Memorial to Alfred Kitchener Snelgrove
1902–1982

DANIEL A. BRADLEY
5500 Louisbourg, Montreal, Quebec, H4J 1K8

Alfred Kitchener Snelgrove, former Newfoundland Government Geologist, retired professor and head of Michigan Technological University's Department of Geology and Geological Engineering at Houghton, and Fulbright lecturer in the Far East, died October 17, 1982, in Largo, Florida, at the age of 80. His contributions to geology and mining over 60 years won numerous awards and honors.

Al was born in St. John's, Newfoundland, on April 7, 1902. His ancestors emigrated from England in the mid-1800s and settled on the northern tip of the Carbonear Peninsula between Trinity and Conception Bay. According to Claude Howse, Al's father died when Al was young, and his mother moved to St. John's where she raised her four children. It is not clear when Al became interested in geology. As a boy he must have clambered over rock ledges that surround St. John's harbor and examined the red conglomerate on Signal Hill. He may have seen the museum exhibits of minerals and fossils collected by government geologists Murray and Howley.

Al took geology and geography at St. John's High School and completed grade 11 with honors. This was just after World War I. Newfoundland was still a British colony whose existence depended upon fishing, lumbering, and mining. He worked for a year in the express office for Reid Newfoundland Company Ltd., operators of the railway and steamship system. The company had formed a Natural Resources Department in 1918 to develop their vast mineral land holdings. He recognized the possibilities that could unfold if he furthered his education in geology.

Snelgrove began his geological studies as a special student at McGill in Montreal during the academic year 1921–1922. He then returned to Newfoundland where he worked for two years and the summer of 1925 with Reid's Natural Resources Department of Mines and Forests on geological mapping of Reid mineral land lots and examination of mineral prospects.

He returned to McGill in 1924 and obtained a B.Sc. degree in geology in 1927. He worked a summer as field geologist for Dome Gold Mines Ltd. in Ontario and three summers in Newfoundland for various syndicates in which Dome was a participant. He presented his first professional paper to the Second Empire Mining Congress at St. John's, Newfoundland, in September 1927, and submitted it in the Canadian Institute of Mining and Metallurgy Students' Competition in January 1928, for which he received the President's Gold Medal. His teaching career began at McGill in 1927 as a demonstrator while fulfilling the requirements for his M.Sc. degree in geology, which he received in 1928. For that academic year he was designated a Leroy Fellow in Geology.

Snelgrove continued graduate studies towards his Ph.D. in geology, which he obtained in 1930 at Princeton where he also served as an assistant in geology. The Barlow
Memorial Prize of the Canadian Institute of Mining and Metallurgy was awarded to him for his paper, based on his doctoral thesis, published in the Bulletin of 1931. The summer of 1930 he worked in Ontario as a geologist on the field party of W. H. Collins, director of the Geological Survey of Canada. He was an instructor in geology at Princeton from 1930 to 1935 and assistant professor from 1935 to 1940. He was leader of the Princeton expeditions to Newfoundland from 1932 to 1934.

Newfoundland suffered greatly in the depression from 1930 onward and could not continue to support itself. The government was suspended, and in 1933 a Commission of Government was appointed by the British Crown. In 1934, the Commission set up a Department of Natural Resources with a geological section in St. John’s. A. K. Snelgrove was appointed government geologist and C. K. Howse associate government geologist. This section, which came to be known as the Geological Survey, was authorized to make an examination and inventory of mineral resources. In the 1930s and 1940s as many as six to ten parties a season worked in the field to carry out these objectives.

By 1940 the Geological Survey had issued Bulletins on chromite, gold, gypsum, and copper deposits of Newfoundland and on nearly a score of regional studies. One of the Bulletins, “Bibliography of Newfoundland Geology, 1818–1936” was compiled by Rachel M. Betts, Guyot Hall Library, Princeton University, and published in 1936. A1 Snelgrove and Rachel Betts were married in the same year.

Snelgrove’s “Mines and Mineral Resources of Newfoundland” was published by the Geological Survey in 1938. In 1953, four years after Newfoundland became a province of Canada, this report was revised by D. M. Baird, then provincial geologist, who noted that the first edition was heavily in demand and provided a complete handbook of known prospects and active mines.

Dr. Snelgrove joined the faculty of Michigan College of Mining and Technology at Houghton, serving as head of the Department of Geology and Geological Engineering from 1940 to 1968, and as director of graduate studies from 1951 to 1960. He was professor of geology from 1940 until he retired in 1970. He was then designated Professor Emeritus.

Besides his administrative and teaching duties, Dr. Snelgrove worked during World War II on strategic minerals investigations for the Michigan Geological Survey. He and C. K. Howse collaborated on an abstract published in Economic Geology, “War Minerals in Newfoundland,” of which fluorspar was probably the most significant. In 1943 he became a U.S. citizen and ceased being Newfoundland Government Geologist, although at least until Confederation in 1949 he served as advisor and consultant to his successor, C. K. Howe.

During his sabbatical from Michigan Tech, Dr. Snelgrove was visiting professor at Rutgers in the academic year 1945–46. He was the first director of its Bureau of Mineral Research. He went to Hong Kong as Fulbright lecturer during his second sabbatical, 1953–54, and wrote a paper on the base metal deposits of Hong Kong.

“Growth Heralds a New Era,” an article in the Alumni Newsletter of November 1957, written on the occasion of the dedication of a new Civil Engineering–Geological Engineering building, provides insight into the leadership role midway in Snelgrove’s career at Michigan Tech. The article reflects pride in accomplishments of the eight-man department and its pioneering efforts in several course areas: techniques of ore search, geology in engineering practice, and a course in geochemistry.

After two decades of counselling university students, Snelgrove wrote Opportunities in Geology published in 1960 as part of the series of Vocational Guidance Manuals. Because of its wide acceptance, a revised edition was published in 1970.

Dr. Snelgrove was awarded an honorary Doctor of Science by Memorial University of Newfoundland in May 1965 in recognition of his contributions to geology and mining.
in Newfoundland. He discovered the Blow-Me-Down ultrabasic igneous complex on the west coast of Newfoundland, took part in the first aerial photographic survey for geological purposes, and instituted through the Colonial Development Fund the first Geodetic Survey of Newfoundland, which placed subsequent mapping on a scientific basis. The geodetic station near Torbay Airport, St. John's, had been named Snelgrove in his honor.

As a result of his studies as Fulbright lecturer at the University of Sind, Hyderabad, West Pakistan, 1961–62, his book *Geohydrology of the Indus River, West Pakistan* was published in Pakistan in 1967. That same year he chaired an international symposium on the Indus River system.


After his retirement from Michigan Tech, Snelgrove was visiting professor of applied geology at the Middle East Technical University, Ankara, Turkey, in 1970–71. During this period he wrote two major papers: "Remote Sensing of the Geological Environments—A New Tool in Mineral Exploration" (1971) and "Metallogeny and the New Global Tectonics" (1972), both published in Iraq and Turkey.

"Migrations of Some Major Rivers in Response to Plate Tectonics Motions" was presented by Dr. Snelgrove at the XXV International Geological Congress in Australia and published in 1976. He then restudied the Indus River data and wrote "Migrations of the Indus River, Pakistan in Response to Plate Motions," which was published in India in 1979.

Dr. Snelgrove was a Fellow of the Geological Society of America and the Mineralogical Society of America; a member of the Society of Economic Geologists; American Geophysical Union; American Institute of Mining, Metallurgical and Petroleum Engineers; the Canadian Institute of Mining and Metallurgy; and a dozen other professional and honorary societies.

A. K. Snelgrove will be mourned by his associates, students, and friends the world over where his memory is one of achievement of excellence in his professional endeavors. He is survived by his wife, Rachel M. Snelgrove in Largo, Florida, their place of retirement.

**SELECTED BIBLIOGRAPHY OF A. K. SNELGROVE**


---


---

1934 Chromite deposits of Newfoundland: Newfoundland Department of Natural Resources, Geology Section, Bulletin 1. 14 p.

---

1935 Geology of gold deposits of Newfoundland: Newfoundland Department of Natural Resources, Geology Section, Bulletin 2, 46 p.
1940 Gemology from a geologist's point of view: Gems and Gemology, v. 3, p. 66–68.
1946 Some problems of Newfoundland geology [abs.]: New York Academy of Science Transactions Series 2, v. 8, p. 221.
1964 (with Nordeng, S. C.) Trend surface analysis of trace elements in pegmatites in Marquette County, Michigan [abs.]: Institute of Lake Superior Geology, 10th Annual Meeting, p. 9–10.
_____ Geological engineering attains status in 1968: Mining Engineering, v. 21, p. 80–86.