given relating to water works. These omissions show the defects of the author's system of classification, and demonstrate how impossible it is to write a satisfactory one-volume treatise on civil engineering at the present day. A comprehensive treatise, like the *Handbuch der Ingenieurwissenschaften*, must consist of many volumes and be the work of many men.

MANSFIELD MERRIMAN.

LEHIGH UNIVERSITY, July 29, 1895.

Electricity Up to Date for Light, Power and Traction. JOHN B. VERITY. London and New York, Frederick Warne & Co. 1894.

The preface of this book tells us that 15,000 copies have found their way into circulation. The title is a misnomer, unless the date is mentioned. In these days of active investigation and rapid application of discovered principles a book on electricity is out of date as it drops from the press. This statement is exemplified in this publication. The recent lucid investigations of Mr. R. E. Crompton on electric heating do not appear, and the surprising results of Mrs. Ayrton on the electric arc receive no mention. The various prime movers are mentioned, excepting the steam turbine, which, perhaps, is the most promising of all motors. The author ignores pretty generally what America is doing in the electric field, except in the case of Edison, to whom he gives credit for what was known before Edison was born—'the subdivision of the electric light.'

One of the first and certainly one of the simplest arc lamps, and the one most used, the Brush, receives no mention. There are several expressions which ought to be omitted from popular books, to prevent the spreading of erroneous ideas. Among these are 'Storage of Electricity,' used in this book as the head of a chapter; 'Electric Pressure,' for 'Difference of Potential.' The confounding of these terms causes great confusion in the schools. We expect better things in a book which professes to be both scientific and popular. On page 184 is the statement that in a wire through which a current of electricity is passing 'the heat generated is proportional to the quantity of current used;' it would have been just as easy to have stated the exact law. The book is well printed and illustrated, but it is difficult to treat so large a subject in 200 pages with success. J. W. MOORE.

LAFAYETTE COLLEGE.

Neudrucke von Schriften und Karten über Meteorologie und Erdmagnetismus herausgegeben von Professor Dr. G. Hellmann, No. 4. E. HALLEY, W. WHISTON, J. C. WILCKE, A. VON HUMBOLDT, C. HANSTEEN. *Die ältesten Karten der Isogonen, Isoklinen, Isodynamen; 1701, 1721, 1768, 1804, 1825, 1826.* Berlin, A. Ascher & Co. 1895. Sieben Karten in Lichtdruck mit einer Einleitung. 26 pp., 4to.

The above forms No. 4 of the very interesting series of reprints in facsimile of epoch-making rare old books or charts in Meteorology and Terrestrial Magnetism edited by the well-known meteorologist and bibliographer, Professor Hellmann, of Berlin.

Like its predecessors,* the number before us commends itself by its keen, critical and thorough research, by its beautiful typographical execution and by the lowness of the price. Hardly one of the seven charts given could be obtained for the price (5 marks) asked for the whole. It is needless to remark that the editor of these successful reprints and his coöperators, the German Meteorological Society and its Berlin Branch, have thus merited the warmest

* No. 1. L. Reynman: Wetterbüchlein. Von wahrer Erkenntniss des Wetters. 1510.

No. 2. Blaise Pascal: Récit de la Grande Expérience de l'Equilibre des Liqueurs. Paris, 1648.

No. 3. Luke Howard: On the modifications of clouds. London, 1803.