

Memorial to Thomas Henry Clark

1893–1996

J.F.V. RIVA

Quebec Geoscience Centre, 880 Chemin Ste-Foy, Quebec City, Quebec G1S 2L2, Canada

Thomas Henry Clark was born on December 3, 1893, in Battersea, then a borough of London, England, the son of Thomas and Elizabeth Lydia Anstiss, the fifth child of a family of six daughters and one son. Clark first attended an Endowed School, and in 1905 he was admitted to Christ's Hospital (CH), better known as the "Bluecoat School," at Horsham, Sussex, after passing competitive examinations, and he was assigned to the Royal Mathematical School. A photograph of Clark at that time shows him in his CH uniform, consisting of the ankle-length navy-blue "House coat," buttoned in front and tied at the waist by a belt, covering the knee breeches and yellow stockings. A white turned-down collar tops the spartan ensemble.



At Christ's Hospital, Clark studied mathematics, English, German, French, the sciences, geography, shorthand, and drawing; he excelled in geography, German, and English. He was also introduced to the "heuristic" method of learning the sciences by discovery rather than by rote. In this method "the teacher was to afford guidance and suggestions by questions—no telling, and adopt the attitude of a co-enquirer, not of an authority. His task was not of teaching, but of cultivating in his pupils the ability to suspend judgement and avoid hasty conclusions based on insufficient evidence" (Rex Sweeny, written communication, 1998). Great emphasis was also placed on religion and church attendance—several times on Sunday—with the result that Clark came to question the meaning of religion and religious services and became a lifelong agnostic. In 1910 he left the school, after his father failed in business, and went to work for the Eastern Telegraph Company.

On April 4, 1911, Clark, then 17, sailed from Liverpool on the *Invernia* for Boston, Massachusetts. His sponsors were Mr. and Mrs. Charles H. Ramsey of South Weymouth, Massachusetts, an elderly couple with no children who had come to know the Clarks by correspondence. Charles Ramsey was a bank employee in Boston. Clark had come looking for employment, but the Ramseys soon realized that he wanted very much to continue his education, and so they agreed to let him attend the State Normal School at Bridgewater, Massachusetts, and provide for his room and board in exchange for services around the house. At the Normal School, Clark made a "remarkable record," and in 1913 he informed the Ramseys of his ambition to attend Harvard University and be "a Professor in a College" for which "he would bend every energy" (Mrs. Ramsey's letter to Harvard University, February 13, 1913). The Ramseys agreed to support him during his first year of college, and in the fall of 1913 Clark entered Harvard to study paleontology under P.E. Raymond. Recalling 77 years later his first meeting with Raymond, he wrote: "I was greeted with this apparent pessimistic reception and advice and the words, 'Very well. But I warn you that if you continue in such foolishness you'll be the last paleontologist alive by the time you retire. There is no future in it,'" (letter to S.J. Gould, February 9, 1990). Clark supported himself by tutoring and with loans from friends, and in 1917 he graduated with a B.A. in geology, magna cum laude.

On October 27, 1917, Clark enlisted in the U.S. Army and was assigned to the Sanitary Corps. He was promoted to sergeant in December and commissioned a second lieutenant on August 14, 1918. On August 16 he sailed for France with the 312th Sanitary Train, 87th Infantry Division. The division was to have moved to the front on November 10, 1918, but the Armistice was signed the next day. Clark returned to the United States in January 1919, and he was discharged on March 28.

In 1919, Clark reentered Harvard and obtained an A.M. in 1921 and a Ph.D. in 1923. He supported himself as an assistant and instructor in geology and also received the Burr Scholarship. His doctoral thesis was the continuation of Raymond's 1914 work on the graptolites of the Levis Formation at Lévis, Quebec, but he also took an interest in the trilobites of the limestone conglomerates. In the summer of 1924 he was in charge of the Harvard Summer School at Field, Alberta, Canada. There he met C.D. Walcott, the secretary of the Smithsonian Institution, who had described the famous Cambrian fauna of the Burgess Shale from nearby Mount Stephen. At the end of the summer school, Clark spent two days at Walcott's quarry in the Burgess Shale collecting what he called "a wonderful lot."

In 1924, Clark came to Montreal, Canada, as an assistant professor of geology at McGill University, and he progressed rapidly through the ranks. In 1925 he was named curator of the geological collections of the Redpath Museum; in 1928 he was promoted to associate professor and in 1930 named Logan Professor of Paleontology and elected to the Royal Society of Canada. In 1932 he was named curator and in 1943 director of the Redpath Museum and the McGill University Museums and chairman of the University Museums Committee. F. Fitz Osborne, one of his colleagues in these early years at McGill, recalled (personal communication, 1997) that Clark was then so immersed in his work at the Redpath Museum that he would often forget to attend the staff meetings at the Department of Geology. He worked every day, often late into the evening, including Saturday and Sunday.

In 1952, Clark resigned his museum charges on being named chairman of the Department of Geology. He presided over its postwar expansion from a five- to an eleven-person department, including specialists in geochemistry and geophysics, charged with the teaching and supervision of an increasing number of undergraduate and graduate students from all over the world. In 1959 he passed the chairmanship on to J.E. Gill and went on teaching until his retirement in 1962 at 69, and then for two more years, for a total of 40 years. In 1964 he was named Logan Professor of Paleontology Emeritus and was allowed to keep his office, where he spent "three-quarters of my time as a consultant and the remaining quarter writing books or cleaning out the accumulations of a lifetime" (*Harvard Class of 1917 Fiftieth Anniversary Report*, 1967, p. 120). The last 15 years he spent curating the collections in the basement of the Redpath Museum as an advisor in geology, and assisting Michel di Vergilio in computerizing the records of them. He retired on May 30, 1993, at the age of 99.

At McGill Clark taught general and historical geology, stratigraphy and sedimentation, structural geology, and paleontology, until he was partly relieved by C.W. Stearn in 1952. He also taught general geology to the engineering students. Hans J. Hofmann, one of his former students, relates: "T.H., as he was known to students, made it easy for us to become interested in the wide-ranging subject that geology is. His lectures, given to about 100–200 engineering students in the auditorium of the Adams Building, were lively and illustrated with charts and diagrams, large rock samples, anecdotes and sometimes unexpected action. While discussing the physical properties of rocks, he would pick up with some difficulty one large sample, about a cubic foot in size, and lob it to an unsuspecting student in the front row. Well, it was pumice and no damage was sustained either by the student or the sample, but T.H. had made the point that not all rocks needed to be heavy."

Clark's commitment to teaching was total, as he made clear in an interview he gave in December 1993, on his 100th birthday. "I was never happier," he said, "than when I was in front of a class. I never used notes and made an effort to look at every single person in the audience during the course of the lecture. I wanted to make it a personal affair." D.M. Baird, one of his students and assistants of the 1940s, also pointed out (personal communication, 1999) that Clark "was a man who took serious things with responsibility, but his sense of humor never allowed him to take himself too seriously. It is a rare student who can recall any of his lectures without remembering at least one good laugh."

Clark gave his last lecture on C.D. Walcott and the Burgess Shale fossils on March 28, 1990, in the Redpath Museum. S.J. Gould, who had come up from Harvard to hear the lecture, wrote: "His Burgess fossils (*i.e.* those collected in 1934) were laid out on a table ..., but Clark stood at the end of the table and spoke for forty minutes without notes on the life and works of Charles Doolittle Walcott—a beautiful presentation chuck-full of information and organized, as all good talks must be, around a distinctive and integrative point of view."

The courses were supplemented by field trips lasting two or three days. On arriving at an outcrop, Clark would follow the heuristic method, letting the students first wander around the outcrops and then calling them together with a "Gather around me!" He would then ask and answer questions and give a full explanation of the geology.

In 1926, Clark undertook the mapping of three quadrangles in southern Quebec, along the border with Vermont, for the Geological Survey of Canada, assisted by H.W. McGerrigle, who mapped the Lacolle Quadrangle, and by H.W. Fairbairn, who studied the structure of the Sutton Quadrangle. Clark gave an account of the Cambrian stratigraphy of the area at the 1930 GSA Annual Meeting in Toronto. Part-way through the presentation, Arthur Keith of the U.S. Geological Survey, an authority on the Cambrian stratigraphy of Vermont, rose to object to Clark's introduction of the Oak Hill Series instead of using his own terminology, and he was joined by his wife, who berated Clark for daring to differ with her husband. It was an embarrassing moment for Clark, who tried to smooth the whole thing over with his usual tact, but the episode was not lost at the GSC; the final report never saw the light of the day. Only a 20-page summary paper was published in 1934, followed by four other short papers, one of which formally introduced the Lower Cambrian Oak Hill Series. These papers contain the essence of the Cambrian-Ordovician stratigraphy and structure of southern Quebec, and they have remained, with subsequent modifications, the base for the stratigraphy for the area, fully vindicating Clark's original work.

Wiser by this experience, Clark in 1938 began the task of mapping the St. Lawrence Lowlands from Montreal to Quebec City for the Quebec Geological Surveys. He would spend the next 35 years working on this project. The first report, *Montreal Area*, appeared in 1952, and the last one, *Granby (W) Area*, in 1977. In total, he mapped 17 map-areas, ten by himself, one with F.F. Osborne, and six with Yvon Globensky, who would complete mapping the Lowlands to the borders of Ontario and New York. In these reports Clark relegated the broad stratigraphic units introduced from New York by W.E. Logan to the rank of group, and proposed the stratigraphical nomenclature in use today. A great admirer of Logan, he introduced the concept of "Logan's Line" as the frontal edge of the Taconic allochthon.

Clark supervised a total of 33 graduate students, 18 of them Ph.D. candidates. He also took a personal interest in the undergraduate students by recommending them for employment in the petroleum and mining industries. One of them, A.A. McGregor (B.Sc. McGill, 1948), discovered the Bell Creek Oil Field in Montana and later established the McGregor Fellowship for outstanding earth sciences students at McGill.

T.H. Clark coauthored with C.W. Stearn the textbook *The Geological Evolution of North America*. The first edition appeared in 1960, the second in 1968, and the third, with R.L. Carroll as coauthor and Clark as the junior author, in 1979. Clark also worked as a consultant to numerous industrial and prospecting and development companies and to local oil and gas companies, as well as to Hydro-Québec. His 1959 presidential address to the Geological Association of Canada was based partly on his logs of 44 cores from the St. Lawrence Lowlands and the Island of Anticosti.

Clark was active in scientific societies and received his share of honors. In 1917 he was elected to Phi Beta Kappa (Alpha Chapter) of Harvard University. In 1944 he was president of the McGill Chapter of Sigma Xi and in 1953–1954 of the Royal Society of Canada, Section IV. In 1958–1959 he was president of the Geological Association of Canada, which in 1971 awarded him the Logan Gold Medal. In 1950 he received the Harvard Centennial Medal and in 1967 the Canada Centennial Medal. As he approached his 100th birthday, the Association des géologues et des géophysiciens professionnels de Québec honored him with the Prix du grand mérite géoscientifique, and the Royal Society of Canada gave him the Centennial Award. “I believe I deserve it,” he quipped to a reporter from the Montreal *Gazette* on receiving the last award. He was a Senior Fellow of the Geological Society of America, having joined it in 1926.

In 1927, Clark married Olive Prichard of Sherbrooke, Quebec, and in 1939 they settled in the town of Mount Royal, a suburb of Montreal. A daughter, Joan, was born in 1930. Joan, a lawyer, was named a Queen’s Counsel in 1971. Olive Clark died in 1989. Apart from geology, T.H. Clark’s passion was his superb and extensive collection of old English delftware, an important part of which has been donated to the George R. Gardiner Museum of Ceramic Arts in Toronto. He enjoyed gardening and canine company.

His 100th birthday was marked by a party at home and a reception at the Redpath Museum, both attended by more than 100 former students, colleagues, and friends. His 101st and the 102nd birthdays were celebrated with his family. He died at home on April 28, 1996, after a brief illness.

Thomas Henry Clark combined in his person the dignity of the Old World with the practicality of the New World. He cared about students, but would not tolerate any signs of disrespect from them. He took pride in being loyal to his friends. He was a gifted public speaker who delighted audiences with his anecdotes. He was a master of repartee. He was a conservative whose views on society were expressed in his 1967 entry to the *Harvard Class of 1917 Fiftieth Anniversary Report* (p. 121):

“I am opposed to all forms and practices of the Welfare State, and I am disgusted that the fruits of my industry should go to support some wastrel in idleness. Among other things I view with alarm are planned obsolescence ...; official and institutional opposition to birth control; income tax—as presently administered—and our threatened tax on capital gain; baby bonus; and Quebec separation.”

But T.H. Clark lived another 27 years, during which he had ample time to modify his views and adapt to the changes of society.

The Thomas H. Clark Chair in Sedimentary and Petroleum Geology has been established in his honor at McGill University.

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