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Stephen C. Porter: 1934–2015 In Memoriam

Author: Gillespie, Alan

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Stephen C. Porter

1934–2015

In Memoriam



Stephen C. Porter, 1934–2015. Photo from December 2004. This figure was published in *Quaternary Research* (G. D. Thackray and Z. S. An, 2015: In Memoriam, Stephen C. Porter, 1934–2015. Vol. 83, pp. 395–396). Copyright University of Washington (2015).

Stephen C. Porter, Professor Emeritus at the Department of Earth and Space Sciences of the University of Washington in Seattle, died at his home in Carpinteria, California, in February 2015 at the age of 80. Porter was internationally honored and admired for his research in Quaternary geology and for his leadership, editorial, and organizational skills that helped bring Quaternary studies into greater prominence during his long career.

Steve Porter was born and spent his early years in Santa Barbara, on the coast of Southern California (U.S.A.). As a teenager, his first job was as a lifeguard on the beach in nearby Carpinteria. On his off time he wandered the mountains and deserts of California, and pointed to these experiences as being seminal in inspiring his interest in landscapes and the Earth. For his undergraduate education he applied and was accepted at Yale University, where he majored in geology. He received his Bachelor's degree in 1955, following which he served as an officer in the Pacific Fleet of the U.S. Navy until 1957. He then returned to Yale to study for his Ph.D. with Richard Foster Flint, well-known for his studies of glacial geomorphology in the American Northeast and for his authoritative 1947 text *Glacial Geology and the Pleistocene Epoch*. Porter's first articles were on geology in New England, but his 1962 Ph.D. dissertation was on the geology of central Brooks Range in Alaska.

Upon graduation he was offered and accepted a position in the Department of Geology at the University of Washington in Seattle (UW). He remained in this position for the duration of his career.

Late in his career Professor Porter regarded his main research interests as focusing on the Quaternary glacial ages, especially the Holocene neoglaciation, and the role of climate in creating glaciers and the use of evidence of past glaciations to infer paleoclimatic conditions. One of his lasting contributions was to urge his colleagues to evaluate glacier advances in terms of energy balance (summarized as equilibrium-line altitudes) instead of simple geographic extent. This change made relating glacial and climatic evidence more straightforward. However, he also published on other subjects including tephra, tephrachronology, and weathering rinds as well as general geological studies. He recognized the potential of cosmic-ray exposure dating for glacial sequences and the difficulties posed by sampling in geologically complex terrains. He contended that enough samples should be analyzed that statistically significant age distributions could be established. In this way outliers could be recognized reliably. One of his last publications (2008, with Terry W. Swanson) describes such a detailed ^{36}Cl chronology in the Washington Cascade Range.

When Porter arrived in Seattle in 1962, he began studies of the nearby Puget Lowland and Cascade Range. However, he soon widened his geographic scope, reaching the Dry Valleys of Antarctica and the Hindu Kush of Afghanistan by the late 1960s.

Porter recognized the significance of SW Asia to glacial geology, and even at this early date understood that the Hindu Kush would someday reveal information on the timing and causes of glaciations that we were not then quite ready to understand. The key tools came later, after the development of the marine oxygen-isotope records and their correlation to the volume of high-latitude ice sheets. However, by that time Afghanistan was in a protracted war, and in the face of the human tragedies and widespread dispersal of land mines it was not feasible for Porter to continue his work there. He commented that this was a disappointment in his professional career, to see the potential but not to be able to address it in the field.

Over his career, Porter extended his studies further to include the Pacific islands and as well as Europe, South America, China, and Siberia. Porter especially enjoyed studying the glacial history of Mauna Kea, on the Big Island in Hawai'i. For years, he seasonally rented a small house in the small town of Waimea, on the northern flank of the volcano, and there worked up his field notes and wrote in idyllic circumstances.

As it became feasible to work in China, Professor Porter took advantage of the opportunity to explore the Chinese Loess Plateau and the nearby NE corner of the Tibetan plateau. He was attracted

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Steve Porter (right) with Dr. Zhou Weijan, Institute of Earth and The Environment, Chinese Academy of Sciences, Xi'an, in 1992. They are sampling late-glacial sediments in northern Shanxi Province, on the border with Inner Mongolia, for radiocarbon dating. Photo by Allan C. Ashworth.

to the loess exposures, which showed accumulation and weathering changes over the Quaternary, and to Porter it seemed clear that this stratigraphic sequence was a continental equivalent to the marine cores. With An Zhisheng of the Chinese Academy of Sciences in Xi'an and others, Porter developed the idea of climatic telecorrelations across Europe and Asia. Notably, in 1995, Porter and An reported their discovery of Heinrich events recorded in the Chinese loess.

Porter understood the enormous potential of China in providing critical evidence to further the story of the Quaternary Earth, and equally appreciated the human potential of the Chinese scientists and students, only recently emerging from the Cultural Revolution. He resolved to do what he could not just to conduct research in China but also to help develop Earth science there. In all, Porter visited China more than 30 times. He used his post as Director of UW's Quaternary Research Center to invite Chinese scholars such as Professor Li Jijun of Lanzhou University to Seattle for protracted visits as Distinguished Visiting Professors, hoping to improve trans-Pacific scholarly interactions.

Steve Porter loved research but also felt that scientific communication was of fundamental importance. To that end, he developed and taught a seminar at UW in scientific writing in addition to his regular courses in glacial geology. To all his teaching, Porter brought his broad knowledge of Quaternary science and remarkable sense of organization. Porter mentored nearly two dozen Ph.D. students and three dozen M.S. students during his tenure at UW.

In 1976, Porter agreed to become the editor of *Quaternary Research*, an internationally prominent journal founded by A. Lincoln Washburn. He remained at that post for 25 years, until 2001. Steve had a keen sense for the best way to present scientific evidence, as well as a high appreciation for the most effective use of the written word in scientific discourse. Hundreds of authors benefited from his practiced eye in editing their submitted manuscripts. Steve used to take the bus from his home to the university, and such was his skill and degree of concentration that on a given 45-minute ride he could usually edit or proof one or two submissions.

Porter's dedication to scientific communication led him to collaborate in writing a number of books on Quaternary geology. In 1983 he co-edited with Herbert E. Wright Jr. the landmark *Late Quaternary Environments of the United States*. Porter went on to co-author several widely used texts, beginning with his effort with Brian J. Skinner leading to *Physical Geology* in 1987 and ending a decade later with *Dangerous Earth, an Introduction to Geologic Hazards*, a collaboration led by Barbara W. Murck with Skinner and Porter.

Porter was professionally active outside of the university, and was widely recognized as an influential figure in Quaternary geology. From 1992 to 1994 he was president of the American Quaternary Association (AMQUA), and from 1995 to 1999 he was the president of the International Quaternary Union (INQUA). His article "Snowline depression in the tropics during the Last Glaciation" received the Geological Society of America's prestigious Kirk Bryan Award for the best paper in Quaternary geology and geomorphology in 2004. He also received AMQUA's Distinguished Career Award (2004), the Geological Society of America–Quaternary Geology and Geomorphology Division's Distinguished Career Award (2005), an Einstein Professorship Award in 2007 from the Chinese Academy of Sciences, and INQUA's Liu Tungsheng Medal for service to the Quaternary community (2011). Most importantly, however, to all who had the good fortune of knowing Steve or of working with him—students and colleagues alike—he was unfailingly kind, insightful, and thoughtful. He shared his knowledge widely and generously. We miss his inspiration and guidance.

Steve Porter is survived by his wife Anne and children Susannah, John, and Maria.

ALAN GILLESPIE

Department of Earth and Space Science
University of Washington
Seattle, Washington 98195-1310
U.S.A.

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