
 APPENDIX No. 3.

 REPORT ON MONTREAL OBSERVATORY FOR THE CALENDAR YEAR
 ENDED DECEMBER 31st, 1877.

MCGILL COLLEGE.

MONTREAL, 31st December 1877.

SIR,—In presenting the annual Report of the Montreal Observatory for the year just closed, I beg to state that the work throughout the year has been the same as in the past four years, namely—the collection of a series of tri-hourly observations, the duties of a telegraphic reporting station in connection with the Canadian system, providing information to the public through the press and attending to the inquiries of persons seeking special information. The object of the tri-hourly series of observations is to provide materials for the construction of interpolating formulæ whereby for the several elements, *normals* proper to every day and hour may be obtained, and hence corrections for diurnal and non-periodic variations. These corrections are required in order that comparatively scanty observations, which by themselves would be of no value, may be available for scientific investigation.

The instruments at present in use are an adjustable cistern barometer, thermometer, *wet bulb* thermometer, maximum thermometer, minimum thermometer, rain-gauge, and a self recording wind apparatus. The wind apparatus consists of an anemometer, a “wind-mill” vane and an anemograph, the latter of which is in electric connection with the two former instruments and records their movements. The anemometer is similar to that issued by the United States Signal Service Department. The object off the wind-mill vane is to avoid the extreme oscillation which is a property of the common form of vane. The anemograph is so arranged that a mark is made on a revolving drum on the completion of each mile of wind, and the direction printed at intervals of five minutes. For a detailed description of this instrument and also of the wind-mill vane, I beg to refer you to my Report for 1875.

It is much to be desired that we could complete our equipment of self recording instruments, and I hope soon to have a barograph and thermograph at work.

In order to draw definite conclusions as to the mutual dependence of the several meteorological elements, a continuous record of their condition is necessary, and instruments read only by the eye, however frequently they may be observed, are quite inadequate for this purpose.

The distribution of the yearly Government grant continues as heretofore.

I have the honour to be, Sir,

Your most obedient servant,

C. H. McLEOD,

Director of Observatory.

To the Honorable

The Minister of Marine and Fisheries.
