

Memorial to Edmund Maute Spieker 1895-1978

J. W. COLLINSON

*Department of Geology and Mineralogy, The Ohio State University
Columbus, Ohio 43210*



Edmund M. Spieker, Professor Emeritus of the Ohio State University and former geologist with the U.S. Geological Survey, died on March 6, 1978, in Menlo Park, California, at the age of eighty-three. He had been active in the affairs of the Department of Geology and Mineralogy at the Ohio State University and in geological matters in general until shortly before his death. He is survived by his wife, Helen; his son, Andrew M. Spieker, who is a geologist with the U.S. Geological Survey; and two granddaughters.

Born in Baltimore, Maryland, on February 25, 1895, young Edmund's future was profoundly influenced by his father, Edward Henry Spieker, and by his maternal grandfather, Andrew Maute. His father was a professor of classical languages at the Johns Hopkins University; quiet and unassuming, he was a brilliant and distinguished scholar, and possessed a phenomenal storehouse of knowledge that went far beyond his field of specialization. Edmund's love for music and photography, which figured prominently in his life, was derived from his father. No doubt young Edmund's gift of languages was furthered by his father's excellence in this field as well.

As a young man Edmund's grandfather, Andrew Maute, had emigrated from southern France to western Nevada, where he remained to pursue a distinguished career as a journalist, newspaper publisher, political leader, statesman, and public servant. During his childhood Edmund visited his grandfather many summers, and from "Grandpa Maute" young Edmund no doubt acquired his love for the outdoors, particularly for the western mountains. The following impressions of his grandfather are quoted from Edmund's notes on family history:

Childhood impressions of the Pyrenees never left him, and his life in Nevada was invested daily with deep admiration and almost worship of the Basin Ranges and, especially, the Sierra Nevada. Rarely has a man been so uplifted by the beauties of his natural environment. This I witnessed time and again as child, boy, and man. It was a rare experience to see the old man walk out on his lawn at Carson City and stand interminably, looking up to the west at the forested ranges that line the skyline.

No doubt these early experiences played a significant role in determining young Edmund's future career as a geologist.

A graduate of the Johns Hopkins University, Edmund received a Bachelor of Arts degree in 1916 and the doctorate in 1921. His doctoral thesis, a paleontological study of the Zorritos Formation (Tertiary) of northern Peru, was completed under the direction of Edward W. Berry.

Edmund was active in extracurricular activities at the university, especially musical ones. He was a member of the Men's Glee Club and served as its president in his senior year. His musical talent was such that he could easily have chosen music rather than science as his profession. He was an accomplished pianist and played several other instruments. He became an authority on the works of Frederic Chopin. Edmund's talent for composing and arranging songs, together with his glee club experience, was to make him an invaluable participant in "Pick and Hammer" shows during his years with the U.S. Geological Survey.

In 1917, while a graduate student, Edmund took his first job, as a geologic aide with the U.S. Geological Survey, an organization with which he was associated in one way or another for most of his life. His career was interrupted in 1918 when he was drafted into the United States Army and sent to training for the Coast Artillery. His Army career lasted little more than six months, however, as the Armistice was signed while his outfit was awaiting shipment to France.

Edmund returned to his studies and his work for the Survey. During the summer of 1919 he worked as a geologist for the Imperial Oil Company, and in the summer of 1920, for the provincial government of British Columbia. The resulting publications on the petroleum geology of the Peace River district were the basis of much of the economic development of that area. After Edmund had received his doctorate and entered into full-time employment with the U.S. Geological Survey, he married Helen Frances Heard on December 28, 1922. Helen became an accomplished rider and enthusiastic hiker, assisting Edmund in the field during the early years of their long marriage. Later, as a faculty wife, she maintained her interest in his work, helping students and their families through difficult times.

Edmund's first major assignment with the Survey was to evaluate the coal resources of central Utah. The 1921-1923 field seasons, the first of many for Edmund on the Wasatch Plateau, were the beginning of his lifelong love for the high plateaus of Utah. These early field parties, consisting of geologists, topographers, wranglers, and a cook, operated in a relatively pristine wilderness. In his book *My Two Roads* (1974), J. Brian Eby, a member of the 1922 field party, wrote, "Spieker was a perfectionist in his geological duties, an inspiration to his field assistants, a natural leader and dedicated to his science." John B. Reeside, Jr., who was perhaps Edmund's closest associate, joined him during the summer of 1923 for regional stratigraphic studies in Utah. Later that summer Edmund, his brother Charles F. Spieker, and Arthur A. Baker split from the main party and worked in Salina Canyon, Utah, an area that became very important to the formulation of Edmund's later ideas on the orogenic history of the region.

Edmund joined the Ohio State University faculty in 1924 and remained until his retirement from formal teaching in 1965; he served as chairman of the Department of Geology from 1945 to 1952 and as research professor from 1952 to 1965. During his term as chairman, Edmund was instrumental in the formation of the Institute of Geodesy, Photogrammetry, and Cartography, which in 1951 became the internationally known Department of Geodetic Science. Perhaps his proudest achievement was the founding of the Ohio State University Field Station in Ephraim, Utah, in 1947. This facility, operated with the cooperation of Snow College in Utah, has provided access to the geology of central Utah for nearly a thousand undergraduate and graduate majors through the years. No fewer than thirty-three graduate students, many of whom are now prominent geologists, did their field work for theses in central Utah under Edmund's tutelage. From 1962 to 1973 he directed the Ohio State University National

Science Foundation Summer Institute entitled "Geology and the Nature of Science" for secondary school teachers at the field station. The Ohio State University awarded him an honorary Doctor of Science degree in 1972 in recognition of his contribution to the teaching profession and to the advancement of geological science.

Edmund was actively involved in many professional organizations, including the American Association for the Advancement of Science, the American Association of Petroleum Geologists, the Geological Society of America, the Ohio Academy of Science, the Paleontological Society, and the Society of Economic Paleontologists and Mineralogists. He cooperated with the United States Department of Defense as consultant to the Research and Development Board from 1947 to 1954 and as chairman of the Panel of Geology from 1951 to 1953. As a member of the American Association of Petroleum Geologists he served on the Committee of National Responsibility from 1948 to 1955 and toured the country as Distinguished Lecturer in 1950 and 1952. He also was a member of the American Commission on Stratigraphic Nomenclature from 1951 to 1953. In 1967 the government of Finland awarded him the insignia of the Order of the Lion for his efforts in furthering Finnish-American relations.

Edmund was not only an inspirational and influential teacher but also a geologist who introduced a fundamental change in the concept of geologic time. Two of his major contributions, "Late Mesozoic and Early Cenozoic History of Central Utah" (1946) and "Mountain-Building Chronology and Nature of Geologic Time Scale" (1956), placed the whole matter of large-scale earth deformation in proper perspective in relation to geologic time. According to his account in the latter publication, he had held the conventional view that the Mesozoic era had ended with a great worldwide upheaval, designated as the "Laramide Revolution." In the early years of his field studies this concept had greatly influenced his stratigraphic interpretations. In 1934 a service report from C. W. Gilmore revealed that scraps of bone, which Edmund had collected from what was called the "Wasatch Formation (Eocene)" in central Utah, represented dinosaurian material and were of Cretaceous age. With this discovery, Edmund's evolving ideas and previous observations quickly fell into place, and he realized that the whole concept of Earth revolution as it then stood was inaccurate. Although its publication was delayed by the intervening years of World War II, in Edmund's Professional Paper 205D (1946) he demonstrated that mountain building is not rhythmically episodic; that geologic time has not been neatly, dramatically, and conveniently punctuated by orogeny. In the light of new evidence, a geologist now can no more visualize the passage from one unit of geologic time to the next (for example, the passage from the Mesozoic to the Cenozoic) as having been a single, shorted-lived, worldwide event than a historian can cite a single event as the decisive point when the Middle Ages changed to the Renaissance. In a closely related contribution, "Sedimentary Facies and Associated Diastrophism in the Upper Cretaceous of Central and Eastern Utah" (1949), Edmund illustrated the protracted nature of Earth deformation as revealed by both horizontal and vertical variations in sediments that had been derived from but deposited far away from the original mountain-building site.

Edmund remained an ardent reader of the current geologic literature long after his retirement, and he was always willing to discuss the most recent innovations and trends in geologic thinking with his colleagues. As an "old duffer," his greatest concern was that too many geologists might be losing sight of the importance of basic field work and be resorting instead to "armchair theorizing" and "unjustified speculation." The following excerpt is from Edmund's last formal presentation to the Department of Geology and Mineralogy on the occasion of his honorary doctorate award:

In the first decades of this century, there commenced to appear some more unjustified speculation, even some cataclysmic thinking, to which my revered mentor, the great paleobotanist and geologic thinker, Edward Wilbur Berry, reacted. Among other things, he got out a little note in "Science" in which he invoked the fable of Anteus, the famous giant of antiquity who was invincible as long as he had his feet on the ground, but let him be lifted even so little off the ground, as he was later by Hercules, and his strength vanished and he was helpless. We geologists, my friends, are exactly in the position of Anteus. The one thing that has not changed one iota, not only in the 60 years of my own observation, but in the whole nearly 200 years of geology itself, is the vital necessity for field work.

Edmund M. Spieker lived a long and eventful life. His lifetime bridged the important eras of major geologic exploration in the west and the geology of today. As a young man Edmund aspired to emulate G. K. Gilbert, whom he once met during his early years with the U.S. Geological Survey. The contributions of Spieker were consistent with the traditions and ideas established by his predecessors and colleagues in the Survey, and will continue to influence the minds of future generations of geologists.

ACKNOWLEDGMENTS

I thank the following people who assisted me in the preparation of this memorial. Andrew M. Spieker provided the details on Edmund's early life and family history. Additional information was extracted from letters of recommendation written by A. A. Baker and W. N. Gilliland to the Ohio State University in support of presenting Edmund with the honorary Doctor of Science degree that he received in 1972. Colin Bull, C. E. Corbató, and C. H. Summerson made helpful suggestions.

SELECTED BIBLIOGRAPHY OF E. M. SPIEKER

- 1922 Paleontology of the Zorritos Formation of the North Peruvian oil fields: Johns Hopkins University Studies in Geology, no. 3, 196 p.
- The petroleum geology of a part of the western Peace River district, British Columbia: American Association of Petroleum Geologists Bulletin, v. 6, p. 112-138.
- 1925 (and Reeside, John B., Jr.) Cretaceous and Tertiary formations of the Wasatch Plateau, Utah: Geological Society of America Bulletin, v. 36, p. 435-454.
- 1926 (and Reeside, John B., Jr.) Upper Cretaceous shoreline in Utah: Geological Society of America Bulletin, v. 37, p. 429-438.
- 1928 (and Baker, Arthur A.) Geology and coal resources of the Salina Canyon district, Sevier County, Utah: U.S. Geological Survey Bulletin 796, p. 125-170.
- 1930 Bituminous sandstone near Vernal, Utah: U.S. Geological Survey Bulletin 822, p. 77-98.
- 1931 The Wasatch Plateau coal field, Utah: U.S. Geological Survey Bulletin 819, p. 1-210.
- (and Thom, W. T., Jr.) The significance of geologic conditions in Naval Petroleum Reserve No. 3, Wyoming: U.S. Geological Survey Professional Paper 163, p. 1-64.
- 1936 The orogenic history of central Utah: Science, v. 83, p. 62-63.

- 1938 Problem of secondary tilt—Harker's solution corrected: American Association of Petroleum Geologists Bulletin, v. 22, p. 1255–1260.
- 1940 (and Billings, Marland P.) Glaciation in the Wasatch Plateau, Utah: Geological Society of America Bulletin, v. 51, p. 1173–1198.
- 1946 Late Mesozoic and Early Cenozoic history of central Utah: U.S. Geological Survey Professional Paper 205D, p. 117–161.
- 1949 Sedimentary facies and associated diastrophism in the Upper Cretaceous of central and eastern Utah, *in* Longwell, C. A., chairman, Sedimentary facies in geologic history: Geological Society of America Memoir 39, p. 55–81.
- The transition between the Colorado Plateau and the Great Basin in central Utah: Utah Geological Society Guidebook no. 4, 109 p.
- 1956 Mountain-building chronology and nature of geologic time scale: American Association of Petroleum Geologists Bulletin, v. 40, p. 1769–1815.
- 1960 The Cretaceous-Tertiary boundary in Utah: International Geological Congress, 21st, Copenhagen, Report, part V, p. 14–24.
- 1965 The nature of geology and its place among the natural sciences: New York Academy of Sciences Transactions, v. 28, ser. 2, no. 2, p. 159–169.
- 1971 Schopf, Maclure, and the earliest work on American geology: Science, v. 172, no. 3990, p. 1333–1334.
- 1972 Translation of “Beiträge zur mineralogischen kenntniss des östlichen Theils von Nord-Amerika und seiner Gebürge” by Johann David Schopf (1787): New York, Hafner Publishing Company, 194 p.

