volume, which can be recommended to all who are interested in the scientific side of medical progress. The work is issued in two volumes under the editorial control of Dr. George M. Gould. Volume I is always devoted to medicine and Volume II to surgery.

J. H. LONG.

RÉFLEXIONS SUR LA PUISSANCE MOTRICE DU FEU, ET SUR LES MACHINES PROPRES A DÉVELOPPER CETTE PUISSANCE. BY SADI CARNOT. (Réimpression fac-similé conforme à l'édition originale de 1824.) Paris: A. Hermann. 118 pp. 1903.

This reproduction, evidently photographic, of the classic which founded the science of thermodynamics, is a welcome addition to available scientific literature. The original is rarely to be found; and no ordinary reprint, however finely executed, can quite fill its place. One wonders that the photographic method is not more often used for this purpose, for letterpress which has been proof-read by the author has a virtue which no recomposition can attain.¹ The value of this edition is enhanced by an

¹ Ostwald testifies that the present fac-simile is precise, having compared it with his original copy. (*Ztschr. phys. Chem.*, 43, 640, May, 1903.)

appended facsimile of the page of Carnot's note-book in which his prescience of the mechanical theory and equivalent of heat is recorded, and also by the letter of his brother Senator Carnot to the Academy. These are taken from the French edition of 1878. When following once more, in their original dress, the thoughts of the great pioneer, the reader cannot but wonder concerning the marvels which he might have wrought if his life had ended less prematurely.

T. W. R.

INDIA RUBBER AND GUTTA PERCHA, translated from the French of SEALIGMANN, LAMY TORRILHON, AND FALCONNET BY JOHN GEDDES MCINTOSH. London : Scott, Greenwood, and Co. 1903. New York : D. Van Nostrand and Co. Price, \$7.50 net.

After an interval of some years in which no comprehensive work on this subject has appeared, two quite elaborate works have appeared almost simultaneously; the one of which the title is given above, and the work of Dr. Carl Otto Weber on "The Chemistry of India Rubber," published this year by Chas Griffin & Co., London, and J. B. Lippincott Co., Philadelphia. The book before us is the more comprehensive in its scope, covering both the subjects India rubber and gutta percha and, as the subtitle states, in their historical, botanical, arboricultural, mechanical, chemical and electrical aspects. As the translator states in his preface, it has been produced by the collaboration of a well-known technical chemist, an equally well-known India rubber manufacturer, and an expert mechanical engineer with special experience of India rubber and gutta percha plant and machinery. Because of this comprehensive plan, the book is a valuable one for those desiring information on the general subject and its different bearings.

The chemistry of the book is not, however, a connected whole written from the standpoint of our present knowledge of the subject, but is in part quite old and somewhat disconnected. As an example we may note the account of dambonite and dambose, the sugar-like body obtained from galoon rubber by Girard. The authors and the translator have preserved the old notation $C_6H_8O_6$ for the sugar and C_2H_3I for methyl iodide, and the only intimation the reader has that these formulas are not to be taken as written is a brief foot-note of the translator to the effect that "all the formulas and equations given by Girard are evidently old notation." We do not think that there is any excuse for