the coal burned to liquid water, in one case, at least, results which were published in terms of the fuel burned to vapor of water are given without the necessary correction. On page 106 analyses of natural gas are given which represent it as containing large amounts of hydrogen, although Professor Philips has, apparently, demonstrated[1] that this gas is never present. In the same table marsh gas and methane are given as though they were different substances. The value of the tables would be greatly increased if exact references to the source of the data were given.

While it is evident that the tables must be used with care and discrimination, the book will prove a useful one to engineers and chemists interested in the subject of fuels.

W. A. NOYES.

METHODS FOR THE ANALYSIS OF ORES, PIG IRON, AND STEEL. Easton, Pa.: The Chemical Publishing Co. 1898. 8vo. 131 pp. Price, $1.00.

This well printed and neatly bound volume contains a symposium of methods of iron analysis, in use in the laboratories of iron and steel works in the region about Pittsburg, Pa., together with an appendix containing various special methods of analysis of ores and furnace products. The methods are given in detail by the chemists in charge of the fifteen laboratories represented and may be considered to represent the general practice of the chief iron and steel works in the principal center of the iron industry in the United States. When one reflects upon the vast commercial and manufacturing interests that are based upon the results of these methods of analysis, they become well worth careful study and comparison by every one interested in iron analysis.

P. W. SHIMER.

TEXT-BOOK OF PHYSICAL CHEMISTRY. By CLARENCE L. SPEYERS. iv + 224 pp. New York: D. Van Nostrand Co. Price, $2.25.

There is a deplorable lack of continuity in the teaching of science between our universities and the schools preparing for them. While the student continues his study of languages and mathematics on entering college, he generally begins his study of science over again. Many students have had good courses in physics and chemistry in the secondary schools and are fitted to go on with that work in college. To such students as these,

[1] *Am. Chem. J.*, 16, 406.