

Grant Heiken · Michael Ort · Greg Valentine

## Obituary to Richard V. Fisher

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“At the age of twenty, with a great deal of luck, I stumbled upon the profession of geology, and for nearly fifty years I have courted the earth, roaming its deserts and forests, its mountains and volcanoes. I was often alone with the elements, extracting stories from the rocks, making new discoveries and building on those of my contemporaries and predecessors. It has been the most enjoyable of occupations, solving mysteries of the earth and thinking of new ideas—the lifeblood of science”.

R.V. Fisher, in: *Out of the crater—chronicles of a volcanologist*.

Those of us who knew and worked with Dick Fisher are lucky to have “stumbled upon the profession of geology” and to have known this rare man who shared equally his enthusiasm for life and experience in volcanology.

A California boy, born in Whittier, Dick joined the US Army in 1946 at the age of 17 and after basic training was assigned to the Los Alamos Laboratory. Restless and bored, he volunteered for work at Bikini Atoll. There, he witnessed base surges associated with underwater nuclear tests, making observations that would eventually guide some of his pioneering research on pyroclastic density currents years later.

After returning to the US, life was never dull or uneventful again for Dick. He and Beverly were married in 1947, beginning a 55-year-long loving partnership. Dick entered Occidental College in 1948 as a music major (he was an excellent ragtime pianist), but, after a semester of geology, he changed his major. After graduating in geology, he went on to graduate school at the University of Washington. His PhD. research on the relations between Oligocene volcanic rocks of the Cascade Moun-

tains and the sandstones of Puget Sound led to a lifelong study of the origins of volcanic rocks. Peter Misch, his graduate advisor (and primarily known as a structural geologist and petrologist) said, “Richard, your rocks are the ugliest and most undistinguished rocks that I have seen in my thirty years in petrology”.

In 1955, two years before his graduation from the University of Washington, the Fisher family moved to Santa Barbara, California, where he took up a teaching position at the University of California. In transition from a teacher’s college to a research university, life was not always easy at UCSB, but Dick’s contributions to the evolution of this department were invaluable. He chaired the department three times! A graduate research program was established in the mid-1960s, and, over nearly 40 years, produced many well-known volcanologists (and other geologists), many mentored by Dick Fisher. His gentle but persistent questioning and his unfailing encouragement of students made him a popular professor. In the classroom and on field trips, Dick was famous for his willingness to follow ideas as far as the students wished. Field trips often ended up hundreds of kilometers from the planned route in order to look at outcrops where the students’ questions could best be answered. On one occasion, questions on granular flow processes in pyroclastic currents led to a side trip to Death Valley to push avalanches down sand dunes, with eight graduate students lying on their bellies in the sand for hours. He was known as “RV” to his students and close colleagues, a name originally meant to be more formal and respectful than “Dick”, but evolved into a very affectionate moniker.

After finishing his dissertation work in the Washington Cascades and publishing several seminal papers that helped define and create a rational volcanic terminology, Dick began work with Ray Wilcox on the ignimbrites of the John Day Formation of eastern Oregon.

In the mid-1960s, along with Aaron Waters, Dick received a grant from NASA to study tuff rings. NASA was interested because some lunar craters resembled tuff rings or maars and their presence on the Moon would have implied the presence of water. After the Apollo

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With contributions from the many friends of Dick Fisher

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G. Heiken (✉) · G. Valentine  
Los Alamos National Laboratory, Los Alamos, NM 87545, USA  
e-mail: heiken@lanl.gov

M. Ort  
Dept. of Geology and Center for Environmental Sciences  
and Education, Northern Arizona University,  
Flagstaff, AZ 86011, USA

Program, it was determined that craters of that shape were of impact origin, but the maar research led to early ideas on hydrovolcanism by Dick and his students and colleagues. Those ideas, in turn, led into his research on all types of pyroclastic density currents, many associated with caldera-forming pyroclastic flows. It was evident at the recent IAVCEI meeting at Mont Pelée that the results of his seminal field studies there have yet to be successfully challenged.

One of the particularly interesting topics in which Dick made outstanding contributions was the emplacement mechanism of pyroclastic density currents (PDCs). He was one of the first researchers to apply the approaches and tools of sedimentology (e.g., facies analysis, granulometry, and particle shapes) to pyroclastic rocks. In 1966 he published a model for the emplacement of large, ignimbrite-producing PDCs that reconciled sedimentology and the time evolution of eruptive compositions. This model did not receive much attention during the 1970s and early 1980s, but in the last decade has been brought back to the fore as the concept of progressive aggradation. Dick conducted extensive research on the deposits from the 18 May 1980 blast at Mount St. Helens, which, along with the Taupo Ignimbrite, for some time was a source of controversy regarding dense-flow versus dilute, turbulent flow models for PDCs. Many of us remember fondly when Dick opened up his talk at the 1986 IAVCEI Congress in New Zealand by saying: “I had a dream last night—the Taupo Ignimbrite is a giant SURGE!”

Dick loved to travel and studied pyroclastic rocks at volcanoes in the United States, Italy, Germany, France, Argentina, Portugal, Spain, Mexico, and China. Along the way, he made many lifelong friends, both among research colleagues and the people in the communities where he and Beverly resided. Beverly painted, traveled, and read and Dick did field work and wrote. Writing began as early as 3 a.m. and field work at 6 a.m. Both Dick and Beverly reveled in every culture, every person, and every meal (Figs. 1 and 2).

Dick Fisher’s professional output was enormous. He wrote many journal articles, but particularly enjoyed writing books. Not just books, but books that would be used and enjoyed by thousands. “Pyroclastic rocks,” written with Hans-Ulrich Schmincke, is still a standard by which other volcano books are compared. Later in life, Dick turned part of his work toward educating the public. “Volcanoes crucibles of change,” written with Grant Heiken and Jeff Hulen, was very successful as a trade book and even has a Chinese edition. “Out of the crater chronicles of a volcanologist” was equally successful as an autobiography, providing inspiration for young people considering volcanology as a profession.

Volcanology is a very young field. We are lucky to be working during a time when there are so many unanswered questions about volcanic processes and their effects. Dick Fisher answered many of these while posing new ones. His contributions have been recognized by our profession through the Thorarinsson Medal from IAVCEI, the N.L. Bowen Award from AGU, and a Senior Scientist



Fig. 1 Dick in the central Andes

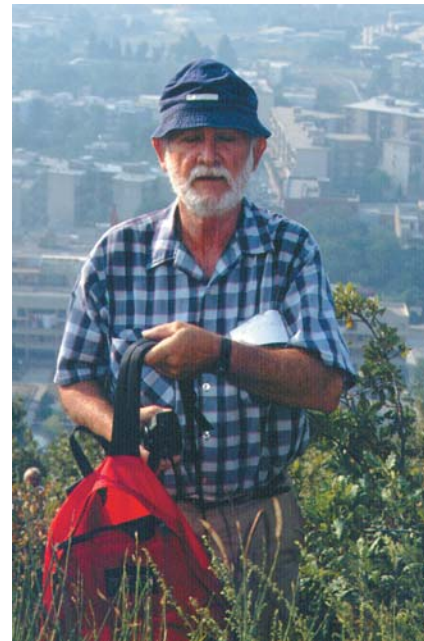


Fig. 2 On Camaldoli Hill in Naples

award from the Alexander von Humboldt Foundation. His greatest contribution to volcanology, however, was his constant encouragement of students and colleagues to answer basic questions. This attitude can perhaps, be best described by Dick himself in his autobiography:

“Many of us wonder what influenced us to follow our particular professional path. For me, the main driving force has been an incessant and persistent voice asking, “How?” “Why?” I recognize this voice as that of my grandmother Miller. In 1935, when I was teased for asking “why” so much, she held me and validated my curiosity by saying that she was proud that I could ask why, and when I was ten, she reinforced with this short poem: “Richard. Waving his arms and pointing to the sky. Always asking why?”

R.V. Fisher in: Out of the crater chronicles of a volcanologist