results in the Milky Way; variable star fields a comparison of the structure of the local system with that of external galaxies will eventually determine whether our galaxy is a unit organization or a supersystem; and the researches on the anatomy of bright southern globular clusters, throwing light on the nature of the faintest spheroidal galaxies, will aid in the measurement of the metagalaxy.

OBITUARY

FRANK WIGGLESWORTH CLARKE

ON May 23, 1931, Frank Wigglesworth Clarke, one of the most widely and favorably known of American chemists, quietly passed away at his home in Chevy Chase, Maryland, at the age of eighty-four years.

Dr. Clarke was born in Boston, March 19, 1847. He was the great-great-grandson of Robert Clarke, of the Scotch colony near Londonderry, Ireland, who came to this country about 1725.

Dr. Clarke's early education was obtained in schools in and near Boston, and in March, 1865, he entered the Lawrence Scientific School of Harvard University where he took up the study of chemistry under Wolcott Gibbs. Receiving the degree of Bachelor of Science in 1867, he remained at the School for another year, and published his first scientific paper, "A New Process in Mineral Analysis," in the *American Journal of Science* in 1868. In January, 1869, he went to Cornell University as assistant to Professor J. M. Crafts and, leaving that position at the close of the academic year, he returned to Boston where for the next four years he lectured on chemistry in the newly established Boston Dental College and eked out his small income by lecturing in other schools and by journalistic work.

From early boyhood he had a strong bent toward the preparation of collections—stamps, coins, flowers and especially minerals—and of tabulations of the facts that came to him through observation or reading. This characteristic of his orderly mind led him later to compile a "Table of Specific Gravities, Boiling Points and Melting Points of Solids and Liquids," which was accepted for publication in 1872 by Professor Joseph Henry, secretary of the Smithsonian Institution, who gave to the paper the general title "Constants of Nature, Part I." Further volumes under this title followed in 1876, 1882, 1888 and 1897.

After one year as professor of chemistry and physics at Howard University, Dr. Clarke accepted appointment in 1874 to the chair of chemistry and physics in the then new University of Cincinnati where he remained until, in 1883, he went to Washington as chemist of the United States Geological Survey and honorary curator of minerals of the United States National Museum, positions that he held until his retirement on December 31, 1924.

The investigations by Dr. Clarke and his associates in the Survey were of the most varied character, and the wide range of the topics of their many bulletins in the publications of the Survey affords abundant evidence of Dr. Clarke's striking ability as a director of research and as a chemist of unusual versatility and breadth of interest.

He early began the collection of data relative to the determination of atomic weights, and presented his first paper on the subject at a meeting of the Subsection of Chemistry of the American Association for the Advancement of Science, held at Saratoga in August, 1879. In 1882 there appeared from his pen a comprehensive monograph of 271 pages entitled "A Recalculation of the Atomic Weights," which attracted wide attention not only in this country but also in Germany and Norway, where similar revisions had been prepared. In 1892, the American Chemical Society requested him to prepare an annual report on the subject, and to compile annually a table of atomic weights for official use in this country. This he did until 1903, when an International Committee on Atomic Weights was created with Professor Clarke as chairman, a position that he continued to hold until 1922.

His article upon "The Relative Abundance of the Elements" appeared in 1889, and through all the following years it has stood as a classic on this subject.

One of his greatest services to chemistry in this country was in connection with the creation of the American Chemical Society. Up to 1873, chemistry had been given but scant attention in the meetings of the American Association for the Advancement of Science. In that year, at the meeting at Portland, Maine, four young men, C. E. Munroe, W. McMurtrie, H. W. Wiley and F. W. Clarke, presented a request that chemistry be more adequately recognized by the formation of a subsection of chemistry, now Section C. The request was granted, and the section held a successful meeting at Hartford in the following year. In 1876 the chemists of New York City organized a local society to which they gave the name American Chemical Society, and some eight years later another local society of chemists was formed in Washington. The American Association met at Cleveland in 1888, the chairman of the chemical section at that time being Dr. C. E. Munroe. Dr. Clarke wrote to him and suggested the formation of a really national Chemical Society. Dr. Munroe favored the idea, and after some three years of discussion of the project,

in which Dr. Clarke took an active part, a compromise proposal of the New York Society was adopted. This was, that if the chemists of the country would accept the name and charter of the New York organization, that society would form a local section of a truly national society, the Washington society to take the same action. This national society has now become the largest chemical society in the world, with eighty sections and over 17,000 members. Dr. Clarke was elected to the presidency of the society in 1901.

The numerous articles from his pen upon a wide variety of subjects that appeared in divers journals and magazines furnish abundant evidence of the breadth of his interest and the scope of his knowledge and of his gift of felicitous and convincing expression. The high esteem in which he was held by scientists both in this and foreign countries is shown by the number of honorary degrees that were conferred upon him, and by his election to honorary membership or emeritus life membership in American, English and Russian scientific societies.

Dr. Clarke was one of the most kindly and lovable of men, simple in his tastes and of a modesty that is so generally a characteristic of the really great. His sense of humor and ready wit gave to his conversation a delightfully piquant flavor and it was a most entertaining experience, which the writer often had the privilege to enjoy, to listen to his reminiscences, sometimes keenly critical, sometimes highly amusing, but always sympathetically appreciative, of the noted men whom he had known and of their scientific work. His was a long life, a happy and useful life, a life of helpfulness to others and of high achievement.

L. M. DENNIS

CORNELL UNIVERSITY

MEMORIALS

THE dedication of Fine Hall, Princeton University, will be held in the early fall at a time when it will be convenient for Miss Gwethalyn Jones, of Chicago, who, with her uncle, the late Thomas D. Jones, '76, of Chicago, gave the building to the university, to attend the exercises. The building, which was recently completed at a cost of $500,000, was given in memory of Dean Henry Burchard Fine, '80, who organized and developed the present department of mathematics of the university. It will contain all classroom and research work in mathematics. It is the seventh scientific building on the campus.

WE learn from the *Journal* of the American Medical Association that Dr. Cornelius A. Harper, Madison, president of the State Medical Society of Wisconsin, will dedicate a bronze tablet to the memory of Dr. William Beaumont on the site of Fort Crawford, near Prairie du Chien, on August 30. Speakers at the dedication ceremonies will be Dr. William Snow Miller, on "Beaumont the Man"; Dr. Walter J. Meek, "Beaumont the Physiologist," and Dr. Peter L. Scanlan, "Old Prairie du Chien." The site for the monument was presented to the medical society by the Daughters of the American Revolution. The inscription on the tablet is as follows: "William Beaumont, M.D., Pioneer in Physiology, born Lebanon, Conn., 1785; died St. Louis, Mo., 1853. At old Fort Crawford, one and one half miles northwest of this spot, one hundred years ago, Doctor Beaumont, a surgeon in the U. S. Army, performed those experiments on Alexis St. Martin which laid the foundation for our knowledge of digestion. In honor of his pioneer work this memorial has been erected by the State Medical Society of Wisconsin, 1931."

RECENT DEATHS

DR. ARISTIDES AGRAMONTE, professor of bacteriology and experimental pathology at the University of Havana and well known for his work on yellow fever, died on August 17, at the age of sixty-two years.

DR. WILLIAM H. HUNTER, chief of the division of organic chemistry in the school of chemistry at the University of Minnesota, died on August 19, aged forty-nine years.

DR. CHARLES H. SHATTUCK, vice-president of the Howard Pulp and Paper Company, and formerly professor of forestry at the University of California, died on August 13 at the age of sixty-four years.

MORGAN P. SWEENEY, for twenty-two years a member of the division of chemistry at the New York State Experiment Station at Geneva, died on August 6, following a brief illness.

DR. J. D. ROBERTSON, formerly commissioner of health and president of the board of education in Chicago, died on August 20, at the age of sixty years.

DR. ARCHIBALD BARR, chairman of the engineering firm of Barr and Strand, Ltd., and formerly Regius professor of civil engineering and mechanics at the University of Glasgow, died on August 6, at the age of seventy-six years.

SCIENTIFIC EVENTS

DISSOLUTION OF THE ROYAL BOTANIC SOCIETY

ACCORDING to an article in the London *Times*, the dissolution of the Royal Botanic Society at the end of this year was accepted as inevitable by a meeting of fellows held recently at the Royal Botanical Gardens. The lease of the gardens from the Crown does not expire until April, 1932, but the finances of the