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THE AMERICAN MINERALOGIST, VOL. 55, MARCH-APRIL, 1970

MEMORIAL OF HUGH DINSMORE MISER

December 18, 1884-August 1, 1969

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On August 1, 1969, one of our most eminent geologists, Dr. Hugh Dinsmore Miser, died of a heart attack at his home in Washington, D.C., at the age of 84 years. Hugh Miser was born at Pea Ridge, Arkansas, December 18, 1884, the son of Jordan Stanford and Eliza (Webb) Miser. He received his early education in the local schools at Pea Ridge and then attended the University of Arkansas where he was under the influence of Professor A. H. Purdue, who inspired him to major in the field of geology. He received his Bachelor's degree in 1908 and his Master's degree in 1912. He had worked for the U. S. Geological Survey as Geologic Aide in the summer of 1907; in 1910 he was appointed Junior Geologist on a full-time basis and in 1912, Associate Geologist. He advanced to the



Hugh Dinsmore Miser

grade of Geologist in 1919, and in the same year he took leave of absence and returned to the University of Arkansas, where he was Acting Professor of Geology and Acting State Geologist for the academic year. He returned to the Survey after completing the year. Again, in 1926 he took leave of absence for 1 year to serve as State Geologist of Tennessee, after which he returned to Washington, D.C., to become Chief of the Survey's Section of Areal Geology.

The field mapping in his early days on the Survey was largely in Arkansas, Tennessee, and Virginia. However, in 1921 he was geologist on a U. S. Geological Survey engineering expedition, mapping the tortuous San Juan River in southeastern Utah, a feat comparable to some earlier river explorations in the West. His Water-Supply Paper No. 538 is an outstanding and fascinating description of the river, its hydrology, and the geography and the geology of the canyon and of the area through which the river winds. The exploration party, headed by K. W. Trimble, topographic engineer, started its arduous expedition 4 miles below Bluff, Utah, July 18, and ended October 8 at Lees Ferry, Arizona, on the Colorado River below the mouth of the San Juan. Hugh Miser wrote, "The voyage [about 140 miles] was attended by strenuous labor and hardships, such as may always be expected in exploring an unknown canyon with its rapids in an uninhabited region."

From 1928 to 1947, he was Chief of the Fuels Branch of the Survey, and, through his effective scientific and administrative guidance, substantial contributions to the geology of the country were made by those geologists who were privileged to be associated with him. During World War II, he diverted a large part of his staff to investigations of strategic and critical minerals, and for a period he was in charge of manganese investigations. In the latter part of the war, he planned and directed an emergency program of petroleum investigations that contributed substantially to the needs of that industry.

As Staff Geologist from 1948-1954, he prepared a second geologic map of Oklahoma and contributed materially to the new geologic map of Arkansas. He had prepared the first geologic map of Oklahoma in 1923-24. Both Oklahoma maps, of which he was justly proud, were prepared as a cooperative effort by the oil industry and the Federal and State Surveys. They were outstanding contributions to the geology of that state. From 1955 until his death, he was Scientific Staff Assistant in the Office of the Director, where he reviewed and approved manuscripts and maps for publication. Whenever an author conferred with him on a manuscript, he inevitably came away richer by several stories from Hugh Miser's never-failing collection.

Hugh Miser was internationally recognized as one of the outstanding

petroleum geologists in the world and as a leading authority on the structure of the rocks in the central area of North America. Because of his distinguished career as a scientist, administrator, and advisor, and his contributions to geologic science, he was awarded a Doctor of Laws degree from the University of Arkansas in 1949 and the Department of Interior's highest honor, the Distinguished Service Award, in 1955.

He was an active leader in scientific organizations to which he belonged and he served on many committees of those organizations. He was Associate Editor of the *Bulletin of the American Association of Petroleum Geologists* for many years and was elected to Honorary Membership in the Association in 1948. He was also elected to Honorary Membership in the Oklahoma Geological Society, the Tulsa Geological Society, the New Mexico Geological Society, the Oklahoma Gem Society, and Sigma Gamma Epsilon. He was a Fellow of the Geological Society of America, a member of the Society of Economic Geologists, the Mineralogical Society of America, the Oklahoma Academy of Sciences, the Tennessee Academy of Science, of which he was Vice President in 1939, and the Geological Society of Washington, of which he was President in 1938.

Hugh Miser had a profound interest in all facets of geology. Some of his early articles were on mineralogy, petrology, and economic geology. These articles included: *Manganese Deposits of the Caddo Gap and De Queen Quadrangles, Arkansas*; *Manganese Deposits in the Batesville District, Arkansas*; *Hausmannite in the Batesville District*; *Diamond-Bearing Peridotite in Pike County, Arkansas*; and *Volcanic Rocks in the Upper Cretaceous of Southwestern Arkansas and Southeastern Oklahoma*. His *Mineral Resources of the Waynesboro Quadrangle, Tennessee*, was a major contribution to the knowledge of the brown ore deposits of that state.

He became deeply interested in quartz crystals, their origin and occurrence, in his early geologic mapping in the Ouachita Mountains. In describing the Crystal Mountain Sandstone in his Caddo Gap and De Queen quadrangles report published in 1917, he stated that "clusters of quartz crystals are found in fissures at numerous places, and many are sold at Hot Springs, Arkansas, to museums and for use as ornaments." His great interest in Arkansas quartz crystals soon grew into a most devoted hobby, which was maintained until his death. He eventually accumulated a world famous collection, and in 1954 he donated a part of this collection, 5,700 rare and select Arkansas quartz crystals, to the University of Arkansas Museum. On special occasions, when a friend visited his office, he would reach into his rock cabinet and remove a beautiful quartz crystal from the drawer and present it to him. These gifts were cherished by the recipients, not only because of the beauty of the crystals, but also because they were gifts from Hugh Miser.

In 1950, Waldemar Schaller named a rare pink silicate mineral occurring at Potash Sulphur Springs, Arkansas, "miserite" in honor of Hugh Miser. In his article published in the *American Mineralogist*, September–October, 1950, Schaller stated, "that he welcomed an opportunity in November, 1937 to visit the Arkansas locality in the company with Hugh D. Miser and Clarence S. Ross" and that "no name could be more appropriate than miserite after Dr. Hugh D. Miser, born at Pea Ridge, Arkansas, geologist of the U. S. Geological Survey since 1907, who contributed so much to our knowledge of the geology and mineralogy of his native state."

Hugh Miser's bibliography includes more than 80 reports and articles on the geology of many different areas; during his career on the Survey, his work, both as a field geologist and supervising geologist, included the entire United States.

Hugh Miser had a strong feeling for his family background, and as a hobby, he traced his ancestors back to Tennessee from whence they had migrated to Arkansas, and also back to Germany from which they originally came. His manuscript on this subject makes interesting reading about frontier days. He was married in 1910 to Mary Kate Goddard of Fayetteville, Arkansas, and on the occasion of being elected to Honorary Membership in A.A.P.G., he paid an outstanding tribute to her in stating that her encouragement and cooperation had made possible all the endeavors in which he participated. She passed away in Washington, D. C. in 1963. A daughter, Mrs. Catherine Kayser, lives in Forth Worth, Texas.

Hugh was never content to be an armchair geologist. Even in his last years he managed to take part in field trips and special field studies, and at the age of 81, he arranged with Charles Milton of George Washington University a five-year program of mineralogical studies in Arkansas. He had worked at the U. S. Geological Survey offices until the day he died. Several friends were looking forward to having lunch with him on that Friday, a custom that had been followed for many years. The highlights of those Friday luncheons were the discussions of Arkansas and Oklahoma geology as seen through the eyes of Hugh Miser, flavored with his inimitable Pea Ridge stories.

Hugh Miser was a most outstanding man, not only as a scientist and administrator, but as a citizen and leader. His warmth of personality, his love for his fellow men, and his life dedicated to geology, won the respect and affection of all who knew him. When he passed away, we lost a wonderful friend, and we shall miss him very much.

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THE AMERICAN MINERALOGIST, VOL. 55, MARCH-APRIL, 1970

MEMORIAL OF ARIE POLDERVAART¹

July 6, 1919–October 28, 1964

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Arie Poldervaart was a petrologist. His earliest work and last major contribution dealt with the petrology of basaltic rocks. He began by studying dolerites in South Africa under the tutelage of Frederick Walker. This work, which began in 1939, eventually led to publication in 1949 of their classic paper on the Karroo dolerites. Problems encountered in those studies led to his interest in rock forming minerals, particularly pyroxenes in basaltic magmas. This was followed by studies of the areal distribution of basaltic rocks in various parts of southern Africa. He also worked on problems of contact metamorphism caused by dolerite intrusions. In the late 1940's he conducted a field study with von Backstrom of the complex metamorphics in the Kakamas area, Cape Province. Shortly after moving to the United States in 1951, he became interested in metabasaltic rocks as a means of interpreting the polymetamorphic history of the Blue Ridge Province, North Carolina. The following year he initiated an ambitious and far-reaching program of research in the metamorphic terrain of the Beartooth Mountains in southern Montana and northern Wyoming. Thus, his main interest had broadened from basalts to general problems of metamorphism. These two principal fields of interest were brought together in his 1953 review, "Metamorphism of basaltic rocks."

The culmination of his lifelong interest in basalts was publication of the Poldervaart treatise on rocks of basaltic composition entitled simply "Basalts", which he conceived and organized, but which was published posthumously in collaboration with H. H. Hess in 1967. Another major work, which Poldervaart initiated, planned, and saw through to publication, is *Geological Society of America Special Paper No. 62* entitled "The Crust of the Earth", a symposium held in conjunction with the Bicen-

¹ A more detailed account of Arie Poldervaart's career and his bibliography have been published by W. H. Bucher, 1965, *Bull. Geol. Soc. Amer.* 76, 125-132.