

tion of Progression in Relation to Composition and Constitution," and of "Solutions of Nitrocellulose."

In his lecture Bernadou bases his argument for the proper composition of a powder on the relative volumes of carbon dioxide and of carbon monoxide produced from the same mass of carbon when burned with oxygen, but in making this elementary calculation he uses 1.9 (which is approximately the weight in grams of a liter of carbon dioxide at normal) as the specific gravity of carbon dioxide, and 1.4 (which is practically 0.1 of the relative density of carbon monoxide) as the specific gravity of carbon monoxide.

His essay on the "Theory of the Cellulose Molecule," is of the most speculative character and the pages bristle with curious graphic formulas which are arranged in purely fanciful ways and from which he draws the most sweeping generalizations regarding the upbuilding of cells, the characteristics of organic life, and the like. He is unhampered by conventions and since, for instance, the accepted formula for ethyl hydroxide does not serve his convenience he assigns to this substance a "strain" formula in which the atoms are arranged as in the accepted formula for dimethyl oxide. He seems to regard linkages as matters of slight consequence and having assumed, without giving any evidence, the existence of median double linkages in the cellulose molecule, he shifts them to terminal single bonds at will, since, as he states, the molecule "may be expressed" in this way "without radical modification."

The book bears throughout evidence of the ambitious amateur, and one wonders how a man dares risk his reputation in his own profession by excursions into other professional fields of work where his deficiencies become apparent. The pursuit of one's own profession ought to furnish opportunities to satisfy any laudable ambition.

CHARLES E. MUNROE.

A COMPENDIUM OF GOLD METALLURGY AND DIGEST OF U. S. MINING LAWS, WATER RIGHTS AND DESERT LAND LAWS. By E. M. and M. L. WADE. Published by the authors, Los Angeles, Cal. 140 pp. Second Edition. Price, \$1.00.

The book, as stated in the introduction, is intended for the mining public which has little or no knowledge of metallurgy, and appearing now in a second enlarged edition seems to have filled a certain want. It is divided into eight chapters and has

five appendices. In the first part are found brief discussions of the characteristics of gold and quicksilver, and of ores and country rock; further outlines are given of the processes of amalgamating, concentrating, leaching, and smelting. In the second part there are articles on the occurrence and prospecting of gold ores, and on the methods of sampling, assaying, and testing.

The authors who, according to the illustrated advertisements contained in the book, are in charge of ore-testing works and of laboratories for assaying and analyzing, show in the text that they have a practical knowledge at least of the milling of gold ores and of the current assay methods. Many valuable hints are given which will be of interest to any reader. The general non-chemical mining public, however, will find that more chemical knowledge has been presupposed than can be picked up at random. The book will be of service to a foreman who knows the practical details of his work and wishes to have some sort of elementary primer to help him along. Presupposing that the matter contained in the book is well chosen, a more logical arrangement would be of much benefit.

H. O. HOFMAN.

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### BOOKS RECEIVED.

Handbook on Sanitation. A handbook of theoretical and practical sanitation. By George M. Price, M.D. New York: John Wiley & Sons. 1901. xii + 317 pp. Price, \$1.50.

The Manufacture of Alum and the Sulphates and Other Salts of Alumina and Iron; Their Uses and Applications as Mordants in Dyeing and Calico Printing, and Their Other Applications in the Arts, Manufactures, Sanitary Engineering, Agriculture and Horticulture. By Lucien Geschwind. Translated from the French by Chas. Salter, with 195 illustrations. 1901. London: Scott, Greenwood & Co.; New York: D. Van Nostrand Co. xii + 387 pp. Price, \$5.00.

A Laboratory Guide to the Study of Qualitative Analysis. By E. H. S. Bailey, Ph.D., and Hamilton P. Cady, A.B. Fourth Edition. Philadelphia: P. Blakiston's Son & Co. 1901. 234 pp. Price, \$1.25.

The Dyeing of Cotton Fabrics. A practical handbook for the dyer and student. By Franklin Beech. Illustrated by forty-four engravings. London: Scott, Greenwood & Co.; New York: D. Van Nostrand Co. 1901. viii + 282 pp. Price, \$3.00.

A Report upon Some Factors Relating to the Cane Sugar Industry of Australia. By Dr. Walter Maxwell. 1901. 16 pp. 4to. Price, 7d.