

OBSERVATORY REPORT.

TO THE CORPORATION OF MCGILL UNIVERSITY,

GENTLEMEN,—I beg to submit the following report for the year 1896.

The usual meteorological work in connection with the Meteorological Service of Canada has been carried forward without interruption throughout the year. This has consisted in: (1) A series of observations of the usual elements at four hours intervals. (2) The telegraphic observation series at 8 a. m. and 8 p. m. each day, upon which the weather probabilities depend. (3) A bi-hourly series of temperature observations from self-recording thermometers.

The time service and system of clock exchanges with the Toronto Observatory have also been conducted as detailed in former reports. Observations of 628 stars were made on 122 nights during 46 weeks. For six weeks—Sept. 11th to Oct. 24th—clock errors were determined from the observations of the Coast and Geodetic Survey Assistants, Messrs. Sinclair and Faris, who were during that period engaged in longitude work here, and occupied our transit pier with their instrument. Comparisons of the mean-time clocks, here and in the Toronto Observatory, were made on 18 days.

During the months of May and June, observations for determining the longitude of Ottawa were made in co-operation with Mr. W. F. King, of the Department of the Interior. During September and October, the difference of longitude between Albany, N.Y., and Montreal was determined under the direction of Mr. C. H. Sinclair of the Coast and Geodetic Survey. This work completed the chain of longitude determinations between Washington, Cambridge and Montreal, and gave another connection between the American trans-Atlantic longitude determinations and our own determination in 1892.

By the kindness of Mr. Sinclair I am able to give the results of his field reduction, which makes the difference of longitude between Montreal and Cambridge $9^m 47^s.581 \pm .011$. The difference obtained in 1883 by Professor Rogers and myself was $9^m 47^s.550 \pm .019$. Combining these two results we obtain $9^m 47^s.572$ as the difference of longitude between Montreal and Cambridge.

The longitude of Montreal, as determined by cable in 1892, was $4^h 54^m 18^s.670$. Hence the resulting longitude of Cambridge (Harvard College Observatory) is $4^h 44^m 31^s.108$. The formerly accepted longitude, depending upon the U.S. cable determinations of 1866, '70 and '72, was $4^h 44^m 30^s.993$.