SCIENCE

FRIDAY, MARCH 17, 1899.

CONTENTS:

MSS. intended for publication and books, etc., intended for review should be sent to the responsible editor, Professor J. McKeen Cattell, Garrison-on-Hudson N. Y.

THE OBJECTIVE PRESENTATION OF HARMONIC MOTION.

CONTENTS.

ing the last score of years, as will appear from an outline of the chief topics. Thus we have young rivers, with lakes, falls and rapids as marks of immaturity; graded rivers and the development of valleys; meanders and the shifting of divides; mature and old rivers; revived, antecedent, engrafted and dismembered rivers, the causal or historical notion appearing at every stage of the discussion.

The general reader who desires to cultivate an appreciation for natural scenery will find help in Professor Davis's volume, and the student to whom most of the materials are familiar will find a convenient and systematic summary of the important facts and doctrines of a great and growing science.

ALBERT PERRY BRIGHAM.
COLGATE UNIVERSITY, February, 1899.

GENERAL.

The Bulletin of the American Mathematical Society states that advices from the Vatican announce that Abbé Cozza Luzzi, assistant librarian, has found Galileo's original manuscript treatise on the tides. The manuscript is in Galileo's handwriting and concludes with the words: 'Written in Rome in the Medici Gardens on January 8, 1616.' The currently accepted text, the original of which was supposed to have been lost, differs considerably from that of the manuscript just found. Pope Leo XIII. has taken the greatest interest in the discovery and has ordered the manuscript to be published in an elegant edition at the expense of the Vatican.

THE London *Times* announces that it will prepare a supplementary volume to the ninth edition of the Encyclopædia Britannica. This edition was published between 1875 and 1889. It is well known that the treatment of scientific subjects are in many cases the best accessible to English students, being prepared by leading English men of science. It is unfortunate that a new edition of the Encyclopædia cannot be prepared, as the last twenty-five years have brought many changes in all the sciences, but a supplementary volume will be of some service.

BOOKS RECEIVED.

A Handbook of Medical Climatology. S. EDWIN SOLLY. Philadelphia and New York. 1897. Pp. xii + 470.

Minerals in Rock Sections. LEA MCILVAINE LUQUER. New York, D. Van Nostrand Co. Pp. vii + 117.

Die Medial-Fernrohre. L. SCHUPMANN. Leipzig, Tuebner. 1899. Pp. iv + 145. Mark 4.80.

Die Lehre vom Organismus und ihre Beziehung zur Sozialwissenschaft. OSCAR HERTWIG. Jena, Fischer. 1899. Pp. 36. Mark 1.

Regeneration und Entwicklung. H. STRASSER. Jena, Fischer. 1899. Pp. 29. Mark 1.

Elementary Physiology. BENJAMIN MOORE. New York, London and Bombay, Longmans, Green & Co. 1899. Pp. ii + 295.

Primer of Geometry. JAMES SUTHERLAND. London, New York and Bombay. 1898. Pp. 117.

SOCIETIES AND ACADEMIES.

THE GEOLOGICAL CLUB OF THE UNIVERSITY OF MINNESOTA.

AT a meeting of the Club on February 25th Professor C. W. Hall discussed the extent and distribution of the Archean in Minnesota. First, accepting the Archean as that original 'crust,' or solidified portion of the earth, which is postulated in every existing view of the beginning of the geological record, he defined it as an era of igneous origins whose rocks represent the original crystallization of earth matter added to from below by successive solidification and many subsequent intrusions. By this definition all overlying clastics or irruptions into or through the clastics are excluded from the Archean. If the base of the clastics can be found there certainly should be found, locally, at least, the rocks upon which they lie. Such underlying rocks, the Archean, are believed to occur in Minnesota in two quite separated districts, the northern and the southwestern.

Along the international boundary most geologists have grouped all the rocks from Basswood Lake to Lake of the Woods as Archean, even when clastics have been clearly recognized and eruptives found breaking through them. Lack of care in delimiting the Archean upwards has caused much confusion. Lawson set an example in distinguishing between clastics, 'agglomerate schists' and the rocks underlying, though not necessarily those from which the clastics are derived. Structurally the