Memorial to Franklyn Bosworth Van Houten  
(1914–2010)  
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When I arrived on the Rutgers campus in the fall of 1932, I had some vague idea that I wanted to study natural history whatever that was—or is. So I found myself with a major split between biology and geology.  
—Van Houten to Sheldon Judson (10/25/1990)  

Franklyn Bosworth Van Houten (1914–2010), sedimentologist, teacher, and the chairman of my dissertation committee at Princeton University, recently left us for red beds on Mars or perhaps it was to oolitic ironstone in northeastern Colombia. Van lived through most of the twentieth century and he made a strong start on the twenty-first century.  
Not long before he passed on at the age of 96, we talked on the telephone, and he asked about my research, my life and family, as he had done for almost half a century. He was always a friend.  

Early in my first month at Princeton, Harry Hammond Hess (1906–1969), then chairman of the Department of Geosciences, suggested a thesis topic. It evolved into an effort to correlate normal and reversed paleomagnetic events in the Triassic Chugwater Formation (now a Group) of west-central Wyoming. Harry believed many geophysicists that were publishing on reversals of Earth’s magnetic field didn’t have a firm grasp of the geological foundation of such fluctuations. Franklyn B. Van Houten, a red-bed enthusiast and specialist, soon became my principal supervisor, joined later by Bob Hargraves (1928–2003), a first-rate petrologist from South Africa. Van furnished financial support for most of the fieldwork through a National Science Foundation grant.  

Born in New York City in 1914, Van majored in geology and biology at Rutgers University, graduating in 1936. While in graduate school at Princeton, he planned to focus on vertebrate fossils and stratigraphy with the late Glenn Jepson (1903–1974). During the course of his fieldwork, Van’s passions turned, however, to the depositional environments of the nonmarine rocks containing the fossils. Readers of Van’s thesis later said that it “contained numerous and diverse studies.”  

In 1941 he finished his Ph.D., writing the dissertation while teaching at Williams College (1939–1942). He essentially stayed with the vagaries of terrestrial sedimentary rocks and their environments of deposition for his entire research career. In his close attention to these units, he made major contributions to our understanding of red beds, molasse, zeolites, oolitic iron deposits, and the relation of tectonism and sedimentation.  

During World War II, Van served in the U.S. Navy, joining a small group that Harry Hess had gathered in New York City whose chief activity became the tracking of German U-boats. After D-Day, the navy transferred Van to several different bases in Europe. Eventually based at the port of Bremerhaven, he was involved in the homeward movement of troops.  
From his several postings in Europe, he sent out research articles and got his thesis
published, with one of the chapters appearing in the journal *Science*. He also advanced in the navy to become a lieutenant. Shortly thereafter he completed his active duty and was appointed assistant professor at Princeton in 1946, joining the Department of Geology.

Van began teaching at Princeton with the understanding that his role would involve the teaching of vertebrate paleontology. Fairly soon, however, the department’s advisory committee recommended that sedimentology be added to the curriculum. Department Chair Arthur Buddington (1890–1980) recalled Van’s diverse thesis, his emphasis on the color in the sedimentary rocks, and his use of heavy minerals. Buddington asked Van to consider putting together a course in sedimentology. He was glad to do so. Thus, Van became a sedimentologist, eventually teaching graduate courses in sedimentary petrography and on the principles of sedimentology.

Shortly thereafter he met Dave Love, chief of the U.S. Geological Survey in Laramie, Wyoming. He began a long relationship with the Survey, studying Cenozoic strata in the Beaver Divide area of the Wind River Basin.

When I began graduate studies at Princeton in September 1960, I became Van’s assistant in instruction for the beginning course in physical geology. We met at least once a week to go over what he wanted to cover in the laboratory. On several afternoons during the semester we broke away from the importance of geological principles and played squash, a game that I had never played, but thought I could manage because of hours and years spent playing tennis. Van rebuffed that conceit quickly, on occasion enthusiastically ricocheting a ball off of my butt and into an unplayable corner of the court. A small trim man who walked with a slight roll, he was an excellent player, quick and fit.

During that first year at Princeton, Van introduced me to the Triassic/Jurassic beds he was studying in the Newark Basin, especially outcrops along the Delaware River in New Jersey, a beautiful place. At an early stage of that research, he wondered if the layers were arranged in cycles and soon recognized cycles at both macro- and micro-scales—gray to red rocks repeated endlessly. One of his earliest papers (1962) on these rocks described cyclic deposition and analcime in the Upper Triassic Lockatong Formation of west-central New Jersey and adjacent Pennsylvania. With remarkable insight, he then suggested that the longer cycles represented Milankovic alternations, orbital variations of the Earth around the Sun, an astronomical explanation for glaciation proposed by Milutin Milankovitch (1879–1958). Van’s hypothesis was confirmed many years later; the research is now considered a major advance in climate science.

When Van and some of his family (wife Jean and son Bosworth) first visited me in the field I was at a locality on the Wind River near Dubois, Wyoming, appropriately called Red Grade. My field assistant, Lee R. High Jr. (1941–2004), who became a friend of 44 years, and I were measuring the stratigraphic section, studying the bedding and sedimentary structures, and drilling tiny cores (2 to 4 inches in length, an inch in diameter) for later determination of the magnetism. Around noon Van took off to the south toward the Wind River Range, and was gone for the rest of the day, apparently satisfied that we knew what we were doing.

Typical of his ability to reconstruct sedimentary environments and paleogeography, Van later matched Triassic rocks in Morocco to Triassic rocks in New Jersey. Until the Atlantic Ocean opened, the rocks had been neighbors. Van also managed his own and other geologists’ studies of oolitic iron deposits around the world, “from the Colombian Andes to the Canadian Rockies, from the Alps and to the Pyrenees, and across northern Africa, Madagascar and Taiwan” (Hollister and Onstott, 2011, *The Smilodon* [newsletter], v. 52, no. 1). At geological conferences the “oolitic-iron workers” tracked Van from room to room, seeking his help and counsel.

Characteristic of the esteem of those who knew Van best, was the naming by J.I. Bloch, K.D. Rose, and P.D. Gingerich—another of Van’s former students—of the tiniest known fossil
mammal, which became *Batodonoides vanhouteni* in 1998. A fossilized jaw of an insectivore, this miniscule mammal was described in the *Journal of Mammalogy*. Probably, they wrote, it weighed no more than a dollar bill. The minute jaw was discovered in a 53-million-year-old limestone nodule of the Eocene Willwood Formation, a terrestrial formation in the Big Horn Basin of northwest Wyoming that was named by Van in 1944. *Batodonoides vanhouteni* is a mammal that is distantly related to shrews. Its weight was estimated to be less than 2 grams of that of the living bumblebee bat.

Franklyn B. Van Houten was a member of the Department of Geosciences at Princeton for 39 years (1946–1985). From 1940 to 1990, he published almost continuously, authoring 81 papers exclusive of book reviews and abstracts. A startling 80 percent of his publications are single-author papers. His final article appeared in 1997 when he was 83. In 1991, Van suffered a major stroke; thereafter, the physical act of writing was difficult.

During the spring of 1963, I finished my thesis, defended it, and began frantically looking for a job. I was married, nearly 37 years old, the father of two daughters, and the caretaker of two cats, one of which to my chagrin had recently torn a stocking from the ankle of a minerals-deposit professor who I thought might recommend me. Oil company interviewers that year in Tulsa, Oklahoma, showed no interest in my résumé, looking out a wide window and fiddling with pencils as they talked. There were no teaching jobs. However, the chairman at the University of Nebraska called Van, offering him a full professorship, which he would never have accepted, or that of any other teaching position that took him away from Princeton. He recommended me to them. In a few days, on the basis of that recommendation, I was on my way to Lincoln, soon to become an associate professor.

Van was a serious man of good humor, a kind and thoughtful and generous teacher whose students loved him. He was a calm man; I never saw him angry. He questioned dogma and challenged theories. He was a sedimentologist who made exceptional discoveries. He tried very hard to help those he came in contact with who sought his aid. He challenged all of us; he was always a great pleasure to be with. He imprinted many lives forever. In 1986, he was awarded the W.H. Twenhofel Medal, the highest honor the Society of Economic Paleontologists and Mineralogists bestows.

I have drawn on the memorial by Lincoln Hollister and Tullis Onstott presented to the Princeton faculty and excerpted in *The Smilodon*, the newsletter of the Department of Geosciences, Princeton University. My thanks to them and to Laurel Goodell, who sent me a copy of Van’s bibliography and a summary of his achievements by the late Sheldon Judson (1918–1999), and helped me in other ways.

**SELECTED BIBLIOGRAPHY OF FRANKLYN BOSWORTH VAN HOUTEN**


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