that in this section the so-called winter cold is much more often a winter hay fever. Persons have been found sensitive to maple, willow, alder, birch, hawthorn, oak, walnut, ash, cottonwood, box elder, sycamore, hickory, elm, cedar, pecan, pine and apple. And the list is not complete, for, as pollens from other trees are being obtained and patients are being tested to them, still other positive reactions are being observed.

The most important grasses are timothy, orchard grass, red top and June grass, but there are many others.

As might be expected, the plants responsible for symptoms vary in different sections of the country, depending upon the predominating local flora. The physician treating allergy in Texas selects a slightly different group of pollens from one who is working in Oklahoma or California or Virginia or the New England states. Indeed, for best results in relieving the victims of hay fever and asthma a botanical survey of the local section must be made. One of the most comprehensive local surveys of this sort so far as I know is that made under the direction of Ray M. Balyeat, of Oklahoma City, covering the state of Oklahoma. As a result of these studies Balyeat finds that even in different sections of the one state different plants are chiefly responsible for symptoms. And since success in treatment depends upon finding the chief causative pollens it is obvious that good results will be directly proportional to our knowledge of the nature, distribution and abundance of the local flora.

I trust that in this survey of a part of the field of allergy I have been able to establish my conception that the study and treatment of allergic diseases is primarily a biologic problem in the strict sense of the term and might well be designated a branch of applied biology in which the subject of investigation happens to be the human being. The allergist who delves deeply into his field must necessarily become a student of the activity of living matter, for in the last analysis the basis of anaphylaxis and of allergy is the vital activity of the living cell and its reaction to environmental alterations.

WARREN T. VAUGHAN

RICHMOND, VA.

## EDGAR FAHS SMITH

ON the evening of Thursday, May 3, 1928, Dr. Edgar Fahs Smith, thirteenth provost of the University of Pennsylvania, died in the university hospital, following an illness contracted only a few days previously.

The announcement of Dr. Smith's death came as a thunderbolt to his many friends, as he had been in apparent good health. Within a few hours men in every part of the world were mourning his loss. Thousands of the alumni, the faculty and the student body felt that they had lost one of the staunchest of friends and counsellors. The people of the city of Philadelphia, where he lived and labored for half a century, recognized him as one of their foremost citizens. The flags upon the municipal buildings were lowered to half-mast as a tribute to his memory. From every part of the United States messages of sympathy were received, testifying in the highest terms to the esteem and admiration in which he was held.

His fifty years with the University of Pennsylvania, which he faithfully served as teacher and administrator, will always be referred to as one of the most important periods in the history of the institution; his contributions to science during that period won for him the highest tributes of the scientific world.

In his chosen field he was invariably referred to as one of the most eminent American chemists and some of his investigations and discoveries have been of the utmost value to the industrial world. As a result of his researches, which were generously contributed for the advancement of science, he made himself a true benefactor of mankind.

As a teacher he was interesting and inspiring, always patient and painstaking; his advice was freely sought and generously given; no wonder that he should be *Beloved of Pennsylvania Men.*

As a man he was deeply religious, unassuming, easily approachable, companionable, sympathetic, of quiet and lovable disposition and always generous.

Dr. Smith was born at York, Pennsylvania, May 23, 1854. His early education was received in the York County Academy, and in 1872 he entered the junior class of Pennsylvania College at Gettysburg, from which he was graduated in 1874 with the degree of bachelor of science. While a student at Gettysburg, his interest in the study of chemistry and mineralogy attracted the attention of Dr. Samuel P. Stadtler, who urged him to specialize along those lines. This was the beginning of an eventful career. He entered the University of Göttingen, Germany, where he studied under the celebrated Frederick Wöhler, and was graduated in 1876 with the degrees of A.M. and Ph.D. In 1926 the University of Göttingen again honored Dr. Smith by renewing his doctor of philosophy degree for his "fifty years of science as a teacher and investigator."

Upon returning to America he was appointed instructor in chemistry at the University of Pennsylvania, which position he held until 1881, when he accepted the Asa Packer professorship of chemistry at Muhlenberg College; he remained here for two

years and in 1883 went to Wittenberg College, Springfield, Ohio, as professor of chemistry. In 1888 he was recalled to the professorship of chemistry at the University of Pennsylvania, serving in this capacity until 1907, when he became Blanchard professor of chemistry, which chair he held until 1920, when he retired and was made emeritus professor of chemistry. In 1898 he was elected vice-provost, holding the office until 1911. Upon the retirement of Dr. Charles C. Harrison, he was elected provost of the university.

During his long connection with the University of Pennsylvania Dr. Smith was the recipient of many honorary degrees in recognition of his contributions to the field of science. Upon three occasions the University of Pennsylvania conferred honorary degrees upon him; doctor of science in 1899, doctor of laws in 1906 and doctor of medicine in 1920. Dr. Smith's other honorary degrees were:

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| *Sc.D.* | University of Dublin, 1912; Yale, 1914; Lafayette, 1924; Wittenberg, 1927. |
| *Chem.D.* | University of Pittsburgh, 1915. |
| *LL.D.* | Wisconsin, 1904; Pennsylvania College, 1906; Franklin and Marshall, 1909; Rutgers, 1911; University of Pittsburgh, 1912; University of North Carolina, 1912; Princeton, 1913; Wittenberg, 1914; Brown, 1914; Allegheny, 1915; Queens College, Ontario, 1919; Temple, 1922, and Dickinson College, 1925. |
| *L.H.D.* | Muhlenberg College, 1911. |
| *Litt.D.* | Swarthmore, 1918. |

Aside from his activities as a teacher, investigator and administrator, he was the author of many scientific works on chemistry. His "Electrochemical Analysis," which appeared in 1890, went through ten editions, including translations into French, German, Italian and Russian. His translations of Richter's "Inorganic Chemistry" and Richter's "Organic Chemistry" likewise passed through many editions and rendered a valuable service to English-speaking chemists. In addition to these Dr. Smith was the author of numerous books on the history of chemistry, including "Chemistry in America," 1914; "Robert Hare," 1917; "James Woodhouse," 1918; "Chemistry in Old Philadelphia," 1918; "Priestley in America," 1920; and "Old Chemistries," 1927. Among his many brochures on the history of chemistry are included "A Half Century of Mineral Chemistry in America, 1876–1926"; "Early Science in Philadelphia," 1926; "Joseph Priestley" (Priestley medal lecture), published in SCIENCE, 1926.

Dr. Smith was elected a member of the National Academy of Sciences in 1898, was president of the American Philosophical Society from 1902 to 1908, and was president of the American Chemical Society in 1895, and again in 1920 and 1921. He was elected president of the History of Science Society for 1928.

He was an honorary member of the American Chemical Society, the American Electrochemical Society, the Société de Chimie Industrielle of France, the American Institute of Chemists, the Philadelphia College of Pharmacy and Science, the Chemical, Mining and Metallurgical Society of South Africa, and the Chemists Club of New York. He was a member of the Phi Kappa Psi Fraternity, and of Phi Beta Kappa, Sigma Xi and Phi Lambda Upsilon societies.

In 1893 he was a member of the jury of awards of the Chicago Exposition and a member of the United States Assay Commission in 1895, 1901–1905. In 1902, he served as an advisor of the Carnegie Institution, and from 1914 to 1920 he was a trustee of the Carnegie Foundation. From 1911 to 1922 he was president of the Wistar Institute of Anatomy.

Dr. Smith twice served as a member of the Electoral College for Pennsylvania—1917 and 1925. In the latter year he was president of the Electoral College. In 1919 he was a member of the commission for the revision of the constitution of Pennsylvania. Following the World War, in 1921, President Harding appointed Dr. Smith to the board of technical advisors in connection with the disarmament conference. He also served as chairman of the international committee on poison gases and high explosives.

For his distinguished service in the field of chemistry, Dr. Smith was made, in 1923, an officer of the Legion of Honor of France. In 1914, the Franklin Institute awarded him the Elliott Cresson medal for his work in electrochemistry, and in 1922 Columbia awarded him the Chandler medal for his contributions in historical chemistry.

On September 9, 1926, the American Chemical Society awarded him the Priestley medal for his distinguished services to the science of chemistry.

In connection with his period of service as provost of the University of Pennsylvania from 1911 to 1920, inclusive, a few references to the results of his administration are interesting. During that ten-year period, the student enrolment and the teaching staff were doubled; the Henry Phipps Institute was realized and incorporated in medical teaching; the Evans Dental Institute Building was erected and dedicated; the Duhring bequest of more than one million dollars was received; a maternity home erected and the surgical pavilion started; the merger of the Medico-Chi and Polyclinic Hospital with the University Post-Graduate School of Medicine was consummated; division of the college into (a) College, (b) Towne Scientific School, (c) Wharton School, (d) School of

Education; division of the department of engineering into (a) mechanical engineering, (b) electrical engineering; college courses for teachers developed; extension courses throughout the state incorporated; university's educational influence extended along many lines, and made to serve home, state and nation; marked emphasis was laid on research in every department.

The long list of Dr. Smith's investigations in many fields of chemistry need not be detailed here. Chief among them were electrochemistry, the complex inorganic acids, the rare earths and the revision of the atomic weights of the following elements: palladium, molybdenum, selenium, tungsten, tantalum, columbium, boron and fluorine. His investigations on the rarer elements—tungsten, molybdenum, vanadium, columbium, tantalum, rubidium and caesium—have been numerous.

Mrs. Edgar F. Smith has donated to the University of Pennsylvania Dr. Smith's valuable collections of historical books, pamphlets, letters and engravings relating to chemistry which will be preserved intact in his office in the John Harrison Laboratory, where they will be available to chemists for study and research.

The staff of the department of chemistry have resolved to perpetuate the memory of Dr. Smith by annually observing the birthday

Of one, who by his precepts, initiative and industry exerted upon us as individuals, upon this staff as a group, upon the entire University and, to no inconsiderable degree, upon the affairs of the world, an influence that could only be exerted by a Master of his chosen profession, an inspiring teacher, a considerate and tolerant advisor.

In sight of the laboratory which Dr. Smith planned and in which he labored for so many years there stands on the campus of the university, surrounded by nature's green, a statue, bearing the fitting legend:

EDGAR FAHS SMITH
Provost 1911–1920
Teacher Investigator Friend

WALTER T. TAGGART

## SCIENTIFIC EVENTS

### A THIRD EXPEDITION TO THE ANTARCTIC

COMMANDER DOUGLAS GEORGE JEFFERY, who was a member of Sir Ernest Shackleton's last South Pole Expedition, announced on June 6 that he was planning to lead an American-financed expedition next September into the Antarctic to define the boundaries from Grahams Land south to Ross Sea, and to discover whether the Antarctic continent was actually two or more bodies of land. Among those who have been asked to accompany him are Captain Argles, who is a pilot for one of the proposed transatlantic flights, and three other veterans of Sir Ernest Shackleton's explorations, Dr. George Vibert Douglas, of McGill University, a geologist, Dr. A. H. Macklin, of Dundee, surgeon on the *Endurance* and *Quest* voyages, and Mr. J. W. S. Mar, B.Sc., of Aberdeen, a biologist.

The expedition will take with it a large aeroplane, which is now being built, and a small Amphibian similar to that used by Captain Wilkins. The larger aeroplane will have a capacity of 1,500 gallons of petrol and a cruising radius of 6,000 miles. There may be a flight across the South Pole, although that is not the object of the enterprise. Commander Jeffery expects to establish a base some time in November far down the west coast of Grahams Land, and from there will explore on that side eastward to Coats's Land. He said that it was probable that they might cooperate by wireless with the Byrd and Wilkins expeditions, which would be on the opposite side of the Antarctic Continent. They would be able to check meteorological data, and the bases on each side would serve for transcontinental flights.

The expedition will go south in a vessel of the deep-sea mine-sweeper type. Its personnel will be limited to 25 at most. It is planned to start the return journey in May.

### PROGRAM OF RESEARCH IN COAL AND METALLURGY AT THE CARNEGIE INSTITUTE OF TECHNOLOGY

A PROGRAM of fourteen research studies in coal mining and metallurgy will be carried on during the year of 1928–29 under the joint auspices of the Carnegie Institute of Technology, the U. S. Bureau of Mines and two advisory boards of mining and metallurgical engineers and executives. To make the investigations, eleven college graduates have been appointed to research fellowships, and, in addition, a research engineer, an assistant research engineer and an analyst have been appointed.

The new program is similar in scope to those of the past few years that have been conducted under the same auspices. The research fellows, in carrying out their investigations, will be candidates for the degree of master of science to be awarded by the institute. The reports of the studies will probably be published as in the past.

Appointees to research fellowships are Julius R. Adams and Kenneth Metcalfe, Rose Polytechnic Institute; Kenneth M. Irey, Monmouth College; John E. Jacobs and Henry Seaman, Carnegie Institute of