

OBITUARIES.

CHARLES FRIEDEL, although most distinguished as a chemist, had a considerable reputation as a Mineralogist and Crystallographer. He was born at Strassburg on March 12th, 1832, and graduated in mathematics and physics at the University of Paris with special honours. His first public appointment (1856) was that of Curator of the Mineralogical Collection of the Paris School of Mines. In 1876 he became Professor of Mineralogy in the University, and eight years later succeeded Professor Wurtz in the Chair of Organic Chemistry. He received the distinguished honour of membership of the Institute (Academy of Sciences) in 1878, and in 1881 was President of the French Mineralogical Society. His numerous mineralogical papers deal with the pyroelectrical phenomena of crystals, the artificial production of minerals, and other subjects of a miscellaneous and descriptive character. The minerals adamite, wurtzite, delafossite and (in conjunction with another author) carnotite were first described by him; the mineral friedelite perpetuates his name.

Friedel's death took place on April 20th, 1899. A detailed account of his mineralogical work, together with an excellent portrait, is given by P. Curie in *Bull. Soc. franç. Min.* 1900, XXIII, 171-190.

PETER WAAGE, an original honorary member of the Society, died in January 1900, in his 67th year. Since 1862 he had held the post of Professor of Chemistry in the University of Christiania. As a chemist he was interested in the analysis of minerals, and he was also joint author of a primer of crystallography.

TOWNSHEND MONCKTON HALL, an original member of the Society, and a contributor to the Magazine, died July 1st, 1899, at the age of 54. He was well known as a local authority on the geology and mineralogy of Devonshire, and was the author of a very useful topographical index to British mineralogy, "The Mineralogist's Directory," published in 1868.

 REVIEWS.

Elements of Mineralogy, Crystallography and Blowpipe Analysis from a practical standpoint. By A. J. Moses, Professor of Mineralogy, Columbia University, and C. L. Parsons, Professor of General and Analytical

Chemistry, New Hampshire College. New enlarged Edition. Pp. vii+414. 664 Figures. (New York: D. Van Nostrand Company, 1900. Price \$2.00 net.)

This is one of the best text-books that can be recommended to students of elementary mineralogy. Clear and concise statements in short paragraphs are admirably arranged under prominent head-lines, so that the text is easy to read and convenient for reference. On many pages there are eight different kinds of type. The book is full of excellent illustrations of an original character; those from photographs of actual specimens are, as a rule, good, but others, as might be expected, do not show very much, and would have been better omitted.

Part I, dealing with crystallography, describes the more important of the 32 classes of crystals; there are also short chapters on the measurement and drawing of crystals, but no mention is made of stereographic projection. Part II gives an excellent account of the methods of blow-pipe analysis. The third part, headed descriptive mineralogy, includes five chapters on the optical and other characters of minerals, and these might very well have formed a part by themselves. The chapters on optical characters will be useful to beginners in microscopic petrography.

This edition differs considerably from the first edition of 1895; there are 328 more figures, the crystallography and determination tables have been re-written, and the remainder extensively revised.

A Text-book of Important Minerals and Rocks, with Tables for the Determination of Minerals. By S. E. Tillman, Professor of Chemistry, Mineralogy and Geology, U.S. Military Academy, West Point, N.Y. Pp. viii+176. 38 Figures. (New York: John Wiley & Sons. London: Chapman & Hall, 1900. Price \$2.00 net.)

This book is quite elementary, and, in fact, almost popular in character. The most unsatisfactory part is that dealing with crystallography, which is very sketchy and contains many incorrect statements, while head-lines like the following only lead to confusion:—"Crystallographic Law—Law of Axial Ratios, or Rationality of Parameters [*sic*] or Indices." The part giving descriptions of 75 common minerals is better, but here the arrangement of the main headings requires considerable revision: for example, native copper and cinnabar come, without any break in the text, under ores of silver. Tables for the determination of the 75 species are unduly long, occupying no less than 40 pages. The concluding part gives a short account of rocks on the lines adopted in elementary text-books of geology.