

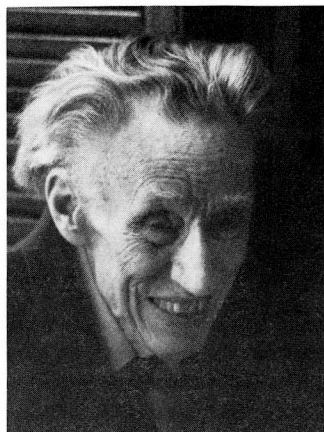
# Memorial to Fritiof Melvin Fryxell

## 1900–1986

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Fritiof Melvin Fryxell, who died December 19, 1986, at his home in Rock Island, Illinois, could claim many titles in a varied career: professor, writer, climber, park ranger, military geologist. But the one he most appreciated was “interpreter.” All his work—from climbing mountains to establishing a geology curriculum at Augustana College to supplying Allied troops with terrain intelligence—involved acts of interpretation.

He did it all with meticulous energy. Students from his half-century tenure at Augustana say no one could interpret the forms and forces of Earth as vividly as “Doc” Fryxell; he was informative yet informal, precise yet never pompous. The young people, now grandparents, who heard his campfire talks at Grand Teton National Park, still remember them. Readers of his books, especially *The Tetons: Interpretations of a Mountain Landscape*, feel that they know the mountains as intimately and reverently as he did.



This need to interpret, for himself and others, began early, in part a legacy from his Swedish-born father, who lacked formal education but had enormous curiosity about the world. As a child, Fritiof Fryxell was a tireless explorer, ranging the woods and bluffs around Moline, Illinois, where he grew up. At Augustana College, Rock Island, his double majors in biology and English honed skills in nature lore and in words that shaped the interpreter he would become. He earned his A.B. in 1922, and his A.M. in English from the University of Illinois in 1923. He then enrolled in geologic field courses that took him west, into the Rocky Mountains and beyond, and awoke a lifelong interest in landforms.

Ultimately (1929), with his Ph.D. in geology from the University of Chicago, he returned to Augustana, where he had been teaching English and biology. There, he established the department of geology—amid the furor of the Scopes trial, when other church-related colleges were shying away from earth science. Under his direction, Augustana’s department exerted influence in the geologic community disproportionate to its size. Few professional geologists have not heard of Augustana. Fryxell’s students have risen to the top in all facets of geologic activity: industrial, governmental, and academic.

While in graduate school at Chicago, Fryxell assisted A. S. Romer in preparing a paper on vertebrate paleontology. His interest in this aspect of geology led him to assemble, over the years, a fine series of specimens, now displayed in the Fryxell Geology Museum at Augustana and in the extensive study collections of the geology department.

When he took to the Teton Range each summer in the 1920s and early ‘30s, to make ascents that have given him a place in mountaineering history, he went not primarily as adventurer but as interpreter. At the outset (1926–1928), he was collecting material for his doctoral thesis, “Glacial Features of Jackson Hole, Wyoming.” Then (1929–1934), as the first ranger-naturalist for the newly created Grand Teton National Park, responsible for initiating educational programs, he was seeking reliable information on the geologic structure and history of the Teton Range. Eventually he climbed every major peak and traversed every canyon.

These “reconnaissance” trips yielded campfire talks, advice for aspiring climbers—and some

interesting by-products. His observations as geologist, naturalist, and lover of beauty supplied material for *The Tetons: Interpretations of a Mountain Landscape*; his climbing experiences formed the basis for *The Teton Peaks and their Ascents*. His knowledge of features in the range led the government to request that he suggest names for those features. He did; most of them were adopted by the Board of Geographic Names on June 3, 1931, and now millions of visitors to Grand Teton National Park know them: Teewinot, Nez Perce, St. John, Lake Solitude, and many others.

Gratifying as it was for him to learn and teach Teton lore, that activity was only the prelude to his larger vocation as interpreter. From 1935 to 1939, as geologist for the museum planning staff of the National Park Service at Berkeley, he helped create museum exhibits for most of the West's national parks and monuments. From 1939 to 1940 he was one of a twelve-man team employed by the Philippine government to make a geological reconnaissance of the islands.

In 1942 he joined the Military Geology Unit, an organization the *Saturday Evening Post* termed "one of the most interesting and important additions to the collective brain of the United States Army . . . 100 of the ablest geologists . . . this country could mobilize." In a subterranean warren of offices in Washington, D.C., they devoted their professional expertise to solving problems that combat troops would encounter half a world away. Problems of terrain; of landing beaches, airfields, and water resources; of how to move troops and vehicles; of where to build and what to use in building. Problems, in short, of how to plan and execute military operations in remote, often little-known areas.

Supplying such information tested the training, acumen, and sheer psychological mettle of the military geology staff. Often they worked far into the night scrutinizing aerial photographs and geologic and topographic maps; studying surveys and reports (most in languages other than English); making deductions about the terrain, translating those deductions into nontechnical prose, and getting their reports to the Army Map Service in time for them to be printed and bound into the great folio volumes used for planning operations and often flown to actual battle sites—all within deadlines so tight that the staff averaged 60- to 80-hour work weeks, and round-the-clock production was not uncommon. Terrain intelligence was interpretation on the fast track.

Fryxell, working without apparent haste, never missed a deadline, according to his chief, Charles B. Hunt, who advanced him to second-in-command. Military Geology Unit reports were as impressive in their accuracy as in their timeliness. General Dwight D. Eisenhower himself gave special commendation to the report on Sicily, on which the Sicilian campaign was based.

In the fall of 1944, Fryxell was sent to England to coordinate the work of the Military Geology Unit with that of its British counterparts. The following spring (May 1945) he was assigned to Manila as chief of the terrain research team at MacArthur's headquarters. Besides making analyses required by daily operations in the Pacific Theater, this team had the major responsibility of compiling maps and reports interpreting the area around Tokyo, in preparation for the invasion of Japan. There was the same concentrated effort, the same intense, round-the-clock work as in Washington. Here, too, they met their deadline. Only Japan's surrender in September canceled MacArthur's projected invasion.

Briefly idle, the staff spent its leisure in organizing, on V-J Day (September 2), the Geological Society of the Philippines. Charter members included about 60 Philippine, American, and Australian geologists then in the region, Fryxell among them.

But the cessation of hostilities meant new work for the Military Geology Unit. There was a world to be put back together, and Fryxell was instrumental in this reconstruction effort. He had initiated a program by which the U.S. Geological Survey could collaborate with the Philippine government in reconstructing geological activities in the Islands, and he personally presented this plan to President Sergio Osmena. The proposal was implemented a few months later. Fryxell next went to Tokyo with MacArthur's advance echelon; after initiating a comprehensive inventory of Japan's natural resources, requested by MacArthur, he returned to the United States.

Not all of his activities in Washington were war-related, however. Probably his most notable and most lasting participation in peacetime enterprises was his proposal that the USGS and the National Park Service join in a cooperative agreement, the Survey supplying personnel for geological research

in the parks, and the National Park Service providing funds. Just one year after Fryxell's initial memo urging such an arrangement, the agreement was completed. The plan went into effect in 1946 as a multi-pronged research effort, and has proven enormously significant, both for the parks and the Survey and for the expansion of scientific knowledge.

Just as Fryxell's career included a variety of roles, so his work as a geologist displayed unusual breadth. His published works span the fields of geomorphology, glacial geology, structural geology, seismology, and metamorphic petrology—most (about two-thirds) concerned with the Teton–Jackson Hole area. So thorough and painstaking was this pioneer work, some of it conducted with his students, that it remains both reference and model.

He was interested, too, in people—people who “did” geology, people who lived among the landforms he loved. He formed lasting friendships with some of the remaining pioneers of the Jackson Hole area, and, in various western history periodicals, he wrote their stories. His studies of photographer W. H. Jackson and painter Thomas Moran show his response to their personalities as well as to their interpretations of mountain, valley, and sky. He was keenly interested in historical geology, especially in the lives and contributions of nineteenth century pioneer geologists in the West. He published a biographical sketch of Albert Charles Peale, and, with Clifford Nelson, of work done by F. V. Hayden and F. B. Meek in the northern and central Great Plains before the Civil War. As a Guggenheim Fellow, he assembled a formidable array of material for a biography of Hayden (partially completed). He prepared five memorials for the Geological Society of America and twelve biographies of geologists for *Encyclopaedia Britannica*.

Perhaps nowhere is the convergence of Fryxell's interests in history, people, and geology more apparent than in the Sierra volumes published after the death of François E. Matthes. Matthes' celebrated topographic map of the Yosemite Valley was completed in 1907, and his brilliant U.S. Geological Survey Professional Paper 160, “Geological History of the Yosemite Valley,” was published in 1930. Matthes had also accumulated diaries and field notes about the Sierra Nevada which he intended to publish as technical reports and as guides for laypersons. His death prevented him from doing so. For Fryxell, Matthes had been a lifelong inspiration and a personal friend; they had worked together planning exhibits for Yosemite National Park. So when the University of California Press and the Sierra Club, as well as Mrs. Matthes, asked Fryxell to consider finishing some of Matthes' projected works, he felt he couldn't refuse. The assignment posed a great challenge—fusing Matthes' research, interpretation, and style with his own. It took almost 17 years of his summers and spare time, and in a way was his unique act of interpretation. As Wilmot H. Bradley, former Chief Geologist of the USGS, pointed out, nothing quite like it had ever been done before. For Fryxell was interpreting both Matthes and his work, the man and his mark. The result was four magnificent interpretive volumes and a U.S. Geological Survey Professional Paper on the glacial geology of Sequoia National Park. These works stand as memorials in themselves, to the men who produced them almost as much as to the secret places they reveal.

During these years and between these events, Fryxell was teaching “discontinuously” at Augustana. Teaching, for him, was the beginning and end of interpreting. To encourage teaching excellence he helped found the organization that has become the National Association of Geology Teachers. He was the first recipient of its Neil Miner Award for contributions to the teaching of geology.

When he was about 11, Fryxell read Ernest Thompson Seton's *Two Little Savages*, which begins with the quotation, “Because I have known the torments of thirst, I would dig a well where others may drink.” It caught his imagination; he never forgot it. As ranger, as writer, as teacher, Fritiof Fryxell dug many wells that continue to refresh.

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