

## Memorial of Ogden L. Tweto 1912–1983

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Ogden L. Tweto, a Life Fellow of the Mineralogical Society of America, died at his home in Lakewood, Colorado, on November 23, 1983. He is survived by his wife, Marguerite, a son, John, a daughter, Barbara, and four grandchildren. Although not a mineralogist in the limited sense of the term, he held a life-long interest in minerals as a result of his extensive work on the mineralogy and structure of ore deposits.

Born of Norwegian parents in Abercombie, North Dakota, Ogden moved with his family at an early age to Missoula, Montana. He later attended the University of Montana, completing a B.A. degree in 1934 and an M.A. in 1937. He then enrolled in a doctoral program at the University of Michigan. His pursuit of the Ph.D. degree was interrupted by work with the U.S. Geological Survey on strategic minerals during World War II, and confirmation of the degree was delayed until 1947.

After the war, Tweto continued an association with the Geological Survey that formed the basis for his career. Highlights of his more than four decades of service with the Survey were as chief of the Southern Rocky Mountains Branch (1961–1965), assistant chief geologist for economic geology (1965–1968), and research geologist (1968–1983). Except for his tour of duty as assistant chief geologist in Washington, D.C., he spent most of his professional life in the southern Rocky Mountains, mainly in Colorado.

Ogden's introduction to Colorado geology came in the summer of 1938 as a field assistant to T. S. Lovering, who was then involved with E. N. Goddard in studies related to their monumental work on the geology and ore deposits of the Colorado Front Range. He subsequently collaborated with Lovering in mapping the Minturn quadrangle and in making a detailed study of the Boulder County tungsten deposits, which furnished a major source of tungsten in the United States during World War II. Following the war, he embarked on a long-term study of ore deposits in the central part of the Colorado mineral belt, mainly in the vicinity of Leadville but extending to Gilman, Climax, and neighboring districts. This work led to his discovery, jointly with P. K. Sims, that the structural framework of the mineral belt is related to a broad zone of shears inherited from the Proterozoic. This discovery is regarded as a milestone in the history of Colorado geology.

During his sojourn in Washington, Tweto became largely responsible for establishing the role of the Geological Survey in the Department of Interior Wilderness Program, prescribed by the Wilderness Act of 1964. His

major interest in the subject is reflected in his study, together with colleagues, of the Gore Range–Eagles Nest primitive area, completed in 1970. The published results serve as a model for future investigations of this nature.

Upon returning to Colorado from Washington, D.C., in 1968, Ogden focused his attention on compiling a revision of the state geologic map, first published in 1935 and grossly out of date. He pursued the task, intermittently with other chores, for more than a decade, the finished product appearing in 1979. It has been acclaimed the best map of its kind to appear anywhere and sets a high standard for other states to follow.

The results of Tweto's work are contained in some 80 papers, in addition to numerous maps and open-file reports. Although his work was directed mainly toward studies of mineral deposits, his publications cover a broad spectrum of peripheral topics that reflect the breadth of his interests and the depth of his perception. He was dedicated to an accurate presentation of facts revealed by painstaking effort and was reluctant to speculate beyond limits fixed by the results. He was known to be critical of those who rushed into premature conclusions based on superficial or selected data.

During the course of his career, Tweto received numerous awards. Among the more notable are the Distinguished Service Award of the Department of the Interior (1970), the Scientist of the Year Award by the Rocky Mountain Association of Geologists (1978), and the Distinguished Geological Pioneer Award of the Denver Section, Society of Economic Paleontologists and Mineralogists (1983). The volume *Colorado Geology*, published in 1980 by the Rocky Mountain Association of Geologists, to which he contributed four major articles, was dedicated to his honor.

The wealth of information that accumulated over the years from Ogden Tweto's efforts will stand as a lasting tribute to a remarkable person. The gap in the ranks left by his departure is not likely to be filled in the near future.

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