The form of the mass is extremely irregular, and though measures have been taken around the mass at many different points, its cubic contents cannot be calculated with more than an approximation to accuracy.

The five largest meteorites known to science to-day are:

Bemdego (Brazil)	5⅓	tons.
San Gregoria (Mexico)	11½	"
Chupaderos (Mexico)	15⅔	"
Anighito (Greenland)	50	"
Bacubirito (Mexico)	50	"

The first three are weights proven on scales: the last two are thus far simple estimates.

Whichever meteorite shall, after accurate calculation, prove to be the heavier, it will ever remain of interest that the two largest meteorites known to our earth have fallen on the North American continent—one far toward its northern end, the other toward its southern.

Paleontological Notes: (a) Notes on Gastropods, (b) Spirifer mucronatus and its Derivatives: A. W. Grabau. (Read by title.)

The following papers were read under the auspices of the National Geographical Society:

Scientific Results of the Recent Eruptions in the West Indies: R. T. Hill.

The Magnetic Disturbances during the Time of the Recent Volcanic Eruptions in Martinique: L. A. Bauer.

Atmospheric Phenomena in Connection with the Recent Eruptions in the West Indies: A. J. Henry. (Read by G. H. Grosvenor.)

F. P. Gulliver,
Secretary, Section E.

DR. J. G. COOPER.

News has been received of the death at Hayward, Alameda County, California, of Dr. James G. Cooper, at the age of seventy-two years, July 19, 1902. Dr. Cooper's services to science have been such (coupled with the singular omission of his name and his father's from the chief records of American biography) as to render some statement of them desirable for a generation to whom he was little known.

James Cooper, an English merchant, settled in New York shortly after the Revolution, accumulated a competency and died in 1801, leaving a son, William Cooper, born in 1798. At an early age the latter, who had inherited the love of nature from his mother, Frances Graham, determined to devote himself to the study of Natural History. At the age of eighteen young Cooper became one of the founders of the Lyceum of Natural History, now the New York Academy of Sciences, under the lead of Dr. S. L. Mitchill, John Torrey, Daniel Barnes and others, and soon became a generous contributor to its library and one of its officers. In 1821 William Cooper sailed for Europe to continue his studies in zoology and was elected the first American member of the Zoological Society of London. He attended the lectures of Cuvier at Paris, and on his return devoted himself to ornithology and paleontology. He was a friend of Schoolcraft, a correspondent and colaborer of Lucien Bonaparte, who dedicated to him the well-known *Falco Cooperi.* His son, James G. Cooper, was born June 19, 1830, and in 1851 graduated from the College of Physicians and Surgeons, New York, following it by a two years' course in the city hospitals. In 1853 he was appointed surgeon to the northern division of the Pacific Railroad Survey, at the suggestion of Professor S. F. Baird, and spent some time at the Smithsonian Institution, preparing himself for the duties

of naturalist as well as medical adviser to the party. He was one of the original group of young naturalists which gathered around Professor Baird in the early days of the institution, who made up the Potomac-side Naturalists Club, and whose names are classic in the annals of zoology in this country. Although never robust, and for much of his life in delicate health, he survived all the others. Dr. Cooper was assigned to the western division of the survey, terminating at Puget Sound, under the superintendence of Geo. B. McClellan, of the Engineer Corps of the army. Jefferson Davis was Secretary of War; the regimental quartermaster who supplied the needs of the party on the Pacific coast was U. S. Grant. Co-laborers with Cooper in working up the collections were Baird, Torrey, Asa Gray, Hayden, George Gibbs, Meek, Le Conte, and Dr. Suckley, in cooperation with whom Cooper prepared a report on the birds of Washington Territory. As usual in those days, he collected in all branches, and made a particular study of the meteorology of the region. The following year he returned to Washington to prepare his report, but was soon obliged by lung trouble to return to the more favorable climate of the Pacific coast. For several years he devoted himself to making collections on the Pacific coast, much of the time at his private cost. During the latter part of the Civil War he was surgeon in the 2d Cavalry, California Volunteers, and served until the regiment was mustered out. In 1865 and 1866 he was naturalist to the Geological Survey of California, under Whitney, and his report on the birds of the state, after the close of the Survey, edited by Professor Baird, was published by Professor Whitney at the personal cost of the latter, though in form as one of the 'Reports of the State Geological Survey.' In 1866, Cooper married Miss Rosa M. Wells, and continued in the practice of his profession until the failure of his health in 1871, after which his work, though often interrupted, was still pursued as his strength permitted. He was long associated with the California Academy of Sciences, and also with the State Mining Bureau. Much of Dr. Cooper's early work was of great help and importance in developing knowledge of the fauna, flora and geology of the Pacific coast. Ornithology knows him as a valuable contributor, and his most extensive works were on that branch of science. Later he published many papers on the mollusks of the coast, and the number of titles in this line of research mounts up to forty-three. Many of the younger students of zoology on the Pacific coast have testified to their appreciation of his help in guiding and promoting their studies. The Cooper Ornithological Club of California was named in his honor, and the first number of its *Bulletin* contains a sketch of his life, up to 1899, and a portrait. To this summary we are indebted for many of the above facts. Dr. Cooper was tall and slender, rather reserved in manner, and his physical activity was held in check by ill health during much of his life, while for years he was dependent upon his medical practice for support. But in spite of these handicaps his work on the Pacific coast has been of primary importance, and by his death passes away the last member of a group of men to whom American zoology is permanently indebted.

WM. H. DALL.

SCIENTIFIC BOOKS.

The Principles of Inorganic Chemistry: WILHELM OSTWALD. Translated with the Author's Sanction by ALEXANDER FINDLAY. London, Macmillan & Co. 1902. 8vo. Pp. xxvii+785.

Professor Ostwald has played a most prominent part in the promulgation of modern physical chemistry. His pen has been so wonderfully prolific that astonishment is felt that he is able to produce so many books of large size