

In these latitudes, when the latter is not known with accuracy, then the Star must be referred to when at its *greatest elongation*, at which time its azimuth changes so slowly that an error of a few minutes will not be important, and the angle given in the Table must be added to, or subtracted from, the reading, as the case may be. For any other day, or any other latitude than those given, a value can be interpolated. By means of the North Polar distance of the Star, which is added, the same opportunity may be employed for determining the latitude very nearly.

DATE.	North. Polar Distance.	Mean time of Meridian Pass.		Mean time of Greatest Elongation. Latitude, 44°		Azimuth of Greatest Elongation.		
		Time.	Up' or Low'r	Time.	East or West.	43°	44°	45°
						h m. s.	h m. s.	h m. s.
January	-1	1 28.33	6 21.37 p. m.	U	0 19.48 a. m.	W	2 1.05	2 4.10
"	-11	1 28.32	5 43.10 p. m.	U	11 36.23 p. m.	W	2 1.04	2 4.08
"	-21	1 28.33	5 03.42 p. m.	U	10 56.56 p. m.	W	2 1.04	2 4.08
February	-1	1 28.33	4 22.16 a. m.	L	10 13.33 p. m.	W	2 1.05	2 4.10
"	-11	1 28.35	3 42.49 a. m.	L	9 34.05 p. m.	W	2 1.03	2 4.13
"	-21	1 28.37	3 03.23 a. m.	L	8 54.39 p. m.	W	2 1.11	2 4.15
March	-1	1 28.39	2 27.55 a. m.	L	8 20.19 p. m.	W	2 1.14	2 4.18
"	-11	1 28.41	1 48.31 a. m.	L	7 40.55 p. m.	W	2 1.16	2 4.21
"	-21	1 28.44	1 09.09 a. m.	L	7 01.33 p. m.	W	2 1.20	2 4.25
April	-1	1 28.48	0 25.53 a. m.	L	6 18.05 p. m.	W	2 1.26	2 4.31
"	-11	1 28.51	11 42.34 p. m.	L	5 50.26 a. m.	E	2 1.30	2 4.33
"	-21	1 28.54	11 03.21 p. m.	L	5 11.09 a. m.	E	2 1.34	2 4.39
May	-1	1 28.57	10 24.05 p. m.	L	4 31.53 a. m.	E	2 1.38	2 4.43
"	-11	1 28.59	9 44.51 p. m.	L	3 52.30 a. m.	E	2 1.41	2 4.46
"	-21	1 29.01	9 05.37 p. m.	L	3 13.11 a. m.	E	2 1.44	2 4.49
June	-1	1 29.03	8 26.30 p. m.	L	2 30.18 a. m.	E	2 1.46	2 4.52
"	-11	1 29.03	7 43.18 p. m.	L	1 51.06 a. m.	E	2 1.46	2 4.52
"	-21	1 29.04	7 04.07 p. m.	L	1 11.56 a. m.	E	2 1.48	2 4.53
July	-1	1 29.04	6 26.54 a. m.	U	12 25.21 p. m.	E	2 1.48	2 4.53
"	-11	1 29.03	5 47.45 a. m.	U	11 46.39 p. m.	E	2 1.46	2 4.52
"	-21	1 29.02	5 08.39 a. m.	U	11 07.20 p. m.	E	2 1.45	2 4.50
August	-1	1 29.00	4 33.35 a. m.	U	10 27.31 p. m.	E	2 1.42	2 4.48
"	-11	1 28.97	3 56.14 a. m.	U	9 48.24 p. m.	E	2 1.39	2 4.43
"	-21	1 28.93	3 07.01 a. m.	U	9 09.56 p. m.	E	2 1.36	2 4.41
September	-1	1 28.91	2 23.42 a. m.	U	8 25.57 p. m.	E	2 1.30	2 4.35
"	-11	1 28.89	1 44.37 a. m.	U	7 46.42 p. m.	E	2 1.26	2 4.31
"	-21	1 28.84	1 01.26 a. m.	U	7 07.27 p. m.	E	2 1.20	2 4.25
October	-1	1 28.80	0 24.05 a. m.	U	6 28.56 p. m.	E	2 1.15	2 4.19
"	-11	1 28.77	11 42.51 p. m.	U	5 49.38 p. m.	E	2 1.11	2 4.15
"	-21	1 28.73	11 03.31 p. m.	U	5 10.18 p. m.	E	2 1.05	2 4.10
November	-1	1 28.70	10 20.14 p. m.	U	4 17.23 a. m.	W	2 1.00	2 4.04
"	-11	1 28.65	9 40.52 p. m.	U	3 37.51 a. m.	W	2 0.54	2 3.59
"	-21	1 28.63	9 01.20 p. m.	U	2 58.20 a. m.	W	2 0.50	2 3.54
December	-1	1 28.10	8 22.04 p. m.	U	2 19.14 a. m.	W	2 0.46	2 3.50
"	-11	1 28.16	7 42.38 p. m.	U	1 39.55 a. m.	W	2 0.42	2 3.46
"	-21	1 28.15	7 03.12 p. m.	U	1 00.22 a. m.	W	2 0.39	2 3.43

Twilight begins in the morning, when the Sun is about 18 degrees below the horizon, and ends in the evening, when it is eighteen degrees beyond it. The mean time for beginning and ending for every tenth day will be found at page 17, together with the time of the Sun's rising and setting at Quebec, Fredericton and Halifax.

Semi-Diurnal Arcs.—This table is useful for determining the times of *rising* and *setting* of the heavenly bodies. Enter the table with the declination of the object; under the proper column for the locality will be found half the time which the object remains above the horizon, which is to be subtracted from the time of its meridian passage. If the time of rising is required, or added, for the time of setting.

Example.—Required the time of rising for the Planet Jupiter, at Montreal, June 10th, 1852, Declination of Jupiter 15° deg. S.

Corresponding to which we find the semi-diurnal arc - - - - - 4 57
Jupiter on meridian - - - - - 9 0 P. M.

Jupiter rises - - - - - 4 6 P. M.

METEOROLOGICAL.—Having in previous almanacs given comparisons of Canadian climates with that of the Southern portion of Great Britain, represented by Greenwich, we this year select for the purpose *Makerstown*, in Roxburghshire, North Britain, in latitude 55° 35', the Observatory of Sir Thomas Macdougall Brisbane. The particulars are derived from eight years observations 1843-9, except the quantity of rain, which has been recorded for 18 years.

The observations at Fredericton, New Brunswick, were made by Lieut. Col. Page, R. E., to whom we are indebted for them. They embrace about two-and-a-half years, from September 1817 to February 1820, but include a period of six months in the summer of 1818, when the observations were made at St. John's, N. B. The thermometer was recorded daily, at 5, 6, or 7, A. M., according to the season of the year; at noon, 5 P. M., and 10 P. M.; the mean temperatures here given are reduced to the true mean of the 24th, the largest correction being however only 0° 7'. The data for Quebec are also of old date, being derived from the observations of the Rev. Dr. Sparks, from 1809 to 1818, as reduced by Mr. Justice McCord. (Hall's British American Journal, vol. 1.) Those values which are marked by an asterisk are from another source and refer to the years 1822 to 1828.

The observations at Hamilton, C. W., are those of Dr. Craigie, (ib. vols. 3, 4, and 5) and include five years, from 1846 to 1850. Although the mean temperatures are derived from observations at 0 A. M. and 9 P. M., which give a value somewhat below the true mean; they are invariably considerably higher than those of the same months at Toronto. The difference being much more than can be due to the difference in the geographical position of the two localities, may be attributed, probably, to some special circumstance in the position of the instruments.

Her Majesty's Magnetical Observatory, Toronto.—DIRECTOR.—Captain J. H. Lefroy, R. A., F. R. S. ESTABLISHMENT.—Four Non-Commissioned Officers of the Royal Artillery, as Assistants.

For Twilight at Toronto, Montreal, Quebec and Halifax; also Table of Semi-Diurnal Arcs, see page 17.