Memorial to Alfred Sherwood Romer
1894-1973
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The history of vertebrate paleontology, which goes back in its modern form to the early nineteenth century, is marked by a succession of intellectual giants. Charles Darwin and Thomas Jefferson, in their different ways, were attracted by the subject, which had a significant influence on their thought. More important to the development of the science, however, was the work of men of great stature who devoted themselves to the study of evolution through collecting, description, and interpretation of fossil vertebrates. Joseph Leidy of Philadelphia was the first of the great American vertebrate paleontologists. Following close on his heels, in more ways than one, were Edward Drinker Cope and Othniel Charles Marsh, who made vertebrate paleontology a household word through their contributions and their feuds. After them, maturing in the twentieth century, came Samuel Wendell Williston, Henry Fairfield Osborn, William Berryman Scott, and—a quiet genius—William King Gregory, who was the teacher of Alfred Sherwood Romer.

Romer, when he died suddenly on November 5, 1973, was still engaged with undiminished vigor in a career that made him one of the handful of major contributors to our knowledge of evolution.

Romer is known to geologists and biologists as the author of a tremendously influential series of textbooks, *Vertebrate Paleontology, Man and the Vertebrates, The Vertebrate Body,* and *Osteology of the Reptiles.* It is through these that his widest influence has been felt. Every vertebrate paleontologist working today probably received his introduction to the subject through Romer, and many anatomists received their first training from his books. As is well known, however, Romer's research on fossil fishes, amphibians, and reptiles resulted in contributions that, for fifty years, have notably increased our understanding of the evolution of these groups and particularly of the drastic structural changes involved in the transition from one vertebrate class to another. This work—with fossils in the field and the laboratory—was what he loved best.

Of himself, Romer said, "Primarily I think I am a comparative anatomist, interested in vertebrate evolution with morphological evolution and its functional implications as my main interest."* His leaning toward zoology went back to his studies with Gregory at Columbia University where, after service in World War I, he did his graduate work. His undergraduate studies, at Amherst College, had included a course in evolution under F. B. Loomis, and it revived a childhood interest in fossil vertebrates, aroused at the American Museum of Natural History.

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*This, and later quotations for which no reference is given, is from a letter to the Home Secretary, National Academy of Sciences, dated June 5, 1961.
While still an undergraduate, Romer decided on vertebrate paleontology as his life work, but he took little biology and no geology in college. The Amherst elective system encouraged a broad education, and Romer, taking full advantage of it and knowing that he would get plenty of biology in graduate school, majored in history and German literature "... with courses in music and what-have-you on the side." Also he was editor of the student paper. These nonscientific disciplines contributed to the easy writing style that makes his books and papers a pleasure to read. Another result of his college training (augmented by his love of independent study) was his conviction that a person did not need to take a course in a subject if he were really interested in it. Romer never had elementary zoology, embryology, comparative anatomy, histology, geology, nor even vertebrate paleontology. In later years he encouraged his students to get through their course work as quickly as possible so they could get on with their research.

William King Gregory, Romer's graduate professor, probably exerted the greatest influence on the course of Romer's work. Gregory's preoccupation with functional morphology caught Romer's fancy when he arrived at Columbia in the spring of 1919. Because of a conflict with laboratory teaching, Romer could not take Gregory's regular vertebrate paleontology course. "But," said Gregory, "a few of us are interested in comparative myology, and we're planning to have a special course on the subject. Would you care to join?" Romer said that he would love to and then went to a dictionary to find out what myology was. He was relieved to learn that it was the study of muscles (not mussels as he had suspected), and this was how he arrived at his thesis subject: a consideration of muscle evolution and the probable musculature of primitive fossil amphibians and reptiles.

Romer finished his Ph.D. in two years, while serving as a teaching assistant (an early example, often to be repeated, of his extraordinary efficiency). He was then offered an instructorship in the anatomy department of Bellevue Medical School of New York University. There he spent two pleasant years, teaching embryology and histology. He had not had instruction in either of these subjects, and he said later that he really had to dig to keep ahead of the class.

In his third year at Bellevue, Romer was scheduled to take charge of the dissecting room and was looking forward to intensive work in human anatomy, but in 1923 he received an invitation to go to the University of Chicago as associate professor of vertebrate paleontology. In doing so, he moved from a department of anatomy to a department of geology, a seemingly violent transition, but one that vertebrate paleontologists regard as part of a normal career pattern. It was at Chicago, where he had stimulating colleagues and the collections of the Walker and Field Museums, that Romer established his life's pattern of research and textbook writing. There also, he began field collecting of fossil reptiles, amphibians, and fish, and he went to the field almost every year for the rest of his life.

When Romer arrived at Chicago he had "no particularly strong leanings toward any group or period." There he found a fine collection of Permian vertebrates collected by Paul Miller, the Walker Museum preparator. The Permian beds contain primitive reptiles (some related to the line from which the mammals evolved), holdovers from the preceding amphibian stage, and even representatives of the fish group from which the amphibians sprang. The riches in the Walker Museum started Romer on many lines of inquiry that were pursued throughout his life—the evolution of Permian and Carboniferous reptiles, begun in 1925 and including classic monographs on the Pelycosauria and the therapsid reptiles; Permian and Carboniferous stratigraphy, begun in 1926; and studies of Carbon-
iferous Amphibia, begun in 1929, and including the review of the Labyrinthodontia. This work led him to the field to collect in the Permian red beds. He first went to Texas in 1926 and made more than thirty trips there. As he put it, "... mostly trips of a month or so in length, but piling up the time so that I have probably spent more than three years of my life in the general area of Texas in which Wichita Falls is the principal city." He loved the work in Texas—hot, dry, and dusty as it was—and as the years went on, he took increasingly large retinues of graduate students, who delighted in recounting the hardships of life in the Texas Permian (which included, if you would believe them, a diet based mainly on canned tomatoes).

In his field work, as everywhere else, Romer was inseparable from his wife, Ruth Hibbard Romer. They had met at Woods Hole in the summer of 1922, when Ruth was visiting her sister, Dr. Hope Hibbard. In the fall of 1923, when Ruth took a job as a labor statistician and lived near the University of Chicago, they drifted together. Al proposed to Ruth on top of a snow-covered Indiana dune on a bitterly cold January day. In a letter to his future biographer Romer said, "I find it impossible to say all the wonderful things I would like to say about her, but I can say that the best thing that ever did happen, or could have happened, to me was meeting and marrying Ruth. Amongst many other things, she is quite fond of travel and loves to rough it; as a result, except for a number of occasions when the children were growing up, she has gone with me on the greater part of my field trips. She is not a trained scien­tist and actually cannot do as well on the heavy pick-and-shovel stuff as some of the youngsters, but she is an excellent prospector and can bandage a skull in plaster with the best of them. As a result, she is a first-rate field hand."

In 1929 the Permian collecting was extended far afield—to the Karroo beds of South Africa. Romer and Paul Miller spent six months there and brought back the first significant collection of Karroo reptiles to be made by Americans. In the 1960s when Nicholas Hotton was collecting in the Karroo, an old farmer, knowing no other English and seeing that Hotton was an American, asked, "Romer? Miller?"

Romer spent eleven happy years at the University of Chicago. The adjective "happy" is again a quotation from the letter that he wrote in 1961 for his future biographer. "Happy" typifies his life. I knew him for almost forty years and never saw him sad or tense. This is not to say that he never had problems, but ordinary worries did not weigh him down. I remember one day in the National Museum, hearing him sing "Caintown Races" (his favorite tune, along with "Does eat oats and mares eat oats and little lambs eat ivy") for several hours as he went through the Permian collections.

In 1933 the first editions of his two great textbooks *Vertebrate Paleontology* and *Man and the Vertebrates* were published, and in the spring of 1934 he received an unexpected call to come to Harvard University. He accepted, for he was uncertain about the future of science at Chicago under Robert M. Hutchins and optimistic about the attitude of the new Harvard president, James B. Conant. His "bread-and-butter" job at Harvard was teaching comparative anatomy, with vertebrate paleontology on the side. At Harvard in 1934 the contrast between the "new" and the "old" biology was discernible: the spanking new biology laboratories on one side of Divinity Avenue and the mid-nineteenth-century Museum of Comparative Zoology on the other. Romer quickly chose the latter, and his large square office on the first floor of the MCZ was a mecca for students and colleagues for forty years. It has now become the Alfred Sherwood Romer Library.

The Romers bought a rambling early-nineteenth-century house a few minutes' walk
from the Museum, and late each afternoon Al would head for home with a laden green Harvard book bag over his shoulder. Ruth Romer, asked about his working habits, said

I think the answer is that when he didn't have anything scheduled to be done, he sat in his big chair with a board across the arms, always with a record on his nearby stereo, writing (I think a better word is scribbling, always with a pencil on yellow paper. He said he couldn't write any other way). Of course he took time off to read (mostly history and always had a detective story going) . . . . He always seemed to find time around the edges to get a few licks of work in. Of course these last few years, he didn't work as concentratedly as earlier. His schedule recently had been to go to the MCZ in the morning, home for a late lunch, then an hour's nap, and back to work, usually at home. Dictating letters (never papers) he usually did right after dinner.

When he was teaching, he always spent some time the night before a lecture, writing out fresh notes. This job always had to be planned for, if we were going out to dinner or having guests.

As you know, he wrote easily and often worried me by not obviously preparing a speech I knew he was scheduled to give. But it came out good 99% of the time. He always said I was his "best friend and his severest critic." I said I was "the general public."

Early in our married life, he thought he had the answer to writing a book. I knew general shorthand so he would dictate chapters to me and I would transcribe. But I had to ask him how to spell words in every sentence, so he gave it up, immediately developed the plan of scribbling on yellow paper and then I did the typing. This was for the first edition of his Vertebrate Pale.

An example of finding time for a few licks of work is Romer's preparation (with Tilly Edinger and Richard van Frank) of the Bibliography of Fossil Vertebrates, 1507-1927. This two-volume work, which filled a large gap in the published bibliographies, was in preparation from the early 1930s until 1962. Whenever Al came to Washington, he contrived to spend an hour or so checking references in the U.S. Geological Survey Library, emerging with scraps of scribbled yellow paper sticking out of his pockets.

To his students, Romer was available but not obtrusive. He believed that anyone who was smart and interested could get along on his own. His major contact with graduate students was, at one time, a two-year survey of the literature of vertebrate paleontology. Once a week a heap of literature on a group of vertebrates was piled on a table. A week later Romer met with the students for an afternoon of rambling talk, which brought out his mastery of the subject as well as lots of laughs.

As a lecturer Romer was superb. Here his ease, love of people, and lack of stuffiness shone. He was uninhibited—he waved his arms, imitated animals, and sang songs like this:

It's a long way from Amphioxus; it's a long way from us.
It's a long way from Amphioxus to the meanest human cuss.
It's good-bye fins and gill slits, welcome skin and hair.
It's a long way from Amphioxus, but we came from there.

In 1946 Romer was appointed Director of the Museum of Comparative Zoology. This was a difficult job, for the museum's finances were in miserable shape. Thomas Barbour, Romer's predecessor, had been a wealthy man who would dole out money for projects that interested him, but the museum's endowment was insufficient and its salary scale was astoundingly low. The greatest salary deficit was that for the director: there was none. Romer had to continue his teaching and take on the director's duties besides. Naturally, and to his sorrow, his research suffered. It was fortunate for the MCZ that he was willing to do this, for he saw to it that the endowment was increased, salaries raised
to a level commensurate with that of the teaching faculty, and distinguished scientists added to the staff. Among these were Ernst Mayr, George Gaylord Simpson, and Bryan Patterson. Romer remained director until 1961, when he became a research professor, and in 1965, a professor emeritus.

For the Romers, retirement meant more travel than ever. It is not surprising that he was in demand as a speaker literally all over the world, and there were few parts of the world that he missed in those years. The Romers' Christmas letter left the reader vicariously exhausted.

Despite his whirlwind travel, Al's research did not decline. Papers continued to appear on the evolution of the vertebrate classes, with especial emphasis on reptilian phylogeny, drawing upon his years of collecting and detailed study. He took advantage of speaking opportunities to pursue a goal that had interested him for years—reminding neozoologists of the importance of evolution in biology. The fact that he always described himself as a zoologist strengthened his hand, and it took deep zoologic knowledge to write as he did about such subjects as the evolution of skin breathing and the development of the cerebellum.

For Al, retirement did not mean cessation of field work and the study of fossils. In 1958 and in 1964–65, he led expeditions to the Ischigualasto Valley and the Chaniares area of Argentina to collect Middle Triassic vertebrates. The efforts of the Harvard group produced a reptilian fauna, featuring rhynchosaurs and gomphodonts and filling a notable gap in Triassic faunal history. The result was a series of twenty papers by Romer and others, delineating the faunas and stratigraphy. The last of these, the faunal and stratigraphic summary, appeared the month after his death. Also, there were other results: South American workers were spurred on to new investigations, and Romer's interest was focused on plate tectonics. The high percentage of rhynchosaurs in the Ischigualasto beds and in the Triassic of Africa raised one more of many questions concerning Triassic paleogeography, and Romer applied his faunal knowledge to the problem, writing a number of papers on Gondwanaland in the 1960s and early 1970s.

In 1966, presenting Al for the award of the Paleontological Society Medal, I stated as his motto, "Learn to write. You can always pick up stratigraphy on the side." It is interesting that, as of this writing, Al's last paper (published November 27, 1974) is on the stratigraphy of the Permian red beds of Texas, a final demonstration of Al's thesis that you can do anything if you care enough and put your mind to it. Appropriately, Nelda Wright finished the task of preparing the manuscript and maps for publication. Miss Wright, a master editor, had for many years been Al's major assistant and had helped many of his students and associates in ways too numerous to mention. She was entitled to finish the Texas red beds paper, for she had been there. As I write, I have before me a 1954 Christmas card showing Al, Ruth, Nelda, and Arnie Lewis in the field in Texas.

Another unfinished piece of work was completed by Romer's friend, James M. Moulton, who published "A description of the vertebral column of Eryops based on the notes and drawings of A. S. Romer" (Breviora, Museum of Comparative Zoology, no. 428, November 27, 1974).

Al's honors, deservedly, were many. He received the honorary D.Sc. from Amherst, Harvard, Dartmouth, Buffalo, and Lehigh Universities. He was awarded the Hayden Medal of the Academy of Natural Sciences of Philadelphia, the Thompson and Elliot Medals of the National Academy of Sciences (of which he was a member), the Paleontological Society Medal (he was vice-president of the Society in 1939), the Wollaston Medal of the Geological Society of London, the Penrose Medal of the Geological Society of America, and the Zoology Medal of the Linnean Society of London. He was a Foreign
Member of the Royal Society and of the Royal Society of Edinburgh, an Honorary Fellow of the Zoological Society of London, and an honorary or corresponding member of the Society of Animal Morphologists and Physiologists of India, the Academia Nacional de Ciencias en Cordoba, Argentina, the Bayerische Akademie der Wissenschaften, the Senckenberg Naturhistorische Gesellschaft, and the Paleontological Society of Argentina. He was a founder and first president (1940) of the Society of Vertebrate Paleontology, president of the XVI International Zoological Congress (1963), and of the American Society of Zoologists (1950), the American Association for the Advancement of Science (1966), the Society of Systematic Zoology (1952), and the Society for the Study of Evolution (1953). He was a member of the American Philosophical Society, the American Academy of Arts and Sciences, and Sigma Xi.

Romer's scientific eminence might leave one with the picture of a dedicated man who thought of little outside his specialty. This was not so. Al's high school days in White Plains had been the most carefree of his life, and he never forgot his old associates, seeing them often and keeping in constant touch. He felt the same way about Amherst. He and Ruth had a house in Pelham, near Amherst, where many happy months were spent, and Al frequently dropped in on the college and on his old fraternity, Phi Kappa Psi. Al felt that he owed a great debt to college and fraternity, for both had helped and encouraged him in his impecunious college days. It was therefore a blow to him when in 1948 the Amherst chapter of Phi Kappa Psi was expelled from the national fraternity for pledging a black student. Of course, Al had no doubt where he stood. In all the difficult months before and after the expulsion, as president of the local chapter corporation he stood behind the undergraduates and backed them up in their decision.

An additional happy tie to Amherst came when his son Robert became a professor of physics there. Besides his wife Ruth and son Robert, he is survived by his other children, Sally and James, and seven grandchildren.

An intellectual giant, Al Romer was the least frightening of men. He was not patronizing; he was not a backslapper; he was a human being who liked other people and, at the same time, was endowed with a superb brain.

SELECTED BIBLIOGRAPHY OF A. S. ROMER

--- Earliest land vertebrates of this continent: Science, v. 94, p. 279.


--- The late Carboniferous vertebrate fauna of Kounova (Bohemia) compared with that of the Texas red beds: Am. Jour. Sci., v. 243, p. 417-442.


— Diadectes an amphibian?: Copeia 1964, no. 4, p. 718–719.
— The Brazilian Triassic cynodont reptiles *Belesodon* and *Chiniquodon*: Breviora, no. 332, p. 1–16.


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1974 Aquatic adaptation in reptiles—primary or secondary? South African Mus. Annals, v. 64, p. 221-230

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