## Memorial to Thomas E. Bolton 1924–1997

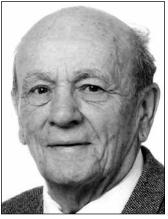
GODFREY S. NOWLAN

Geological Survey of Canada, 3303 33rd Street N.W., Calgary, Alberta T2L 2A7, Canada and

## CHARLES H. SMITH

2056 Thistle Crescent, Ottawa, Ontario KIH 5P5, Canada

Just a few short weeks after being awarded the Billings Medal of the Geological Association of Canada, Thomas Elwood Bolton passed away in Ottawa on November 21, 1997. The medal, named after the Geological Survey of Canada's first paleontologist, was a fitting tribute to a man who had dedicated his life to the furtherance of geology and paleontology. Elkanah Billings started the collections that Tom subsequently curated—a fitting link from past to present. The citation for the medal included the statement, "No individual has done more for Canadian paleontology than Tom Bolton." This is as true in his life as it is with his passing. Tom was in poor health for the last months of his life. In typical style, however, he made the trip to Saskatoon in September 1997 to receive the medal at the Canadian Paleontology Conference there. His colleagues toasted him in fine Scotch as befitted the occasion,



and in his acceptance speech Tom, as usual, was modest about his own efforts and quick to acknowledge the efforts of his colleagues and the support of his wife Beverley. This humble man, who was the very essence of cooperation and collaboration, serves as an example to us all.

Tom Bolton was born and raised in Kirkland Lake, part of the mining area of northern Ontario. His father was an insurance agent, born in Birmingham, England, and his mother a native of Rochester, New York. He graduated from Kirkland Lake Collegiate in 1941 and, at the young age of 17, he began his undergraduate studies in geology at the University of Toronto. However, these were interrupted when he joined the Canadian army in July 1943. As a gunner with the 12th Field Regiment at the Normandy landings, he was injured and returned home for convalescence. He went back to the University of Toronto to complete his B.A. degree in geology in 1947. During his undergraduate studies and his summer work with the Ontario Department of Mines, he developed a lifelong passion for paleontology. This interest led him to enroll in a master's and eventually a doctoral program at the University of Toronto under the guidance of Madeleine Fritz. He was always grateful for the encouragement he received from her. Tom met his wife Beverley in Toronto, too. We are told that Tom and Bev met through friends at the Royal York Hotel. Apparently during the course of a dance, Tom's cuff link became entangled in Bev's dress, and the efforts to disentangle lasted long enough for a mutual attraction to develop. They married in May 1951, starting a long-lasting, mutually supportive relationship that continued for 46 years.

Tom's lifelong career with the Geological Survey of Canada (GSC) began in 1952, when he, Bev, and their newly arrived daughter Cathy, moved to Ottawa. He started work at a golden time for the GSC, arriving with many other young scientists to explore the vast landmass of Canada. The foundation of Tom's 45-year career with the GSC was built on his doctoral work in the Silurian rocks of the Niagara Escarpment in Ontario. GSC Memoir 289, Silurian Stratigraphy and Palaeontology of

the Niagara Escarpment in Ontario is a definitive work still referenced by all geologists working in the area. Over his career he expanded his knowledge to include Ordovician and Silurian rocks from across Canada, especially the classic sections on Anticosti Island, Lake Timiskaming, and elsewhere in eastern Canada. His research covered a remarkable diversity of organisms including trilobites, eurypterids, corals, brachiopods, crinoids, cystoids, bryozoans, sponges, nautiloids, gastropods and pelecypods. He published over 80 papers in his career and was working on at least 5 additional papers at the time of his death.

Not only was Tom an acknowledged authority in his field, his career was characterized by distinguished and sustained service to the discipline, and he provided vital leadership to those entering the field. As curator of the National Collection of Type Invertebrate and Plant Fossils, Tom provided unstinting service for over 30 years, leaving a legacy of eight volumes of the Catalogue of Type Fossil Invertebrates (Geological Survey of Canada; Vol. I—1960; Vol. II—1965; Vol. III—1966; Vol. IV—1968; Vol. V—1974; Vol. VI—1977; Vol. VII—1982; Vol. VIII—1992) and one Catalogue of Type Plant Fossils (Geological Survey of Canada). These volumes provided data on more than 130,000 specimens collected from the days of Sir William Logan in the last century up to 1993. These materials remain available to geologists from all over the world, along with information and insights on the geological settings where they were collected, much of which Tom carried in his head. In addition, he maintained the current list of Palaeontological Reports of the Geological Survey of Canada and the lexicon of Canadian stratigraphic names.

Many other facets of Tom's professional career are perhaps not as well known as his exploits in stratigraphy and paleontology. For example in 1971 he became Secretary of the National Advisory Committee on Research in the Geological Sciences, a body of order-in council appointees who advised the GSC on science policy and research. He held this position through the decade until the work was assumed by the emergent Canadian Geoscience Council. Tom's attention to detail suited him to the task of compiling annual reports on Current Research on the Geosciences in Canada, now valuable historical documents. Tom performed many other roles for the GSC in which his friendly and collegial manner served him well: he handled the awards and details of research grants handed out by the GSC and the National Research Council for earth science research in the Canadian universities. He often served as GSC's ambassador to other sectors of the Canadian earth science community. On many evenings, out-of-town delegates to meetings were hosted at events organized by Tom, often at his home with Bev's participation. The Boltons' table was highly regarded with very good reason. Tom and Bev became synonymous with excellence in hosting.

Tom was an active member of many societies and committees during his career. He served as President of the Northeastern Section of the Paleontological Society in 1986 and went on to become President of the Paleontological Society in 1990–1991. He was a strong supporter of the Association of North American Paleontological Societies and served as Convener for the North American Paleontology Convention held in Montreal in 1986. He served on many committees of the Geological Association of Canada and as chair of the Publication Committee, and he also served as a GAC Councillor (1966–1968). Always a supporter of the local geological community, he was heavily involved with the Ottawa Branch of the Canadian Institute of Mining and Metallurgy, serving on many committees in the 1960s. His interest in history led him to be a Councillor for the History of Earth Sciences Society in 1991–1992. He was program coordinator for the International Geological Congress (IGC) held in Montreal in 1972. His great interest in documentary films led him to be a long-time participant in the Ottawa Film Society, and to chair the film festival at the IGC in Montreal.

Tom was active in research right up to his death, additional scientific works will appear in the years to come, notably work on the Ordovician paleontology of the Mingan Islands, Quebec, and of southern Baffin Island.

The hallmarks of Tom's work were cheerful involvement, modesty, effectiveness and a willingness to involve others. His style was characterized by common sense, generosity, a sharp wit, and

personal humility that was never meek. His enthusiasm for paleontology was contagious, and he delighted in talking to those who shared his passion whether they were professional paleontologists or not. If you liked fossils, Tom would share his knowledge with you. His joyous shouts of discovery in the field will be remembered by all who worked with him. His happy, enthusiastic presence will be missed by all who knew him and had the pleasure and honor to work with him.

He is survived by his wife, Beverley, daughter Catherine, son-in-law Michael, granddaughters Jennifer and Emily, and a sister, Patricia.

## SELECTED BIBLIOGRAPHY OF T. E. BOLTON

- 1953 Silurian formations of the Niagara Escarpment in Ontario: Geological Survey of Canada Paper 53-23, 19 p.
- 1956 (with Liberty, B. A.) Early Silurian stratigraphy of Ontario, Canada: American Association of Petroleum Geology Bulletin, v. 40, no. 1, p. 162–171.
- 1957 Silurian stratigraphy and palaeontology of the Niagara Escarpment in Ontario: Geological Survey of Canada, Memoir 289, 145 p.
- 1960 (with Copeland, M. J.) The Eurypterida of Canada: Geological Survey of Canada Bulletin 60, p. 13–47.
- 1961 Ordovician and Silurian formations of Anticosti Island, Quebec: Geological Survey of Canada Paper 61-26, 18 p.
- 1965 Contributions to Canadian Palaeontology, Part I—Trilobites from Upper Silurian rocks of the Canadian Arctic Archipelago: Encrinurus (Frammia) and Hemiarges; Part II—Ordovician and Silurian tabulate corals Labyrinthites, Arcturia, Troedssonites, Multisolenia, and Boreaster; (with Sinclair, D.W.) Part III—A new species of Hemicystites: Geological Survey of Canada Bulletin 134, 39 p.
- 1966 Illustrations of Canadian fossils, Silurian faunas of Ontario: Geological Survey of Canada Paper 66-5, 46 p.
- 1971 (with Liberty, B. A.) Paleozoic geology of the Bruce Peninsula area, Ontario: Geological Survey of Canada Memoir 360, 152 p.
- 1972 Geological map and notes on the Ordovician and Silurian litho- and biostratigraphy, Anticosti Island, Quebec: Geological Survey of Canada Paper 71-19, 45 p.
- (with Copeland, M. J.) Paleozoic formations and Silurian biostratigraphy, Lake Timiskaming region, Ontario and Quebec: Geological Survey of Canada Paper 72-15, 49 p.
- 1977 Introduction and Ordovician megafauna, Melville Peninsula, Southeastern District of Franklin, *in* Geology of Ordovician rocks, Melville Peninsula and region, Southeastern District of Franklin: Geological Survey of Canada Bulletin 269, p. 1–5, 23–75.
- 1979 (with Nowlan, G. S.) A Late Ordovician fossil assemblage from an outlier north of Aberdeen Lake, District of Keewatin: Geological Survey of Canada Bulletin 321, p. 126.
- 1981 Ordovician and Silurian biostratigraphy, Anticosti Island, Quebec: IUGS Subcommission on Silurian Stratigraphy, Ordovician-Silurian Boundary Working Group. Field Meeting, Anticosti-Gaspé, Quebec, Volume II, Stratigraphy and Paleontology, p. 41–59.
- Late Ordovician and Early Silurian Anthozoa of Anticosti Island, Quebec: IUGS Subcommission on Silurian Stratigraphy, Ordovician-Silurian Boundary Working Group. Field Meeting, Anticosti-Gaspé, Quebec: Volume II, Stratigraphy and Paleontology, p. 107–135.
- Early Silurian Anthozoa of Chaleurs Group, Port Daniel-Black Cape region, Gaspé Peninsula, Quebec: IUGS Subcommission on Silurian Stratigraphy, Ordovician-Silurian Boundary Working Group. Field Meeting, Anticosti-Gaspé, Quebec, Volume II, Stratigraphy and Paleontology, p. 299–314.
- 1985 (with Ross, J. R. P.) The cryptostomate bryozoan Sceptropora (Rhabdomesina, Arthrostylidae) from Upper Ordovician rocks of southern Mackenzie Mountains, District of Macken-

- zie, in Current research, Part A, Geological Survey of Canada Paper 85-1A, p. 29-45.
- 1985 (with Copeland, M. J.) Fossils of Ontario, Part 3: The Eurypterids and Phyllocarids: Ontario Museum of Life Sciences Miscellaneous Publications, 48 p.
- 1986 (with Dixon, O. A., and Copper, P.) *Ellisites*, an Upper Ordovician heliolitid coral intermediate between coccoserids and proporids: Palaeontology, v. 29, pt. 2, p. 391–413.
- 1988 Stromatoporoidea from the Ordovician rocks of central and eastern Canada, *in* Contributions to Canadian Palaeontology: Geological Survey of Canada Bulletin 379, p. 17–45.
- (with Elias, R. J., and Nowlan, G. S.) Paleontology of the type section, Fort Garry Member, Red River Formation (Upper Ordovician), southern Manitoba: New Mexico Bureau of Mines and Mineral Resources, Memoir 44, p. 341–359.
- 1991 (with Steele-Petrovich, H. M., and Munro, I.) Middle Ordovician (Chazy) stratigraphy, and bryozoan and conodont faunas in the Hawkesbury region, eastern Ontario: Geological Survey of Canada, Bulletin 412, p. 1–33.
- (with Paul, C. R. C.) A new Lower Silurian callocystitid cystoid from the Lake Timiskaming region, northern Ontario: Geological Survey of Canada, Bulletin 412, p. 35–43.
- 1996 Middle Ordovician Bryozoa from northern Rocky Mountains, British Columbia, and southern Mackenzie Mountains, District of Mackenzie *in* Norford, B. S. et al., Advance formation: Stratigraphy and biostratigraphy of a new Ordovician formation from the Rocky Mountains, northeastern British Columbia: Geological Survey of Canada Bulletin 491, p. 94–109.
- (with Desbiens, S., and McCracken, A. D.) Fauna of the lower Beauhamois Formation (Beekmantown Group, Lower Ordovician), Grande-fle, Québec: Canadian Journal of Earth Sciences, v. 33, p. 1132–1153.
- 1998 (with Steele-Petrovich, H. M.) Morphology and Palaeoecology of a primitive reef-forming tubicolous polychaete from the Ordovician of the Ottawa Valley, Canada: Palaeontology, v. 41, p. 125–145.