

rock has been split up by mechanical means into the minute grains of sand and clay then the resulting material must have swelled to twice its original volume. Lantern slides were exhibited showing the shape of soil grains and the relative size and surface area, and to illustrate some of the physical properties of sand and clay. Slides were also shown illustrating the texture of soils, and the economical importance of this subject in the distribution of crops was pointed out, the texture of soils adapted to many of the principal crops being shown.

By the structure of soils is meant the arrangement of the soil grains. This has an important geological bearing and a very important economic side. Slides were used to show grains of soil unflocculated as they exist in a puddled clay and flocculated as they exist in a loam soil. The effect of this on the relation of soils to rainfall was explained and the economic importance of the difference in the conditions maintained by the soils owing to the difference in the structure was pointed out.

*Topographic Nomenclature of Spanish America.* Mr. Rob't T. Hill, of the U. S. Geological Survey, read a paper upon the names given by the Spanish people to the topographic features of the United States, illustrating by appropriate lantern slides. It was held that with one or two exceptions, Spanish words could be found upon the published maps for nearly all topographic forms. Over fifty of these terms were defined and illustrated, and Mr. Hill proposed that many of them be adopted into the English language and used for forms for which the latter possess no appropriate terms. The paper will be published in full. W. F. MORSELL.

ACADEMY OF NATURAL SCIENCES OF PHILADELPHIA, MAY 26, 1896.

A PAPER entitled 'Catalogue of the Species of Cerion, with Descriptions of New Forms,' by Henry A. Pilsbry and E. G. Vanatta, was presented for publication.

Mr. Edw. Goldsmith reported that a specimen of supposed Geyserite from Hawaii had been found by him to be an amorphous, soluble sulphate of lime. The substance was found on the edge of the crater of Kilauea, associated with sulphur deposits.

Prof. Edw. D. Cope exhibited the skull of a whale from the Miocene of the Yorktown epoch. It adds another species to the whalebone whales, and establishes their direct relations to the Zeuglodonts. The elongation of the parietal and frontal bones is characteristic. The form is allied to the genus *Cetotherium*, and is described under the name *Cephalotropis coronatus*.

Dr. M. V. Ball described a human exencephalic monster born in about the seventh month. The brain, although extruded, is well developed. There are six digits on one hand. No reason could be suggested for the occurrence, the parents, grandparents and a number of brothers and sisters being normal.

*Botanical Section*, May 11, 1896, Dr. Chas. Schaeffer, Recorder.—Mr. Thomas Meehan stated that he had observed that the flowers of *Draba verna* are often self-fertilized by the two long arcuate stamens, while in *Capsella*, of the same order, this is not the case. He believes *Draba* to be both protandrous and proterogynous.

Mr. Beringer exhibited a very tomentose specimen of *Quercus alba*, and gave new localities for *Carex baratii*.

A committee, consisting of Edw. D. Cope, Benjamin Sharp and H. Frank Moore, was appointed to draft resolutions for presentation to the next meeting expressive of the Academy's opinion on the subject of the anti-vivisection bill now before Congress.

EDW. J. NOLAN,  
Recording Secretary.

#### NEW BOOKS.

*Miscellaneous Papers by Heinrich Hertz*, with an introduction by PROF. PHILIP LENARD, translated by D. E. JONES and G. A. SCHOTT. London and New York, Macmillan & Co., Ltd. 1896. Pp. xxvi+340. \$3.25.

*The Gypsy Moth.* EDWARD M. FORBUSH and CHARLES M. FERNALD. Boston, Wright & Potter Printing Co. 1896. Pp. xii+495+C=100.

*Biological Experimentation, its Functions and Limits.* SIR BENJAMIN WARD RICHARDSON. London, George Bell & Sons; New York, The Macmillan Co. 1896. \$1.00.