

devoted to reflection from plane surfaces are excellent, and those in which refraction is treated are particularly thorough and good. The simpler geometrical treatment of lenses is very satisfactory; optical instruments and 'aids to vision' receive rather more attention (especially the latter) than is usual in books of this class. There are also a number of interesting and rather uncommon experiments and exercises combining the eye and lenses of various forms, by means of which many problems relating to vision are made clear. There is a chapter on the spectrum and color, with which the volume ends.

Both of these volumes can confidently be recommended for courses in secondary schools, or in colleges where a limited amount of elementary instruction in physics is required.

T. C. M.

*Electricity, One Hundred Years Ago and To-day.* EDWIN J. HOUSTON. New York, W. J. Johnston & Co., Limited. 12mo., pp. 200.

This volume is built around or upon a lecture having the same title which was delivered in 1892. It was a historical discussion of the growth and development of electricity from the beginning (not one hundred years ago) to the present time. In preparing it for publication the author has increased its volume several times, and its interest and value proportionately by the addition of an extensive series of historical foot-notes. Many of these consist of long quotations from original authorities which would have been hardly suitable for a popular address, but which greatly enhance the worth of the address when printed. Some discussions of quite recent date are extensively quoted, and this volume includes, in comparatively small space, the results of much labor expended in the pursuit of exact information by reference to original papers. For this reason, if for no other, it will be welcome to

all interested in the science of electricity or the art of its application.

T. C. M.

*Hygiene.* By I. LANE NOTTER and R. H. FIRTH. London, Longmans, Green & Co. 1894.

This manual, of 374 pp. 8°, is a very concise and clear summary of what a non-professional, well educated man should know with regard to the general laws of health, the causes of disease, and the best means of combating the latter. Dr. Notter is the Professor of Hygiene in the Army Medical School at Netley, and Examiner in Hygiene in the Science and Art Department at South Kensington, and Dr. Firth is his assistant in each of these positions, hence this manual may be considered as a summary of the latest English teaching on this subject. In such subjects as heating and ventilation, house drainage, construction of buildings, hospitals, etc., its recommendations are adapted especially to the climate and customs of England, and the illustrations are solely of English appliances and methods, and this must be borne in mind by American readers.

Galton's grates, Tobin's tubes, Sheringham valves, Buchan's traps, etc., are not to be found in the market in this country, where other equally satisfactory appliances take their place.

It is not a book to be resorted to for thrilling and sensational quotations, but it will be found to give sound common sense advice upon the subjects of which it treats, and is commended to the readers of SCIENCE as a good manual of reference.

*An Illustrated Dictionary of Medicine, Biology and Allied Sciences.* By GEORGE M. GOULD, A. B., M. D. Philadelphia, P. Blakiston, Son & Co. 1894. 4°, pp. 1633.

This is a very full and complete dictionary of medicine, printed clearly on good paper, and so bound that it will remain open at any page, a convenience not always