



Dr. C. Smallwood - 1872



Prof. C.H. McLeod - 1889

The McLeod Observatory on Carleton Road

In 1862 Dr. Smallwood offered to move his instruments, meteorological and astronomical, to the University. Before the year was out the stone tower of the McGill Observatory had been built, at a cost of about \$2000.

Dr. Smallwood was then in late middle age. In the decade remaining to him he continued active, embodying in the McGill Observatory the qualities of his personal establishment at St. Martin and implanting in younger minds the spirit of enquiry of the scientific observer. He died in 1873. The position of Professor of Meteorology was allowed to lapse for eighty-eight years.

The work of the Observatory went on without a break, however, thanks to C.H. McLeod who was Superintendent of the Observatory for forty years, while progressing in civil engineering, from newly graduating as a member of McGill's first graduating class in engineering, to Professor of Geodesy and Surveying, and Vice-Dean of Applied Science.

When McLeod was still an undergraduate, in the last years of Dr. Smallwood's life, the Canadian Meteorological Service commenced to set up a new comprehensive system of observing the weather and reporting it by telegraph to a central forecast office. At McGill, McLeod as an undergraduate was allowed to room in the McGill College building so that he could take observations at the required times at the little observatory next door. A few months after McLeod's graduation Dr. Smallwood died, and Dr. Dawson asked the young graduate to take charge. Next year, McGill became a "chief station" in the new network connected directly to the telegraph, so that observations could be reported without delay every three hours.

Bunty McLeod became a solid citizen and a sound family man. A house was built, from the original little observatory back to Carleton Road, so that neither weather nor family need be neglected. Neither was, and so a few years later the roof of the house was lifted to incorporate an extra storey. Kirkland McLeod was a member of the first family to be reared in that house. The Marshall children were the last. The whole building was torn down, a hundred years after the observatory proper was built.



Professor McLeod was a civil engineer. His first great achievement in the Observatory was to establish its exact longitude. For this you time the transits of the stars from two stations, far apart, against a single clock. In the 1880's McLeod borrowed telegraph lines to determine longitude in this way, relative to Harvard College. In the 90's, he borrowed the Atlantic cable to determine it relative to Greenwich. Putting the two together, he was able to improve slightly the figures for Harvard itself, and so for the whole North American continent.

Professor McLeod's meteorological work was done in collaboration with successive Macdonald Professors of Physics. With Callendar, he studied the variation of soil temperature with depth. This was done not far from the present observing compound outside the Physics Building. With Howard Barnes, he measured the temperature difference between the observatory and the top of Mount Royal. They found changes in temperature at the Observatory that were anticipated by corresponding changes at the top of the mountain, anticipated by anything from 4 to 24 hours. This work was ahead of its time, detecting the passage of cold-fronts and warm-fronts before such things had been discovered or conceived.

Because of his work on longitude, McLeod was made a Fellow of the Royal Society of Canada, and his meteorological work with Barnes appears in its Transactions.

Professor McLeod died in 1917. For the next 30 years the activity of the observatory was limited to continuing the two operational activities that he had instituted: the time service and the official weather observations. In 1963, the building was razed, to make way for the Stephen Leacock Building, in which a plaque marks the site and commemorates McLeod's work. It seemed appropriate here to refer to the building erected in 1853 and razed just a century later as the McLeod Observatory, because it was he who instituted its important services, and it was with his scientific career that the building was intimately linked.

The McGill Weather Observatory continues active on the McGill campus, relocated in the Physics Building, equipped with new clocks and new weather sensors, and with renewed activity in research. It has moved with the times, to maintain a significant role in the downtown milieu and climate.