

into English factories, but very likely it is true. The only American machine described is one of the earlier forms of water-cooled mills; and the practical, technical points which one would like to find in a book of this sort, such as the values of different styles of dressing millstones for various kinds of work, the points of excellence to be aimed at in making particular paints, the nature and effect of the vehicles used, and the like,—such things as these are very scantily touched upon. It seems remarkable that no mention is made of the practice of mixing oil with wet white lead without preliminary drying, a practice of great commercial importance. In general, the information conveyed to the reader seems to be of the sort obtainable from the makers of paint machinery, rather than from experts in paint manufacture; accurate and useful as far it goes, but lacking in real knowledge of the subject. The book is one which should be of interest and use to the beginner but is not complete enough to serve the advanced manufacturer.

A. H. SABIN.

LEÇONS SUR LA THEORIE DES GAZ. L. BOLTZMANN; traduites par A. GALLOTTI. Paris: Gauthier-Villiers. 1902. Price, 8 francs.

Boltzmann is one of the three great mathematicians to whom the development of the kinetic theory of gases is mainly due. The present volume contains a translation of the first half of his lectures, originally published in 1896 and 1898, and gives a systematic account of the mathematical results attained by the joint labors of Maxwell, Clausius and Boltzmann.

Professor Gallotti's translation is clear and accurate; some sentences are even more perspicuous than in the original. Professor Brillouin has furnished an historical introduction and some comments on certain steps in the mathematical discussions of the author.

EDWARD W. MORLEY.

THE MANUFACTURE OF MINERAL AND LAKE PIGMENTS. BY DR. JOSEF BERSCH. TRANSLATED BY A. C. WRIGHT. London: Scott, Greenwood & Co. 1901. 476 pp. Price, \$5.00 net.

This admirable book was evidently written by a thorough chemist who is also a practical color-maker. Not many technical points escape mention and the book is valuable not only for reference but for daily use. The chapters on "Black Pigments," "Vermilion," and "Ultramarine," are especially valuable, as presenting an intelligible account of processes on which very little practical information is available.