

Memorial to Maxim Konrad Elias

1889–1982

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Born, raised, and educated in Russia, this emigrant to America made his mark in the geological world, although largely unheralded and unrecognized. Max(im) Konrad(ovich) Elias(hevich) was born in Minsk, Russia, on August 12, 1889. He received his mining engineering degree from the Mining Institute at St. Petersburg in 1917. Escaping the turmoil of the Russian revolution, he made his way to Siberia to work in the mining industry there for three years. The strenuous trip across Siberia was by rail with his wife, Helen, and young son, Max Jr., riding in boxcars just ahead of the Red armies. In Vladivostok he obtained a position as professor in the Polytechnic Institute, where he stayed for three years. The family then made their way via Japan to the United States, arriving in November 1922. Working first as a draftsman, Max finally obtained employment as a geologist with the Kansas Geological Survey, working under the direction of Raymond C. Moore, state geologist and director of the survey. Max obtained a Ph.D. at Yale University in 1939 with his dissertation, "Tertiary Grasses of the High Plains and Their Relations to the Geology of the Region."



On joining the Kansas Survey in 1927, Max was sent to western Kansas to map and work on the Cretaceous and Tertiary in Wallace County—far from Lawrence. His first publication, on the origin of cave-ins in Wallace County, appeared in the *AAPG Bulletin* while Moore was the editor. Max's Kansas Survey bulletin on Wallace County, a major work for the era, was published the next year, 1931. From his work in the High Plains came his papers on the Tertiary grasses; Ogallala (Tertiary) Formation; the "algal limestone," on top of the Ogallala; and Cretaceous cephalopods.

Max's next major publication was on the Big Blue Series (Permian) cyclothems and his reconstruction of the depositional environments, including water depth of the old Kansas inland sea. This classic work is a must for anyone working in the area even today. About this time Norman Newell must have discovered the Pennsylvanian *Walchia* (plant) beds near Garnett in eastern Kansas that were recognized as a "Permian" flora. These beds were the subject of several papers by Max, most of them written with Newell. In the mid-1930s, Moore, Newell, Elias, and J. Mark Jewett, who was at Wichita University and working in the Permian succession in central Kansas, began summarizing their work. Two large manuscripts resulted from this effort but were never published.

At about this time, personal problems arose between Moore and Elias, and the professional association and friendship ended. After a year working in industry in South America, Max moved in 1939 to the Nebraska Geological Survey at the University of Nebraska in Lincoln at the invitation of George Condra, state geologist of Nebraska.

Max's first publication in Nebraska, a paper on the late Tertiary prairie vegetation of Nebraska, was an extension of his Kansas High Plains work. He continued his High Plains studies but moved more into paleontology, working on algae and bryozoans in collaboration with Condra; in the early 1940s most of Max's publications were about bryozoans. He held a concurrent appointment at the University of Nebraska as an associate professor. On his retirement from the Nebraska Survey in 1958 he was granted emeritus status, and he moved to the Research Institute at the University of Oklahoma in Norman, where he was appointed adjunct professor and had an office and working facilities. He continued his paleontological studies there, working with Carl Branson, state geologist of Oklahoma, and Tom Amsden. Max was working again with bryozoans, but he kept an interest in the Paleozoic cyclothems. His last publication, in 1968, an abstract, was on late Paleozoic cyclic phenomena. He lived another 14 years and died in Alliance, Nebraska, on May 6, 1982.

On the famous 1962 Kansas Geological Society field trip to southeastern Kansas, Max was very active, being the first on the outcrop, climbing the highest, and being the last one back on the bus. At the time, he was 73. R.C. Moore was a leader on that trip, but the two maintained a discreet distance during the three days. Later in 1969, Max visited Lawrence, and I arranged a meeting between the two. This was the first time, to my knowledge, that Moore and Elias had been alone in the same room together in 35 years. Apparently, all was forgiven; it was an amiable meeting and their last.

Max spent a lifetime in geology but received little recognition for his contributions. He received no medals, no commendations, no special awards outside of recognition by the Nebraska Survey on his retirement. He kept to himself and dedicated himself to his work. He pioneered work on fossil grasses and Tertiary vegetation, cyclic sedimentation, and depositional environments, and the biology of Paleozoic bryozoans. Any one of these cross-discipline contributions was worthy of recognition. Max was a fellow of the American Association for the Advancement of Science, the Geological Society of America, and the Paleontological Society, and a member of the American Association of Petroleum Geologists, but he did not actively take part in these organizations except to present the results of his research at their meetings. He did not do the service work required for recognition by his peers, perhaps because of a mistrust of his fellow humans after his early experiences. On the other hand, he was a fast friend and good colleague to those he trusted.

Max was married to an understanding woman who bore him three children—son Max, Jr., who worked for the U.S. Geological Survey; son Greg, who for many years was a geologist with Conoco Oil Company; and daughter RoxAnne.

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