

E. D. Ashe, Director of the Quebec observatory, respecting the operations for determining the longitude of Fredericton by telegraphic connection with Harvard College Observatory, and giving the mode of observing, transmitting and receiving signals, instrument used, etc., but no mention is made of the results of these determinations.

Jack sends Ashe the longitude of Fredericton as: $4^{\text{h}} 26^{\text{m}} 33^{\text{s}}.43$. and their mean difference, Nov. 14, 15, 16, 1855, Quebec-Fredericton $0^{\text{h}} 18^{\text{m}} 15^{\text{s}}.14$.

Hence longitude of Quebec (Mann's Bastion, Citadel) $4^{\text{h}} 44^{\text{m}} 48^{\text{s}}.57$.

This value is $^{\circ}.45$ less than that obtained in 1857 directly between Quebec and Harvard whose difference was found to be $18^{\circ}.32$,

Harvard being taken as $4^{\text{h}} 44^{\text{m}} 30^{\text{s}}.70$.

In a letter, Aug. 23, 1855, by Lieut. Ashe to the officers of H. M. Ordnance, he says: ". and that Professor Jack has also determined the longitude of Fredericton by galvanic signals," but no dates are given when this was done. From what precedes, it would appear that the observations for longitude of Fredericton with Harvard were made in 1855.

It was considered interesting to make a comparison between the original longitude determination of Fredericton and that made by the Dominion Observatory in 1908 by the most modern instruments (transit micrometer) and methods. It is obvious that we must not use the above value of $4^{\text{h}} 26^{\text{m}} 33^{\text{s}}.43$, for that involves the longitude of Harvard (before cable determination), but, instead the difference Fredericton-Harvard, and add (subtract) this to the modern value of Harvard.

In a letter, October 19, 1857, by Professor W. C. Bond to Lieut. Ashe the longitude of Cambridge (Harvard) is given as $4^{\text{h}} 44^{\text{m}} 30^{\text{s}}.70$; now, assuming that this is the value used for Fredericton two years before, we have for the difference Fredericton-Harvard $0^{\text{h}} 17^{\text{m}} 57^{\text{s}}.27$.

The present accepted longitude of Harvard is $4^{\text{h}} 44^{\text{m}} 31^{\text{s}}.05$, hence the longitude of Fredericton, based on the 1855 difference, would be $4^{\text{h}} 26^{\text{m}} 33^{\text{s}}.78$. This is for the observatory at King's College.