Farish A. Jenkins Jr

(1940–2012)

Palaeontologist, anatomist, explorer and artist.

With a rifle strapped to his back each summer, a scalpel in his hand each autumn and the eyes of an artist throughout the year, Farish Jenkins Jr seamlessly blended expeditionary palaeontology with experimental anatomy to establish how animals evolved to walk, run, jump and fly.

Jenkins, who died of complications from pneumonia on 11 November, was raised in Rye, New York. As a child, he showed no obvious draw towards a life of science and exploration. But two experiences transformed him. While studying philosophy at Princeton University in New Jersey in the early 1960s, Jenkins spent a summer as an undergraduate assistant to Glenn Lowell Jepsen. Jepsen ran a legendary field programme in Wyoming, digging up mammalian fossils, and Jenkins caught the bug for expeditionary palaeontology. After university he enlisted in the US Marine Corps, where he acquired the stamina, determination and confidence to execute the fieldwork that became a hallmark of his success.

In 1964, Jenkins began a PhD at Yale University in New Haven, Connecticut. Working with A. W. Crompton, the newly appointed director of the Yale Peabody Museum, Jenkins discovered an interest in early mammals and their closest relatives. His dissertation on the postcranial anatomy of these animals was a landmark study. It showed how careful anatomical observation and three-dimensional analysis of joint articulations could reveal major steps in the evolution of locomotion.

In 1971, Jenkins was recruited by Crompton to a post at Harvard University's Museum of Comparative Zoology (MCZ) in Cambridge, Massachusetts, where Crompton had assumed directorship. Here, the two launched a now famous laboratory. They employed electromyography, a technique for recording the electrical activity produced by muscles, along with a then-new cineradiographic device for creating movies from successive X-ray images. Crompton, Jenkins and their students revealed how the movement of bones in animals ranging from lizards and shrews to frogs is coupled to the activity of their muscles as they eat and move about. Armed with this new empirical evidence, Jenkins and his colleagues revised nearly a century's worth of speculation about functional anatomy that had been based on fossils alone.

Jenkins's research output was as systematic as his military training had been. During the 1970s, he published a succession of cogent analyses of the key joints of the mammalian body and their role in major functional transitions of evolution. Indeed, the 1970s were heady times to be at the MCZ. A menagerie of creatures walked, hopped and crawled under the cine X-ray beam. Students and colleagues came from around the world with fresh questions. All the while, Jenkins was developing the palaeontological expeditionary approach that led to his greatest breakthroughs.

S. KREITER/BOSTON GLOBE VIA GETTY

Farish Jenkins's recipe for successful expeditions went thus: identify a crucial question, explore the rocks most likely to contain the fossils you need to answer it and add stubborn persistence to the mix.

To better understand the evolutionary origins of mammals, Jenkins began his search in the Cretaceous rocks of Montana, where he found early mammal fossils. From 1977 to 1983 he launched a series of expeditions to the Jurassic Kayenta Formation of Arizona. Others had famously found fossils in these rocks, but Jenkins brought a novel approach: if the goal was to understand mammalian origins, and the earliest representatives were small, then the search should be focused on those sediments most likely to hold the smallest fossils.

The result was stunning. His excavation of siltstones uncovered not just early mammals, but also salamanders, frogs and a group of amphibians called caecilians — prompting a serendipitous expansion of his research programme to include other tetrapod groups. In the 1990s and 2000s, Jenkins used the same approach to open up the Triassic rocks of Greenland and the Devonian sediments of Arctic Canada to palaeontological discovery. He uncovered haramiyids (some of the earliest mammals) in the Triassic rocks and *Tiktaalik* (a genus of lobe-finned fish) in the Devonian ones.

Jenkins was president of the Society of Vertebrate Paleontology in 1981–82, and he received its Romer-Simpson Medal for lifetime achievement in 2009. He will be remembered by generations of undergraduates, graduate and medical students and assistant professors at Harvard College and the Harvard–MIT Health Sciences and Technology Training Program for the humanity and compassion with which he supported their careers. Among his many awards, he was especially proud to receive a Harvard College Professorship for his role in undergraduate teaching.

The showmanship of Farish's Harvard lectures was legendary. To demonstrate gaits he would recite Herman Melville while limping like Captain Ahab; at other times, he would don a body stocking with a skeleton painted on it.

He cut a dashing figure — whether bearing a pocket watch, pressed white shirt and tie clip in the laboratory, or a miner's pick and firearm (to protect himself and others from polar bears) in the field. As well as an anatomist, palaeontologist and explorer, he was an artist. It was not unusual for him to arrive for class four hours early to draw three-dimensional anatomical diagrams on the blackboard. Indeed, his scientific papers typically contained renderings that took months to execute. If you wrote a paper with Farish, you finished images and art before penning a single word. ■

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