

ROCK STARS

Raymond Cecil Moore: A Great 20th Century Geological Synthesizer

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R.C. Moore (1892–1974), administrator, researcher, teacher, world-class stratigrapher and paleontologist, linguist, and artist—a man of many talents—was born 20 February 1892 in Roslyn, Washington, in the Wenatchee Mountains. The eldest of four children born to Bernard Harding Moore, a Baptist minister of Irish descent, and Winifred Denney of Elk Falls, Kansas, Moore was educated at Denison University (Ohio) and granted an A.B. degree with honors in the classics in 1913. At Denison, he was introduced to geology by the learned geologist Frank Carney and was such a good student that he was hired to teach geology his senior year while Carney was on leave.

Moore continued his studies in geology at the University of Chicago and was awarded a doctorate (*summa cum laude*) three years later for his dissertation on the Early Mississippian formations of Missouri, supervised by Stuart Weller. His education at Chicago included instruction from the giants of the day—Weller, Thomas C. Chamberlain, Samuel W. Williston, and Rollin D. Salisbury. On completion of his studies at Chicago in 1916, he was hired as an assistant professor of geology at the University of Kansas and also state geologist and director of the State Geological Survey of Kansas. Moore replaced W.H. Twenhofel, who left for the University of Wisconsin after having been state geologist for just one year. Twenhofel had replaced the retiring Erasmus “Daddy” Haworth, although Haworth continued



R.C. Moore dressed for fieldwork in the early 1930s.

as chairman of the department (Merriam, 1975, 2002; Maples and Buchanan, 1989).

Almost immediately, Moore turned his attention to refining the Permo-Pennsylvanian stratigraphy of the Midcontinent. His attention to detail allowed him to correlate individual beds as thin as 5 cm from Nebraska southward to Oklahoma; his measured sections are impeccable. From this detail, he was able to formulate his ideas on cyclic sedimentation and “genetic stratigraphy,” as he phrased it, a forerunner of what we know today as sequence stratigraphy. He was particularly interested in the succession of depositional

environments and he defined them by unique fossil assemblages. Many of these studies were the basis for a series of Kansas Geological Society field conferences in the 1930s, a summary publication on the Pennsylvanian of Kansas in 1936, and the revised and updated geological map of Kansas, published in 1937 with co-author Kenneth K. Landes. His flair for organization and technicalities was evident with these activities as he coerced and cajoled his colleagues into a uniform stratigraphic code for the Midcontinent. (He later showed these same abilities as chairman of the U.S. Committee on Stratigraphic Nomenclature and the Committee on Zoological Nomenclature.)

Moore envisioned individual cyclothem to consist of genetically related units, that is, a succession of sediment types deposited in a shallow epicontinental sea by a single advance and retreat of the sea. He extended the original concepts of J.A. Udden and J.M. Weller on cyclothem to a bundle of related cyclothem (usually five, each represented by the culminating marine limestone separated by thick nonmarine clastics), which he termed a “megacyclothem.” Moore noted testily:

The notion that any geologist seriously challenges the existence of many orderly successions of lithologically (and paleontologically) differing sorts of rock layers in the Pennsylvanian-Permian part of the geologic column of Kansas and other regions seems preposterous, unless excuse is made for such a geologist that he is grossly uninformed of field facts. (Moore and Merriam, 1959, p. 46)

Moore used a rather elaborate classification for the genetic units based on a decimal-type system. He believed this classification was necessary because the genetic units (cyclothem) could not be mapped easily and there would be no ambiguity with rock units using such a dual classification. He envisioned a similar scheme for his megacyclothem, but neither scheme was adopted by other field geologists.

Using his extensive background in Permo-Pennsylvanian stratigraphy of the Midcontinent and Kansas in particular, Moore took an integral part in the discussions of the 1940s concerning rock cycles and facies as did L.L. Sloss, W.C. Krumbein, E.C. Dapples, H.R. Wanless, and J.M. Weller. In 1949, Sloss,

Sciences, and SEPM (Society for Sedimentary Geology). He served as an officer or on committees for many of these organizations. Two honors that he would have cherished but that eluded him were election to the National Academy of Sciences and the Penrose Medal from the Geological Society of America.

“Ol’ Professor Ray Moore” was immortalized in a Pogo comic strip telling about the mythical bird, *Jayhawkornis kansasensis*. He lived to read his obituary after an incident on the Colorado River in which the famous 1923 Birdseye River mapping expedition was assumed lost after a flash flood. At 51, he volunteered for active military service in WWII and later served as a consultant to General Douglas MacArthur in Japan. He was fluent in French, German, and Dutch and conversant in several other languages; he was also a talented artist. Without doubt, he could have been successful in any field he chose.

Moore was an ambitious person with definite objectives. Outwardly, he was a cold and demanding person. In his younger days, he treated colleagues with indifference, and he had zero tolerance for incompetence. He was astringent and, as a result, perhaps unknowingly, made many professional enemies. This gruff treatment of friends and colleagues alike was, in his opinion, for their own good and was meant to correct their deficiencies. W.W. Hambleton described Moore in these words: “He possessed a large ego or, perhaps more appropriately, was comfortable in his knowl-

edge of his own worth.” But Moore did have a wily sense of humor, and as an example, named the Aarde Shale in 1932 for a farm in east-central Kansas just to assure that his proposed name was the first term in the stratigraphic lexicon—and it is. Inwardly, he was a good and caring person but, unfortunately, he did not know how to show affection. He mellowed considerably in his later years and to some, at least, he was a valued friend and ally.

Although his personal life remained private, it probably was not a very happy one, and family contacts were minimal. He was married twice and had a daughter by his first wife. He died in Lawrence, Kansas, on 16 April 1974 at the age of 82 while editing his beloved *Treatise*. He willed his estate to the University of Kansas and the Geological Society of America for continued support of the *Treatise*—his lasting legacy. Raymond Cecil Moore was the consummate and committed scholar.

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