

Memorial to Charles Lewis Gazin 1904–1996

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C. Lewis Gazin was one of the decreasing numbers of mammalian paleontologists whose publications emphasize the geologic environment of the fossils they describe. He also devoted a great deal of attention to the biologic significance of the fossils. Lew Gazin was, without doubt, a leading figure in American mammalian paleontology for many years, and he advanced the discipline significantly along more than one path.

Lew was born on June 18, 1904, in Colorado Springs, Colorado, the eldest child of Charles Edward and Janie Frances (née Nicklaus) Gazin. The family moved to San Francisco in 1907 and to Los Angeles in 1910, when Lew completed grammar school. During these early days in Los Angeles, young Lew began visiting the Los Angeles County Museum and became fascinated by fossil mammals, especially the ground sloths from the tar pits at Rancho La Brea. He also showed an early interest in music and played trumpet in the school band and orchestra during his high school days.



His early interests in science and engineering led him to attending Los Angeles Polytechnic High School, from which he graduated. Lew began studies at the California Institute of Technology in 1923, supported by tuition scholarships and summer employment as a surveyor for the Los Angeles Water Department. At first he intended to study engineering, but as a sophomore he changed his major to physics. Around this time, the Department of Geology was founded at Caltech, with J. P. Buwalda as professor of geology and Chester Stock as professor of vertebrate paleontology. This field of “outdoor science” was attractive to Lew, who became a geology major and completed a senior thesis in 1927 on the geology of a part of the Alhambra Quadrangle, east of Los Angeles.

After graduation Lew continued his association with Caltech, collecting fossils for Chester Stock in the tar sands near Carpinteria and working as an assistant in the preparation laboratory and as a teaching fellow in geology and paleontology. He received his M.S. degree in 1928 in vertebrate paleontology, with a thesis on the Miocene mammalian fauna from Cuyama Valley in southern California. He took an active part in Caltech field parties working in later Tertiary deposits in eastern Oregon (Skull Springs), Arizona (Benson and Curtis ranches), and Nevada (Virgin Valley). Lew was Stock’s first student in vertebrate paleontology to earn his Ph.D. at Caltech. His thesis (1930) included a geologic report and map of the Cuyama Valley and a report on the fossil mammals of the Skull Springs locality.

Upon completion of his graduate studies, Lew began work for the U.S. Geological Survey as a junior geologist working in geomorphology. In 1931 Chester Stock advised him to apply for

a position as vertebrate paleontologist at the U.S. National Museum to fill a vacancy created by the death of J. W. Gidley. In 1932 Lew was hired as the assistant curator for fossil mammals, joining C. W. Gilmore, who worked on fossil reptiles. Thus began a long and productive career at a major center for studies of vertebrate fossils.

Field work and research went hand-in-hand for Lew. One of his first projects at the U.S. National Museum was to complete the work begun by Gidley on the Pleistocene vertebrates of Cumberland Cave. He joined Remington Kellogg collecting Miocene marine mammals along Chesapeake Bay, and opened extensive quarrying operations in the later Cenozoic of Hagerman, Idaho, collecting more than 150 horse skulls and eight or ten nearly complete skeletons. He also continued his investigations in the later Cenozoic of Arizona and began work associated with George Simpson in the early Tertiary San Juan Basin of New Mexico. In 1938 he began investigations of later Eocene fossils from the Uinta Basin and the Cretaceous-Paleocene in the Dragon Canyon area of central Utah, working with other paleontologists, including George Sternberg, J. LeRoy Kay of the Carnegie Museum, and John Clark of the University of Colorado. For the museum's laboratory he hired Bill Moran and a few years later, Frank Pearce, who had been Sternberg's field assistant. These were lasting associations that contributed greatly to the productivity of Lew's research programs.

Lew first went to the Bridger Basin for stratigraphic and paleontologic studies in 1940. His interests there and in the Green River Basin continued with almost yearly visits until 1969. The exquisitely preserved and often complete specimens of fossil vertebrates resulting from these field trips, frequently with his valued colleague and assistant Franklin L. Pearce, greatly heighten interest in the exhibition halls at the natural history museum. Typical acquisitions to the collections made by Lew's field party include the following: 1940—approximately 600 specimens from the Dragon Paleocene and Bridger Eocene; 1950—approximately six tons of Pleistocene mammals from Panama, principally the giant ground sloth *Eremotherium*; 1954—approximately 600 specimens from the Paleocene and Eocene Bison, Fossil, Green River, Washakie, and Great Divide basins of Wyoming; 1965—approximately 473 specimens from the middle Eocene Bridger Basin, early Eocene Green River and Washakie basins, and Paleocene Fossil Basin, Wyoming. Lew appreciated the work of his geological colleagues in the U.S. Geological Survey, frequently following up on their initial discoveries to open new collecting sites for fossils.

Lew Gazin's regularly contributed, high-quality publications are based largely on his own field results and deal with the wide variety of mammals that interested him the most. He did not hesitate to tackle difficult groups, and his studies on the mammalian order Tillodontia, the middle and upper Eocene North American primates, the upper Eocene artiodactyls, and the condylarths *Hyopsodus* and *Meniscotherium* are masterworks of precise description and careful phylogenetic inference based on accurate stratigraphic determinations. His work could be relied upon to be well illustrated, frequently by the exquisitely accurate drawings of Lawrence B. Isham. His geological work included basic interpretations of the zonation of the Bridger Formation and the intertonguing relationships of units within the Green River Formation that provide an essential framework for his own work as well as all that came later.

Under Lew's supervision, the National Museum exhibit hall devoted to Tertiary mammals became an exciting showcase for outstanding specimens backed up by the extraordinary murals of artist Jay Matternes. Some of his spectacular discoveries that graced the exhibit were a nearly complete specimen of the huge Eocene mammal *Uintatherium* and the giant Pleistocene ground sloth *Eremotherium*.

The only break in this productive paleontological career came during World War II. In 1942 he was commissioned as first lieutenant in the Army Air Force. Assigned first to Combat Intelligence, he then moved into the Photographic Division at the Pentagon. He entered into this

new challenge with customary thoroughness, and wrote a field manual, *Aerial Photography, Its Military Applications*. He continued teaching and studying photographic applications and was promoted to the rank of major. His contributions to the military were recognized in 1946, when he was decorated with the Legion of Merit for studies on uses of radar scopes. In 1945 Lew was discharged from active duty and returned to the U.S. National Museum as Curator of Vertebrate Paleontology, replacing Gilmore, who had recently died.

Lew took an active role as a member of the geological community in Washington and across the country. He became a member of the Washington Academy of Sciences in 1935, and he edited its journal from 1938 to 1941. Between 1948 and 1951 he served on the National Research Council, and he was a director of the American Geological Institute from 1956 to 1958. He was a Fellow of the Geological Society of America. A charter member of the Society of Vertebrate Paleontology, he served as regional editor of its *Bulletin* and as its president in 1949. His commentary on paleontological matters could be heard on radio broadcasts and in lectures at organizations as different as the Cosmos Club and the Explorers Club.

Lew was cordial to visitors to the collections in his care and helpful to other serious scholars. His own work was carefully focused, and his contributions were of excellent quality, standing today as examples of thorough morphology coupled with well-considered phylogenetic inferences. He was a hands-on geologist, not a person for armchair stratigraphic conclusions nor highly speculative phylogenetic inferences. His attitude toward speculation can be given in his own words, taken from a book review in which he commented wryly that the author "relies extensively on the thinking and conclusions of other workers, and much of his discussion is speculative and hence debatable, but it does encourage reflection on the part of the reader." Many of Lew's own reflections led to conclusions as valid today as when they were written.

In 1970 Lew became emeritus paleobiologist at the National Museum. He retired to the Pacific Northwest, where he spent the remainder of his days living near his son Chester. He left the paleontological and geological communities a valuable permanent legacy in the form of his influential scholarly publications and his exceptional collections of fossil vertebrates.

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