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Memorial of Joseph John Fahey
July 30, 1901–June 29, 1980

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Joseph John Fahey, a longtime chemist, mineralogist, and geochemist on the staff of the U. S. Geological Survey in Washington, D. C., and later at Reston, Virginia, died on June 29, 1980, at the age of 78.

"Joe" as he was familiarly known, was born of Irish ancestors in Messina, New York, on July 30, 1901. His family later moved to the Washington, D. C. area where he received his schooling. His reminiscence of his birthplace was that "it was frightfully cold." Joe was educated in the strict schools of the Jesuit order, and this schooling gave him an excellent background in the basic subjects of the academic curriculum, especially in Latin and Greek. He retained a working knowledge of Latin; his salutation to me and to some others in the morning was "Dominus vobiscum," and he expected the correct reply. Joe's college education began at Catholic University, where he studied chemistry from 1919 through 1921. He felt that he needed a broader base in chemistry, so he transferred to the George Washington University in the District of Columbia in 1921.

In 1922, he was employed as a laboratory assistant in the Chemical Laboratory of the Bureau of Public Roads, U. S. Dept. of Agriculture, where he learned about the chemistry of engineering materials used in the construction of roads—rocks, soils, asphaltic materials, and oils. He continued his education at the George Washington University, at night, until 1925. The present consortium existing between the universities and colleges of the District of Columbia, Maryland, and Virginia did not exist at that time; Joe had all the credits for a B.S. degree and was partially prepared for an M.S. degree, but the nontransferability of credits and other logistical problems between institutions blocked the attainment of these degrees. Joe was never bitter about this situation—he felt that rules were rules.

Joe remained at the Bureau of Public Roads until 1927, during which time he gained some knowledge of German and French. He was then appointed a junior chemist in the Chemical Laboratory of the U. S. Geological Survey, and this significantly changed his career. At the laboratory, Joe was carefully trained in the chemical analysis of minerals and rocks by George Steiger, Roger C. Wells, John G. Fairchild, and Waldemar T. Schaller. Under these masters, he became a superior chemical analyst. His analytical background was enriched by associations with William F. Foshag of the U. S. National Museum and James I. Hoffman of the U. S. Bureau of Standards. Most of his teachers of analytical chemistry were trained by William F. Hildebrand. Joe liked to say that these teachers had decreed that he must hew to the line of scientific rectitude, and he never forgot it.

Under the tutelage of Waldemar Schaller, Joe

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and a small group of chemists studied crystallography, elementary mineralogy, and optical crystallography. Clarence S. Ross taught them further procedures in optical crystallography and gave them brief instruction in the study of rocks. Joe was thrilled by these lectures and demonstrations and was infected by the enthusiasm of Schaller and Ross. As a result of this training, Joe examined, under the binocular and petrographic microscopes, many of the samples he was analyzing and learned to use this petrographic data to help in interpreting his analyses.

Joe's engaging personality aided and abetted by his newly found interests enabled him to break down interdisciplinary barriers with those geologists whose samples he was analyzing. He also gave guidance in chemical matters, which led to many joint researches. He rose in rank from junior chemist to assistant chemist in 1921, to associate geochemist in 1940, to geochemist in 1941, and to senior geochemist in 1946. He was appointed Principal Chemist in 1953, and he served at that rank until 1971. After retirement, Joe worked part-time in the laboratory in Washington and later at Reston.

As Fahey's bibliography shows, he contributed specifically to methods of chemical analysis, to description of new mineral species, and to problems in chemical geology. His study of the minerals of the Green River shales of Wyoming is a classic work, a byproduct of his detailed logging of cores obtained for economic studies. This study resulted in the discovery of trona, which led to the development of an industry that pays royalties to the State of Wyoming and the Federal Government second only to those derived from the production of fossil fuels.[1] He was actively engaged in the chemistry of minerals formed in meteoric craters, particularly coesite and stishovite. A significant contribution to these studies was his method for removing potassium hexafluorosilicate formed in the determination of coesite and stishovite, a method that avoided the usual 20 treatments with dilute HCL on the steam bath—a process requiring a month to complete. Fahey found that concentrated sulfuric acid decomposed the compound in about a minute. With W. W. Rubey and Michael Fleischer, he improved methods for extinguishing incendiary magnesium bombs. With George T. Faust, Edward J. Dwornik, and K. Jack Murata, he made extensive chemical studies of minerals in the natural system MgO–NiO–SiO_2–H_2O.

Joe was always a friend of those associates that he felt were misunderstood by others, and he did his best to bring about amicable relations. He was a champion of women chemists, and he trained a number of them in analytical methods. His proteges included Margaret D. Foster, Laura E. Reichen, Angelina C. Vlisidis, Marie Lindberg Smith, and Esther Claffy. He agreed completely with Henry S. Washington[2] (1919, p. 5), who wrote, "It may be said that the analysis of rocks would seem to be suitable for women, whose characteristics of neatness, patience, application, and care would be most valuable."

It was typical of Joe that even when he was handicapped by a severe case of shingles he felt that it was his duty to continue his pursuit of knowledge; he reviewed differential and integral calculus, working every problem in the book.

Joe was married to Gertrude Lucas, who predeceased him in 1978. He is survived by four children, Patricia Lutian of Stratford, Connecticut, James D. of Rockville, Maryland, Ellen Kubisiak of Adelphi, Maryland, and T. Michael of Laurel, Maryland. The Fahey's are survived by 22 grandchildren and 4 great-grandchildren.

Burial services and a funeral mass were held on July 1, 1980 at St. Mark's Catholic Church in Adelphi, Maryland, interment was in Mt. Olivet Cemetery.

Fahey was a fellow of the Mineralogical Society of America, the Geological Society of America and the Washington Academy of Sciences; he was a member of the Geochemical Society, the American Chemical Society, the Mineralogical Society of Great Britain, the Mineralogical Association of Canada, the Société Francaise de Minéralogie et de Cristallographie, the Italian Mineralogical Society, the Geological Society of Washington, and the Chemical Society of the District of Columbia.

Joseph Fahey was not only a master of the "Methodicum Chemicum" but an accomplished mineralogist and geochemist. We all will miss him.

Ave atque vale

[1] From the citation for the Distinguished Service Award, 1970.

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[2] Washington, Henry S., 1919, Manual of the Chemical Analysis of Rocks: New York, John Wiley and Sons.

[3] I am indebted to Dr. Michael Fleischer for the preparation of the bibliography. To receive a copy of the complete bibliography, order Document AM-82-192 from the Business Office, Mineralogical Society of America, 2000 Florida Avenue, N.W., Washington, D.C. 20009. Please remit $1.00 in advance for the microfiche.

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