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

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See table of contents

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Morley Thomas

The Beginnings of Canadian Meteorology (Toronto, ECW Press, 1991) 308 pp. \$40.00. ISBN 1-55022-149-3.

This book is valuable primarily for its account of the Magnetic and Meteorological Observatory founded by officers of the Royal Artillery for the Ordnance Department, of its transfer to United Provinces of Canada, where it was run through the University of Toronto, and, above all, of the work of Professor George Templeman Kingston. Kingston was Director of the Observatory from 1855 to 1879, and founding Director of the Meteorological Service of Canada from 1871–1879. Thomas shows with admirable clarity how Kingston transformed a local observatory into the hub of a national service. This study rests on thorough use of the archives of the Atmospheric Environment Service, but relatively little use of

other archives. Thomas's narrative thus complements Suzanne Zeller's in her *Inventing Canada*.

The book begins with an account of the origin of the colonial magnetic observatories, inspired by Alexander Humboldt, supported and directed by Edward Sabine of the Royal Artillery, and equipped following instructions from Humphrey Lloyd of Dublin. Thomas writes about the instruments, but he does not discuss the theory, nor does he indicate how the Toronto instruments differed from those devised by Gauss and Weber in Germany. Thomas makes it clear that geomagnetism was the original inspiration for the Toronto Observatory, and that was only on the transfer of the Observatory to the United Province of Canada that meteorology came to the fore. And he shows very clearly the importance of telegraphy in the creation of a national and state-supported service.

A major strength of the book is its portrayal of Kingston's construction of a national network of observing stations, an enterprise involving private individuals, the military, grammar schools, missionaries, and Mounties, as well as Kingston's own steadily increasing dealings with government. Another important theme, which will repay further exploration, is the overlap and exchange between American and Canadian networks, with, at times, more Canadian observers reporting to the Smithsonian Institution than to Kingston. There are striking items throughout the book, for example Egerton Ryerson's order of meteorological instruments from Negretti and Zambra in London, even though their thermometers had scales reading only down to +10 Fahrenheit. The Royal Navy and the Smithsonian both used lower-registering instruments.

Some twenty pages are devoted to a summary history of meteorology from antiquity to 1870. This chapter is elegant, but frustratingly brief, and the footnotes at the end of the volume do not adequately compensate for this. It would have been useful, for example, to have referred to Knowles Middleton's publications on meteorological instruments.

After Thomas has told his central story, of how the Toronto Observatory evolved into the centre of a national meteorological service, he presents succinctly "those provincial and regional meteorological activities ... that might be considered supplemental to the mainstream history of Canadian meteorology", which is fair enough if one accepts the official Meteorological Service of Canada as *the* mainstream. But that is to give short shrift to TROC (The Rest of Canada), with Western Canada and the Arctic, for example, disposed of in 20 pages. The regional rather than chronological

arrangement of these chapters makes it hard to keep track of developments.

That said, the central story is well told and handsomely presented. It gives us a valuable history of Canadian meteorology that will stand confidently alongside the small but growing number of histories of other sciences in Canada.

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