PAPER X.-LATITUDE OF THE OBSERVATORY.

BY LIEUTENANT E. D. ASHE, B. N., F. R. A. S.

[Read before the Society, 5th May, 1864.]

' THE many advantages and accuracy of results in obtaining the Latitude, by placing a transit instrument in the prime vertical, induced me to prefer that method to any other.

A small transit instrument of 24 inches focal length, by Simms, was placed nearly in the prime vertical; the place of observation was immediately to the northward of the transit room, in a temporary wooden building crected for the purpose.

The assistant, Mr. Heatley, was the observer and computer.

A mean-time chronometer; that beat half-seconds, was placed upon a table near the transit instrument, and the beats could be distinctly heard when taking the observations, with but few exceptions, when the noise common to a barrack-square interfered.

The level was always applied, and the chronometer compared, both before and after each observation.

Observations were taken with the instrument in reversed positions, and the same star taken generally east and west, and the star was also taken as it passed the meridian by the transit instrument of the Observatory; and always a sufficient number of clock-stars were taken to insure the angle Z, being, known to a tenth of a second. When this formula was used.

$$Tan \Phi = \frac{\tan \delta + \cos Z}{\cos \frac{1}{2} \text{ time elapsed.}}$$

Where O=Latitude, and 8 declination of star.

160 LATITUDE OF THE QUEBEC OBSERVATORY.

By reversing the instrument any error of collimation, or inequality of pivots, will produce exactly a contrary effect on the Latitude; and it is presumed that the Latitude of the Observatory is determined with as much accuracy as the declination of the stars are known.

The stars selected are taken from the B. A. C., 1850, Nat. Alk. and Radeliff Cat., and out of 15 stars with lamp N., and 10 stars taken with lamp South, there is a range of only 1". 3 in the means.

Star's Nane.	Position of Lamp.	Date of Observation.	。,"	Mean of Each Set.
	N	2-1 August 1969		o ` "
i Herculis	N N	3rd August, 1863 4th do do		• •
Do	N	6th do do		46 48 21 5
e Cygni	N	21st do do		l?
Do.	S	28th do do		
Do	8	31st do do	4648212	
Do	N	20th October. do		46 48 21 0
Do	N	26th do do	4648218	
. Do.	N	29th do do		
8 Cygni	N	26th August, do		IS
Do	8	27th do do		
0 ² Do	8	31st do do		
° Cygni	8	27th do do	46	R
Do	8	28th do du	4648180	
Do	8·	31st do do		
Do	N	20th October. do		46 48 20 2
Do	N	26th do do		1 40 40 20 2
Do	N	27th do do	4648221	
Do	N	29th do do	4648196	} {
16 Lyrac	N	10th Sept'r. do	4648220	R
Do	N	16th đo do	4648230	
Do	8	28th do do	464821]]
Do	S.	29th do do	4648205	846 48 21 2
Do	N	30th do do	664820 5	
De	s	1st Novemer., do	4648200]}
Lat of Oservt'y.				
Mean				46 48 20 5

RESULT OF OBSERVATIONS FOR THE DETERMINATION OF THE LATITUDE OF THE QUEBEC OBSERVATORY.

Digitized by Google

TRANSACTIONS

Literary and Mistorical Society

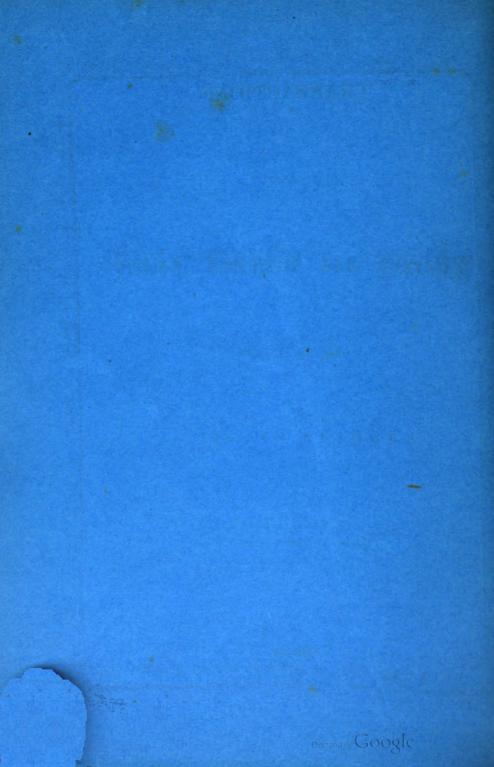
OF THE

OF QUEBEC.

SESSION OF 1864-5.

NEW SERIES.-PART 3.

Quebec : PRINTED BY HUNTER, ROSE & CO. 1865.



TRANSACTIONS

OF THE

Titerary and Mistorical Society

OF QUEBEC.

SESSION OF 1864-5.

NEW SERIES.—PART 3.

Quebet: PRINTED BY HUNTER, ROSE & CO. 1865.



Digitized by Google

•

٠

CONTENTS.

PAPER I.—By JOHN LANGTON, M.A., President,—Opening Address	age 1
" II.—By WM. COUPER,—List of Coleoptera taken at Quebec	-
and other parts of Lower Canada	25
" IIIBy HERBERT WILLIAMS, M.E.,-Copper Mining in Can- ada East	37
• IVBy Professor PAUL C. SINDING,-The Ancient Scandina- vians : their Maritime Expeditions, their Discoveries,	
and their Religion	51
" VBy Professor PAUL C. SINDING,-The Sleswick-Holstein	
Question	69
VI.—By E. A. MEREDITH, LL.D.,—Short School Time, with Military or Naval Drill, in connection especially with the subject of an Efficient Militia System -	84
"VII.—By Rev. JAMES DOUGLAS,—On Two Mummies from	
	108
" VIIIBy E. T. FLETCHER,-The Lost Island of Atlantis	113
" IXBy E. T. FLETCHER,-On the Secular Change of Mag-	137
	191
"XBy JOHN LANGTON, M.A., President,-On Some Early	
Records of the Magnetic Declination in North	
America	145

1



.

.