

## MEMORIAL OF ALTON GABRIEL

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The writer worked in Alton Gabriel's office the week preceding his death. He appeared to be in good health, was jovial, and was making plans for the future. However, on Saturday, October 23, 1954, he suffered a fatal heart attack.

Alton Gabriel was born in Portland, Oregon, September 2, 1902, and was the son of Albert Gabriel and Bertha Rothlesberger Gabriel, who were early settlers of Oregon. He attended public schools in Portland and later graduated from the University of Oregon in 1925 with the degree of Bachelor of Science in Chemistry. He received his Master of Science degree in Chemistry in 1927 and the subject of his thesis was "Use of aluminum oxide in the refining of kerosene distillates." After graduation he was instructor in analytical chemistry for one year at the University of Oregon. He then went to Cornell University where he was a graduate assistant and received the Ph.D. in Chemistry in 1930. The subject of his dissertation was "Geochemical data of germanium." Thus, he anticipated the great current interest in germanium by almost 25 years. After graduation he was research chemist for Roessler and Hasschlacher. About this time Everett P. Partridge, of the Bureau of Mines, was interested in having a chemist-spectrographer make mineralogical studies of the New Mexico salt minerals, and persuaded Alton to join the staff of the Bureau of Mines at New Brunswick, New Jersey. He rose rapidly and steadily in the Government service to the position of Assistant Chief of the Minerals Division, Metallurgical Branch, Washington, D. C. In January 1950 he was made Assistant Director of Region VII, with headquarters at Norris, Tenn., and after the death of Hewitt Wilson, he assumed the position of Acting Director of the region. However, Alton's major interest was in scientific studies rather than administrative duties, and in February 1953 he transferred to the Southern Experiment Station of the Bureau of Mines, Tuscaloosa, Ala., where he was Chief of the Ores and Metals Branch, Region VII, and was busily engaged in mineralogical studies at the time of his death.

He was a member of the American Chemical Society, Fellow of the Mineralogical Society of America, Society of the Sigma Xi, and Delta Upsilon. His bibliography, while not lengthy, is in no way a criterion of the large amount of important work accomplished during his professional career, although his list of publications does indicate his wide scientific interests. Alton became one of the most competent and versatile chemical microscopists and petrographers of our time. He was able to correlate the use of the microscope, x-ray, spectrograph and differential thermal

analysis for the solution of many difficult mineralogical problems. He is to be remembered as one of the first to recognize the importance of the spectrographic analysis in connection with the study of minerals, and this probably stemmed from his early training under Jacob Papish and Chamot and Mason at Cornell University. He also adapted petrographic



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techniques to the study of mineral concentrates so that the ore dressers have a positive and rapid evaluation of their progress in the beneficiation of complicated ores. Consequently, during these years he exerted a profound and lasting influence on mineralogists and petrologists who apply their techniques to the solution of mining, metallurgical, mineralogical, and ceramic problems of the Bureau of Mines, and the methods he devel-

oped have also been widely applied in university and industrial laboratories. He was particularly effective in working with beginning scientists in the Bureau, and his advice was perhaps a major factor in the advancement made by many of them in this field. He took particular interest in seeing that a number of young and promising boys were given part-time employment to help defray their college expenses. In at least one instance the Gabriels used personal funds in aiding a student through medical school.

Alton Gabriel married Lola Jacobs August 17, 1932, and there are no living children.

He will long be missed by all who knew and worked with him, and this quotation from the *Analects of Confucius* describes him well:

The Master was entirely free from  
four things: prejudice, foregone  
conclusions, obstinacy, and egoism.

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