

Morley Thomas, *The Beginnings of Canadian Meteorology*

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Thomas, Morley, *The Beginnings of Canadian Meteorology*, Toronto: ECW Press, 1991. 308 pp., cloth \$40.00, ISBN 1-55022-149-3.

This new book joins the growing number of works dealing with the history of science in Canada. In recent years Richard Jarrell (1987) has recorded the development of astronomy; Suzanne Zeller (1987), the history of geology and biology with some attention paid to magnetic and meteorological studies; Yves Gingras (1987), science in Quebec and, with Marcel Fournier, physics in Canada (1991); and Paul Bogaard (editor, 1990), various aspects of science in the Maritimes. *The Beginnings of Canadian Meteorology*, however, concentrates on a relatively brief period, ca 1840–1880, when systematic observing of weather phenomena was being organized and when government-supported weather forecasting services were initiated. Meteorology was the first scientific discipline to receive sustained government financial assistance in this country and, for this reason, deserves the scrutiny accorded.

Despite this relatively narrow focus, I found the book interesting, partly because I recognized so many names which keep cropping up in other contexts in Canadian scientific endeavours of the nineteenth century, such as Smallwood at McGill, Jack at UNB, Ashe at Quebec, etc. (the connection is fairly obvious since these astronomers monitored the sky and made notes on weather conditions as they pursued their primary interests). Morley Thomas states in an endnote that the perspective of *Beginnings* is operational and less social or philosophical. This is not strictly the case, however, since the author closely follows the career of George Kingston and his network of contacts. Indeed, the book could be subtitled "The Scientific Career of Prof. George T. Kingston." From his appointment as Professor of Meteorology at the University of Toronto in 1855, Kingston's circle of contacts spread across the country and included teachers at schools and colleges, government departments, etc.; this aspect of scientific activity deserves the attention paid by Thomas since Kingston singlehandedly established the framework

of Canada's meteorological network and his influence is still felt.

Beginnings opens with a review of the circumstances surrounding the establishment of the Toronto Magnetic and Meteorological Observatory as part of the campaign by British scientists Humphrey Lloyd and Edward Sabine to discover the global nature of magnetic forces in response to the theories of Alexander von Humboldt. There was a general belief, of which Sabine was a staunch supporter, that magnetic and meteorological phenomena were associated – hence the marriage of these two disciplines. In addition to a chapter in Zeller (1987), the founding and early history of the observatory under Lieutenant Charles Riddell and later Capt. Henry Lefroy has been dealt with by Theissen and Beatie (*Journal*, Royal Astronomical Society of Canada, 1940–46 [12 parts] and 1982 resp.) and in an unpublished manuscript by Julian Smith (1990). Thomas' documentation resolves some deficiencies in and discrepancies between these earlier papers. Indeed Thomas has been careful in his documentation and this is reflected in 28 pages of endnotes. Most of the documentation is from Canadian sources, much of it is held at the University of Toronto and at the Atmospheric Environment Service in Downsview, Ontario.

From rather precarious beginnings under military control, the Observatory passed to the control of Prof. Kingston. By following his pivotal work, Thomas documents the progress, and setbacks, of the establishment of a network of observers – military observers, a grammar school network in Ontario, college professors in Ontario, Quebec and the Maritimes, and the lighthouse network. The last chapters document the opening of chief and ordinary observing stations in the regions. Data from the observers, recorded on forms, was gathered by Kingston, analyzed and discarded; unfortunately it was not until 1869 that he began to archive incoming data. Then, as today, timely acquisition of data was important. Telegraphic networks spread rapidly in the 1850s and later played a pivotal role in Kingston's objective of issuing forecasts and storm warnings. In the U.S.A., the Smithsonian estab-

lished a network of observers including some in Canada. Shortly after telegraphic warnings were begun in the U.S.A. (Nov. 1870), Kingston began to issue similar bulletins and warnings in Canada (July 1871) and soon tied into the American network as well.

A couple of geographical errors and a few other minor factual errors were noted in reading, but for me the more disconcerting problem was the organization of the book. As noted, *Beginnings* opens by documenting the founding of the Toronto Observatory and not until Chapter 7 are we given a sense of the historical development of meteorological science or the progress of organized meteorological observations in Europe or the U.S.A. Being instrumentally minded, I was also disappointed with the relative lack of documentation relating to the instruments used at various times or at the different levels of observing stations. An editorial peculiarity is that appendices are located at the end of chapters. Although there are 15 tables, they are not listed, nor are the illus-

trations which are not even numbered. These deficiencies will make *Beginnings* a bit more difficult to use as a reference, but fortunately the index is quite detailed.

Clearly, *The Beginnings of Canadian Meteorology* will interest meteorologists and the many volunteer observers employed in this country. Historians of science will read it with interest for what it tells us about the early organization of an important scientific institution in this country; future researchers may want to investigate parallels between other government-funded disciplines and departments and the Meteorological Service of Canada (now the Atmospheric Environment Service). Historians with regional interests will find Morley Thomas' book a source of information on the meteorological activities of individuals in their communities. And foremost, *Beginnings* should be read as a tribute to a remarkable man who exerted an almost immeasurable influence on the development of a discipline of such wide-ranging importance to society as meteorology.

Peter Neill and Barbara Ehrenwald Krohn, eds., *Great Maritime Museums of the World*

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Neill, Peter and Barbara Ehrenwald Krohn, eds., *Great Maritime Museums of the World*. New York: Balsam Press, Inc., 1991. 304 pp., 309 illus. Cloth \$50.00, ISBN 0-917 439-12-0 (Balsam), 0-8109-3362-4 (Abrams).

In his introduction, editor Peter Neill holds forth with historical jingoism of sorts before separating the various aspects of maritime history into eight themes: fishing and farming; voyages of exploration; maritime technology; navigation and science; naval warfare; ports and trade; migration; and the community of the sea. At the same time, he briefly reviews how these themes are dealt with by the chosen museums:

Australian Maritime National Museum, Sydney, Australia
Maritime Museum of the Atlantic, Halifax, Nova Scotia, Canada

Fisheries Museum of the Atlantic, Lunenburg, Nova Scotia, Canada
Vancouver Maritime Museum, British Columbia, Canada
Viking Ship Museum, Roskilde, Denmark
Musée du Bateau, Douarnenez, France
Musée de la Marine, Paris, France
Musée de la Pêche, Concarneau, France
Deutsches Schiffahrtsmuseum, Bremerhaven, Germany
Yokohama Maritime Museum, Yokohama, Japan
Nederlands Schepvaart Museum, Amsterdam, Netherlands
Maritime Museum Prins Hendrik, Rotterdam, Netherlands
Norsk Sjøfartsmuseum, Oslo, Norway
Museu de Marinha, Lisbon, Portugal
Barcelona Maritime Museum, Barcelona, Spain