MEMORIAL TO ELIOT BLACKWELDER
1880–1969

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Geology lost an eminent student of deserts and mountain glaciers with the death of Eliot Blackwelder on January 14, 1969. He had been incapacitated for several years with Parkinson's disease, an illness that sapped his physical strength but left his mind alert and active.

Eliot Blackwelder was born in Chicago on June 4, 1880, the son of Alice Boughton and I. S. Blackwelder. At an early age he displayed the inquisitive and orderly mind and the intense love of the natural world which are so clearly evident in his later scientific work. A boyhood interest in entomology led to the assembling of a collection of more than 6000 specimens of butterflies and beetles. His enthusiasm for ornithology gained him membership in the American Ornithological Union at the age of 15, and this interest in bird life remained strong throughout his life. Even when he was confined to bed during his last few years, a bird feeder outside his window enabled him to keep in contact with his "little friends."

Young Eliot entered the University of Chicago in 1897. A fascination with antiquity, nurtured by many courses in Latin and Greek, suggested the classics as a possible major. But in his senior year the inspired teaching of R. D. Salisbury persuaded him that geology was his true vocation. The early interest in ancient Greece and Rome persisted, making him an accomplished amateur classicist and providing him with a wealth of pertinent quotations from classical authors to enrich his conversation.

Professor Salisbury invited Eliot to accompany him to the Rocky Mountains immediately after graduation in 1901, and again the following summer. These expeditions gave him an introduction to the mountains and deserts of the American West; its landscapes were to be the focus of most of his professional work.

After two years of teaching at the University of Chicago, he accepted an exciting opportunity to accompany Bailey Willis on an expedition to China under the auspices of the Carnegie Institution of Washington. Together with a topographer, Harvey Sargent, Willis and Blackwelder made their way to the Orient by way of Europe and Russia. During the numerous stopovers in Europe, including attendance at the International Geological Congress in Vienna, the young man established personal contact with many noted geologists. These contacts, several of which were to ripen into firm friendships, were the beginning of

the wide circle of acquaintances that Blackwelder maintained all over the world. After the sojourn in Europe, the three-man expedition had a long and memorable ride to China on the newly built Trans-Siberian Railroad. The work in China included a field trip from Peking to Tsingtao in Shantung Province and then a much more ambitious excursion west to the ancient capital of Hsian in Shensi Province, south across the high Tsinling Range to Ichang on the Yangtze River, and then by boat down the Yangtze to Shanghai. The expedition logged some 3000 miles by foot, pony, boat, and train. It made an indelible impression on young Blackwelder's mind, providing him with a variety of personal and professional experiences that formed a rich background for much of his later work. Not only the geology but the lives and social institutions of the Chinese people excited his sympathetic interest, and he followed the later political developments in that troubled land with sorrow and misgivings.

On his return to America he married Jean Bowersock, an acquaintance from early childhood to whom he had been engaged for several years. He accepted a position in the geology department of the University of Wisconsin and was made a full professor at the age of 30, before obtaining his doctor's degree from Chicago in 1914. From Wisconsin he went to the University of Ilinois, serving as head of the geology department there from 1916 to 1919. During this early stage of his career he spent most summers in field work with the U.S. Geological Survey on assignments that took him to many parts of the western United States and Alaska. The work resulted in a number of papers on the geology of mountain ranges in Wyoming and on the glacial geology of the Alaskan coast. To this period belong also a notable paper on the interpretation of unconformities and a penetrating discussion of then-current hypotheses about the origin of phosphate deposits.

Dr. Blackwelder went to Stanford University as a visiting professor in 1919, but in the same year accepted a position with the Argus Oil Company in Denver. The love of teaching was strong, however, and in 1921 he returned to an academic position at Harvard. A year later he accepted Stanford's invitation to become head of its geology department, a position he held for 23 years until his retirement in 1945. During the years at Stanford he and his large family lived near the campus in a rambling mansion built by the man from whom Leland Stanford bought the farm which later became the university. Many friends and former students will remember pleasant afternoons and evenings of wide-ranging discussion in the spacious rooms of the old house and the beautiful surrounding gardens.

From his vantage point at Stanford Dr. Blackwelder explored much of the arid Southwest and the glaciated valleys of the Sierra Nevada. Intensive study of the arid lands led to his classic papers on the origin and evolution of desert landscapes—peculiarities of weathering in dry climates, the effect of wind abrasion and deflation, the importance of mudflows as geologic agents, the evidence of former lakes in now-arid basins. His meticulous work on the glaciated landscapes

of the Rocky Mountains, and particularly of the Sierra Nevada, has provided the basic framework for all subsequent investigations. His acuteness of observation and his skill with a camera are recorded in the many photographs of desert mountains and glaciated valleys which have long been used in elementary textbooks.

Deserts and glaciers were his primary interests, but his inquiring mind led him far beyond these subjects. He was one of the first to study and endorse an impact origin for Meteor Crater in Arizona. His papers on sedimentation are noteworthy, particularly his detailed examination of criteria for recognizing ancient landslide and glacial deposits. Other subjects that attracted his attention were earthquakes, physiographic environments at the time of ore deposition, and the physics of erosion by ice. Throughout his career he had a deep interest in the geologic record of man and the implications of this record for man's future, an interest that is reflected in the title of his presidential address to The Geological Society of America, "Science and Human Prospects."

As a teacher, Dr. Blackwelder was especially effective in small classes. Those fortunate enough to have worked with him will vividly remember his extraordinary patience and his abilty to train students in observing and interpreting the minute details of rocks and landscapes.

After his retirement in 1945, the precarious world situation influenced Dr. Blackwelder to forego the quiet life of research he had long anticipated in favor of an active role in the Atlantic Union Committee. He was a close associate of Clarence Streit, the chairman of this committee, which has as its goal an organic union of the principal democracies.

Dr. Blackwelder was an active member of many societies and served as an officer in three: President (1921) of the Geology and Geography Section of the American Association for the Advancement of Science; Vice-president (1934 and 1939) and President (1940) of The Geological Society of America; and Vice-president (1945-1946) and President (1947-1949) of the Seismological Society. He was a member of the American Association of Geographers, the American Association of Petroleum Geologists, the Washington Academy of Science, and the California Academy of Science.

Honors came to him in abundance. He was a member of the National Academy of Sciences and an honorary member of the American Philosophical Society, the Geological Society of London, the Geological Society of Belgium, the German Geological Association, and the Geological Society of China. On his election to the Geological Society of London, he was cited for "distinguished contributions to the advancement of geological science."

Dr. Blackwelder survived his wife by nearly three years. The couple had celebrated their 60th wedding anniversary in 1964. Surviving Dr. Blackwelder are his brother Paul, 91, of St. Louis, Missouri, seven children, sixteen grandchildren, and thirteen great-grandchildren. The children are: Dr. Richard Blackwelder, Professor of Zoology at Southern Illinois University; Justin Blackwelder

of Washington, D.C.; Mrs. Margery Alden, Mrs. Trude Ball, and Mrs. Lois Fuller, all of Palo Alto, California; Mrs. Martha Merk of Portola Valley, California; and Mrs. Ruth Lanz of Dallas, Texas.

Eliot Blackwelder will be remembered by his scientific colleagues for his clear, direct thinking and his critical and unbiased judgment. He will be remembered by all as "a gentleman of the old school," dignified, courteous, generous, always considerate of the views of others. Despite the recognition and honors that came to him during a long and distinguished career he never lost his basic humility, an attribute that endeared him to those who were privileged to know him.

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