

# Memorial to Richard Eugene Fuller 1897-1976

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Richard Eugene Fuller was born in New York City June 1, 1897, the son of Dr. Eugene Fuller, for many years distinguished physician and Professor of Urology at the Postgraduate School of Bellevue Hospital, New York, and Margaret MacTavish Fuller. Mrs. Fuller, a native of New York, traveled widely in this country and Canada. In 1880 she made a trip with her father around the world in ninety days. She became fascinated with the Far East and developed an engrossing interest in Asian art objects.

Richard, the youngest of four children, graduated in 1915 from Hill School, Pottstown, Pennsylvania, then broke a long-time Fuller "Harvard tradition" by entering Sheffield Scientific School of Yale University, class of 1918, as a chemistry major. World War I

intervened, and he left Yale in 1917 to serve as an ambulance driver in France with the American Field Service Committee. (His sister, Eugenia, was serving with the American Red Cross in Paris.) Richard returned to New York in 1918 and enlisted in the U.S. Coast Artillery Corps. He was commissioned a second lieutenant and sent back to France to attend the Artillery School at Angers. He served subsequently with Battery B, 42nd Coast Artillery and was mustered out at the end of the war.

Richard and Eugenia returned to New York from France early in 1919. The oldest Fuller son, Duncan, had completed his surgical internship; so Dr. and Mrs. Fuller and the three children soon left New York for the Orient, planning a year's stay. For some years Mrs. Fuller had been seriously collecting snuff bottles and other small Chinese antiques as a hobby, and her enthusiasm was picked up by her children during an enforced stay in Nikko, Japan, when Richard was stricken with acute appendicitis. The close family relationship of the Fullers was again demonstrated. Dr. Duncan Fuller, the brother, performed his first private surgery; he was assisted by the senior Dr. Fuller. Convalescence from an acute appendix operation in 1919 was slow. Duncan began a collection of netsukes, the small Japanese toggles, a collection eventually named in his memory when it was given to the Seattle Art Museum. Richard read widely while convalescing, and his interest was captured by jade. The enforced stay in Nikko led to his beginning the famous Jade Collection, now greatly augmented on permanent exhibition in the Seattle Art Museum.

The family returned to New York in 1920, and Richard re-entered Yale, receiving his bachelor of philosophy, honoris causa, in the spring of 1921. The family then moved to Victoria, B.C., whereupon Richard began what proved to be a short career in banking (1921-1922) in Eugene, Oregon. Illness forced his withdrawal. When he recuperated, the family toured South America and Western Europe, broadening its interest in art, particularly in pre-Columbian fabrics and ceramics. Returning west in 1923, the family settled in Seattle. Richard began the study of geology at the University of

Washington. His interest in minerals and rocks brought him under the influence of Professor George Edward Goodspeed. Fuller's background in chemistry, physics, and mathematics at Yale enabled him to complete a second bachelor's degree in record time, a bachelor of science in geology at the University of Washington in 1924. He immediately began his field work for graduate study and by December, 1925, was awarded his M.S. degree.

Fuller contributed early not only to the science of geology, but also to the production of geologists. Aaron C. Waters became his field assistant during the summer of 1925, beginning an association that influenced Waters's entire career. Fuller did his M.S. thesis research in the nearby Snoqualmie Pass area in the Cascades and clearly established that the Snoqualmie batholith broke through its roof and poured out as volcanics. Waters and others (U.S.G.S. Prof. Paper No. 444) and subsequent investigators have found the phenomenon to be typical of the Miocene-Pliocene intrusives along the Cascade Chain.

Goodspeed, Fuller's supervisor, urged him to continue graduate work, suggesting the Columbia Plateau basalts as a suitable topic for his Ph.D. His sister, Eugenia, was very supportive, and her encouragement enabled Dick to balance the disparate pulls of family duty, the art world, and geology, a problem he faced the rest of his life. The family always came first; geology sometimes nudged out art for second place, but only momentarily. So he began his field work in the Columbia Plateau of Washington in 1926, with Aaron Waters again as his field assistant, gathering material for three papers that appeared in 1927-1928. His was a creditable explanation of the origin of the Asotin craters in Washington, and he brought to the attention of American petrographers and petrologists the many occurrences of palagonitic alteration of basaltic glass in the Columbia Plateau. Fuller (with M. A. Peacock) set up standards still useful in distinguishing cloropaeite, sideromelane, and palagonite, three mineraloids characteristic of Cenozoic basaltic fields of the world.

Fuller soon realized that the Columbia Plateau basalt problem was too big for a Ph.D. dissertation and concentrated his study on the Steens Mountain area in southeastern Oregon. His initial purpose was to compare the thick volcanic sequence in southern Oregon with that composing the Columbia Plateau of Washington. The origin of the structure of Steens and the associated mountains temporarily diverted him, but he completed the field study with the devoted assistance, at various times, of Aaron C. Waters, Charles W. Flagler, Howard A. Coombs, and Keith Whiting, all of whom went on to notable careers in the profession. His Ph.D. degree was awarded in 1930, and in 1931 an expanded version of the dissertation was published, complete with twenty-nine chemical analyses of the diverse assemblage of rhyolite, andesite, basalt, and latite that forms Steens Mountains, together with their calculated norms. Fuller found that the basalts are chemically conventional, but that their colors and textures are unique. Perfectly fresh basalt in Steens is a far lighter shade of gray than one would expect. Most of the flows, in spite of thinness, consist of relatively coarse holocrystalline feldspar and olivine, with open cavities existing between the crystalline constituents. Fuller proposed the name "diktytaxitic" for the texture (Greek, *diktuon*, net, + *taxis*, arrangement) and it has become a standard glossary term. The publication was superbly illustrated by aerial, as well as conventional photographs and remains a valuable contribution to Oregon geology.

Fuller was a very busy man during his Ph.D. interval. He was elected vice-president of the Art Institute of Seattle in 1929 and president in 1930. The Fuller collection of jade had been growing steadily for more than ten years. The Art Institute was losing

its quarters in a private house. Many decisions were necessary, requiring much of the president's time. That same year his father died, leaving a considerable estate acquired over the years from successful investments. Full responsibility as head of the Fuller family devolved on Richard, and he was temporarily lost to the field of geology he loved.

Once the estate was settled, the Fuller family offered to the Seattle Art Institute on December 31, 1931, the sum of \$250,000 for the purchase and construction of a museum to be located in city-owned Volunteer Park. The building was completed in 1933 and given to the city to maintain while the Seattle Art Museum, the successor to the Art Institute, assumed the cultural operation. Fuller served as president and director, without pay, for the next forty years, bringing the Seattle Art Museum to rank among the best in North America.

Fuller made a valiant effort to continue geological research. He gave numerous papers at section and national meetings in the 1931-1941 interval, nine of which he found time to complete for publication. Most were concerned with the Columbia Plateau basalts. His major contributions in this period dealt generally with basaltic glass and its alteration products, and particularly with the structures and products resulting from aqueous chilling of basaltic lava.

The University of Washington appointed Fuller assistant professor in 1930, associate professor in 1933, and research professor in 1940. He served the University part-time without pay for thirty-two years. It was my good fortune to share his office from 1936 to 1942, to use his library and bound journals, and to benefit from his friendship and counsel. He taught my structural geology class at least one quarter when I was away on active duty during World War II. During 1942-1943 he also served as Major, U.S. Army Specialist Corps for Procurement, in Seattle.

The birth of a basaltic volcano in a Mexican cornfield in February, 1943, brought Fuller back into active geological participation. United States scientists from several governmental agencies and universities wanted very much to participate in the study of the eruption and its effects on the various fields of science before the record was lost. The State Department was insistent that care be taken not to tread on delicate Mexican sensibilities. A coordinator with scientific standing, tact, and managerial ability was found in Fuller who, as President of the Volcanological Section, American Geophysical Union, became Chairman of the U.S. Committee for the Study of the Paricutin Volcano in 1944. He served with great effectiveness for six years of the committee's existence. His interest in the volcano and the region was to continue for the rest of his life. Fuller met a young topographer working at Paricutin on one of his earliest visits and subsequently converted him to geology as a career, as he had done many others. By extended correspondence and conversations over the years, Kenneth Segerstrom kept Fuller informed on the posteruption history of the volcano and the region. As late as 1976, Fuller was contributing to the support of an extraordinary amateur Mexican volcanologist who has kept daily records of the Paricutin area from the time of premonitory earthquakes to the present day, and who recently has fallen upon hard times.

Fuller's final geological publication came in 1950, but he never lost interest in the science or in the department in which he continued to served as research professor until 1962. He kept up his fellowship in the Geological Society of America and the American Association for the Advancement of Science. He was also a member of Phi Beta Kappa and Sigma Xi. His interest in geology was encouraged by his wife, Elizabeth Morrison Emory, to whom he was married in 1951. She was a delightful hostess, and her annual dinner for the geology department was a highlight for many years. The period from 1951 to the time of her death in 1975 was, without doubt, the happiest of Dick Fuller's

long and eventful life, which quietly came to an end in Seattle on December 10, 1976. He is survived by his sister, Eugenia, Mrs. John C. Atwood, Jr., of Philadelphia.

Fuller was a quiet, modest, cultured benefactor who influenced many lives. A recognized scientist, art scholar, and administrator, he also enjoyed and supported symphony and opera in Seattle. He played an enormous and varied role in the community. The many honors that came to him for these endeavors are recorded, in detail, in the public print. His nature, however, was such that he would not have liked them repeated here. Among his honors were Honorary LL.D. degrees by Washington State (College) University in 1944 and Seattle University in 1969. He was designated *Alumnus Summa Laude Dignatus* by the University of Washington in 1961. His financial contribution to geology will long continue at his alma mater through his generous gifts to the department and through his endowment of the Howard A. Coombs Geology Scholarship in honor of a longtime chairman of the department, one of his early field assistants, of whom he was very proud.

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