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ROYAL OBSERVATORY, GREENWICH.

E R R O R S

OF THE

M O O N ' S T A B U L A R P L A C E S

IN

L O N G I T U D E

AND

E C L I P T I C N O R T H P O L A R D I S T A N C E ,

AS DEDUCED FROM THE TABLES

OF

B U R C K H A R D T A N D H A N S E N ,

COMPARED WITH THE RESULTS OF OBSERVATIONS MADE AT THE ROYAL OBSERVATORY

FROM **1847** TO **1858.**

4 N 2

THE Right Ascensions and North Polar Distances of the Moon's Center as deduced from Meridional observations, which have been used as bases for the following comparisons, from 1847 to 1851, are not those which appear in the volumes of *Greenwich Observations* for the several years, but are those contained in the "*Reduction of the Observations of the Moon from 1831 to 1851*," Section I., "Corrected R.A. and N.P.D. of Moon's Center, from Meridional Observations." Occasionally there is a discordance of a single unit in the last effective figure, arising from a repetition of the process of addition or subtraction with a greater number of decimals.

The Right Ascensions and North Polar Distances given by Burckhardt's Tables (as used in the Nautical Almanac), with which those above-mentioned have been compared, are those which are given in the volumes of *Greenwich Observations* for the several years, Section "Horizontal and Vertical Diameters and Right Ascensions and North Polar Distances of the Sun, Moon, and Planets, &c.," Table "Right Ascensions and North Polar Distances of the Center of the Moon," columns "Seconds of Tabular R.A.," "Seconds of Tabular N.P.D."

By comparing these Tabular Places with those above mentioned, new values of "Apparent Error of Tables in R.A.," "Apparent Error of Tables in N.P.D." have been formed. These have been converted into Errors of Longitude and Latitude by use of the factors P, Q, R, S; and these Errors of Longitude and Latitude are the numbers in the Sections "Meridional Observations," column "Longitude, B—O," and "E.N.P.D., B—O" (where B—O denotes "Burckhardt—Observation"), from 1847 to 1851.

For the years 1852 to 1855, the numbers given in the *Greenwich Observations*, 1856, "Addendum No. 1 to the Introduction," in the columns, "For Observations with the Transit-Circle, Errors in Longitude and E.N.P.D.," are used without change. And for the years 1856, 1857, and 1858, the numbers in the *Greenwich Observations*, Section "Horizontal and Vertical Diameters and Right Ascensions and North Polar Distances of the Sun, Moon, and Planets," Table "Errors of the Moon's Tabular Place in Longitude and Ecliptic North Polar Distance," columns "Errors from Observation with the Transit Circle, in Longitude, and in E.N.P.D." are adopted.

Thus are formed all the numbers B—O for Meridional Observations.

For Altazimuth Observations; from 1847 to 1851, the numbers in the "*Reduction of the Observations of the Moon from 1831 to 1851*," Section III., "Comparison of Altazimuth Observations with Nautical Almanac," columns "Corrected Error of Nautical Almanac Longitude and E.N.P.D.," are adopted without alteration for B—O. From 1852 to 1855, the numbers are taken from the *Greenwich Observations*, 1856, "Addendum No. 1 to the Introduction," columns "For Observations with the Altazimuth, Errors in Longitude and E.N.P.D." For 1856, 1857, and 1858, the numbers in the *Greenwich Observations*, Section "Horizontal and Vertical Diameters, &c.," Table "Errors of the Moon's Tabular Place, &c.," columns "Errors from Observation with Altazimuth, in Longitude, and in E.N.P.D." are used.

Thus are formed all the numbers B—O for Altazimuth Observations.

By the use of these numbers, in combination with the following, the numbers H—O are formed.

By the kindness of J. R. Hind, Esq., Superintendent of the Nautical Almanac, places of the Moon in Longitude and Latitude were computed by the use of Hansen's "*Tables de la Lune*," for the midnight of every day on which the Moon had been observed with either instrument at the Royal Observatory, from 1847 to 1858. The comparison of these Longitudes and Latitudes with those of the Nautical Almanac, gave at once the excess of Hansen's places over Burckhardt's, or H—B, for midnight of the day of observation; and this, it is conceived, may be adopted without sensible error for the time of observation, never distant more than a few hours. The algebraical addition of this H—B to B—O, found as is described above, gave the number H—O.

Thus are formed all the numbers H—O, both for Meridional and for Altazimuth Observations.

ERRORS OF THE MOON'S TABULAR PLACES IN LONGITUDE AND ECLIPTIC NORTH POLAR DISTANCE, AS DEDUCED FROM
THE TABLES OF BURCKHARDT AND HANSEN.

1847. MERIDIONAL OBSERVATIONS.

Day.	Longitude.		E. N. P. D.		Day.	Longitude.		E. N. P. D.	
	B-O.	H-O.	B-O.	H-O.		B-O.	H-O.	B-O.	H-O.
January	"	"	"	"	July	"	"	"	"
1	+ 2.8	+ 0.6	+ 0.2	+ 0.7	4	+ 9.4	+ 1.9	+ 4.9	- 0.7
5	- 0.2	+ 0.7	- 4.9	- 0.4	5	+ 6.8	+ 2.5	+ 6.9	0.0
10	+ 6.8	+ 2.9	- 9.0	- 1.9	21	+ 3.3	- 1.6	- 3.5	+ 3.9
23	+ 4.8	- 2.1	+ 4.3	- 1.2	22	+ 4.5	- 1.4	- 8.5	- 0.6
24	+ 3.5	- 3.7	+ 2.9	- 2.5	23	+ 7.5	+ 0.4	- 4.0	+ 4.1
28	- 2.1	+ 0.6	+ 0.1	+ 1.3	25	+ 14.7	+ 4.2	- 5.6	+ 1.9
29	- 2.2	+ 1.6	- 1.6	+ 1.2	26	+ 12.0	- 0.3	- 3.4	+ 2.9
31	- 0.3	+ 1.5	- 3.7	+ 0.6	27	+ 14.1	+ 0.4	+ 2.5	+ 7.6
February					29	+ 17.4	+ 3.1	- 7.0	- 5.1
4	+ 4.4	+ 3.7	- 5.3	- 1.1	30	(+ 9.0)	(- 3.3)	(+ 14.7)	(+ 14.8)
6	+ 4.3	+ 2.5	- 7.9	- 3.1	31	+ 12.6	+ 3.3	+ 1.4	+ 0.1
7	+ 5.1	+ 2.2	- 6.1	- 0.9	August				
8	+ 4.5	+ 0.9	- 4.4	+ 1.1	1	+ 5.0	- 1.0	+ 3.9	+ 1.0
19	+ 10.2	- 1.0	+ 2.7	- 2.4	2	(+ 4.5)	(- 0.2)	(+ 15.7)	(+ 11.8)
24	+ 5.4	+ 0.4	- 0.2	+ 2.8	3	+ 5.4	+ 0.7	+ 4.6	+ 0.7
25	+ 3.2	+ 2.0	- 2.0	+ 3.1	20	+ 7.7	- 3.8	- 2.3	+ 0.9
26	- 1.6	+ 0.4	- 4.6	+ 2.1	21	+ 9.1	- 3.1	- 1.7	+ 1.5
28	- 2.6	+ 2.1	- 5.3	+ 2.3	23	+ 10.0	- 1.5	- 1.9	+ 1.1
March					26	+ 17.3	+ 4.0	+ 4.4	+ 4.7
3	+ 6.2	+ 3.7	- 5.6	+ 1.0	27	+ 16.5	+ 4.1	+ 3.6	+ 2.6
7	+ 6.6	+ 2.2	- 6.9	- 1.0	29	+ 10.4	+ 3.2	+ 8.0	+ 4.7
9	+ 5.2	+ 2.4	- 5.6	- 0.5	31	+ 8.9	+ 2.2	+ 5.3	+ 2.1
10	- 1.4	- 2.3	- 8.6	- 4.2	September				
24	+ 5.1	- 3.0	- 1.0	+ 3.0	1	+ 8.2	+ 0.5	+ 2.6	+ 0.5
25	+ 9.5	+ 1.2	- 2.2	+ 4.4	3	+ 10.8	+ 3.8	- 2.0	- 0.3
26	+ 7.1	- 0.1	- 5.0	+ 3.2	18	+ 15.7	+ 3.6	+ 3.5	+ 2.7
27	+ 5.7	+ 0.7	- 7.5	+ 2.0	22	+ 5.2	- 0.8	+ 0.9	- 1.4
29	+ 4.5	+ 4.3	- 5.8	+ 3.6	23	+ 4.8	- 1.5	+ 2.9	- 0.1
30	- 0.3	- 0.4	- 9.4	- 0.4	24	+ 10.8	+ 3.3	+ 5.3	+ 1.2
April					26	+ 10.5	+ 1.7	+ 11.5	+ 6.4
8	+ 6.4	+ 3.2	- 6.4	- 3.6	27	+ 15.7	+ 6.6	+ 4.9	+ 0.3
22	+ 7.0	- 0.8	- 6.3	- 0.8	28	+ 13.6	+ 3.9	+ 5.1	+ 1.7
23	+ 12.1	+ 1.4	- 5.8	+ 1.7	October				
24	+ 12.6	+ 0.4	- 7.1	+ 1.8	18	+ 5.5	- 1.7	+ 2.0	+ 0.1
25	+ 13.7	+ 2.2	- 9.2	+ 0.3	19	+ 2.4	- 3.4	+ 1.6	- 0.6
27	+ 4.9	- 0.2	- 7.9	+ 1.0	20	+ 2.9	- 0.8	+ 2.1	- 0.9
28	+ 1.1	- 1.3	- 6.0	+ 1.9	21	+ 0.3	- 1.4	+ 5.4	+ 1.8
29	+ 3.9	+ 2.5	- 5.7	+ 1.1	22	- 0.3	- 2.1	+ 4.5	0.0
30	+ 4.7	+ 1.7	- 5.1	+ 0.7	24	+ 9.8	+ 2.8	+ 5.0	- 0.1
May					25	+ 14.4	+ 5.3	+ 2.8	- 1.2
4	+ 9.9	+ 1.0	+ 2.7	+ 3.9	26	+ 15.9	+ 6.2	+ 1.9	- 0.6
6	+ 13.6	+ 4.1	+ 0.6	- 0.2	29	+ 14.2	+ 7.2	- 3.7	- 0.5
21	+ 6.3	- 1.0	- 3.5	+ 2.8	30	+ 7.9	+ 1.5	- 4.9	- 0.1
22	+ 13.6	+ 3.8	- 8.5	- 0.5	November				
25	+ 8.3	+ 0.8	- 6.7	+ 3.3	1	+ 6.2	+ 1.0	- 11.8	- 4.8
26	+ 6.4	+ 2.2	- 8.9	+ 0.5	18	+ 5.2	0.0	+ 4.3	+ 1.3
27	+ 2.8	+ 0.9	- 7.9	+ 0.4	19	+ 2.5	- 1.2	+ 3.8	+ 0.1
28	+ 1.9	+ 0.1	- 7.0	- 0.2	23	+ 9.9	+ 2.4	- 0.4	- 2.0
29	+ 2.5	- 0.2	- 2.4	+ 2.5	24	+ 13.1	+ 5.2	- 0.8	- 1.1
30	+ 7.1	+ 2.6	- 2.9	+ 0.2	27	+ 6.0	+ 1.7	- 3.8	+ 0.7
31	+ 3.7	- 2.4	- 1.1	+ 0.3	28	+ 9.1	+ 5.1	- 6.6	- 0.9
June					30	+ 7.3	+ 3.1	- 11.9	- 4.1
1	+ 7.0	- 0.4	+ 2.0	+ 1.8	December				
2	+ 10.7	+ 1.9	+ 4.6	+ 3.2	1	+ 7.7	+ 3.2	- 11.3	- 2.4
6	+ 9.3	+ 2.8	+ 8.6	+ 1.0	13	+ 7.2	0.0	- 1.0	+ 0.1
19	+ 5.4	- 1.4	- 4.2	+ 1.8	14	+ 5.6	- 1.6	+ 1.7	+ 1.8
22	+ 5.8	+ 1.0	- 7.4	+ 1.9	16	+ 8.5	- 0.1	+ 4.0	+ 1.4
23	+ 1.9	- 1.6	- 7.5	+ 2.4	19	+ 4.6	- 3.3	- 1.4	- 4.4
27	+ 5.2	- 2.1	- 7.0	- 0.3	28	+ 3.6	+ 0.7	- 4.5	+ 1.1
					31	+ 3.2	+ 0.7	- 5.8	+ 0.4

ERRORS OF THE MOON'S TABULAR PLACES IN LONGITUDE AND ECLIPTIC NORTH POLAR DISTANCE, AS DEDUCED FROM THE TABLES OF BURCKHARDT AND HANSEN—continued.											
1847. ALTAZIMUTH OBSERVATIONS.											
Day.	Longitude.		E. N. P. D.		Day.	Longitude.		E. N. P. D.			
	B-O.	H-O.	B-O.	H-O.		B-O.	H-O.	B-O.	H-O.		
	"	"	"	"		"	"	"	"		
May	16	— 6.3	— 5.1	0.0	— 5.3	August	25	+ 12.8	+ 0.2	— 0.8	+ 0.6
	19	+ 6.2	+ 3.0	— 1.2	+ 0.7		26	+ 14.2	+ 0.9	— 4.6	— 4.3
	20	+ 6.6	+ 1.7	— 2.1	+ 2.0		27	+ 13.6	+ 1.2	— 1.1	— 2.1
	21	+ 7.8	+ 0.5	— 6.9	— 0.6		28	+ 13.8	+ 3.9	— 4.2	— 6.5
	22	+ 14.0	+ 4.2	— 12.0	— 3.9		29	+ 6.0	— 1.2	0.0	— 3.3
	23	+ 15.2	+ 4.4	— 11.9	— 2.6		31	+ 6.5	— 0.2	— 1.1	— 4.3
	24	+ 10.9	+ 0.8	— 15.1	— 5.0						
	25	+ 11.4	+ 3.9	— 10.6	— 0.6	September	1	+ 4.7	— 3.0	+ 4.0	+ 1.9
	26	+ 6.5	+ 2.3	— 8.6	+ 0.8		2	+ 4.2	— 3.8	— 4.1	— 4.6
	27	+ 1.8	— 0.1	— 8.9	— 0.6		3	+ 4.2	— 2.8	— 4.1	— 2.4
	28	+ 0.3	— 1.5	— 11.2	— 4.4		4	+ 1.0	— 4.3	— 6.8	— 3.3
	29	+ 2.4	— 0.3	— 3.7	+ 1.2		5	+ 1.2	— 3.3	— 3.9	+ 0.9
	30	+ 4.3	— 0.2	— 2.1	+ 1.0		6	+ 2.2	— 3.1	— 2.4	+ 3.1
	31	+ 6.3	+ 0.2	+ 0.3	+ 1.7		14	+ 15.0	+ 3.1	0.0	+ 0.5
							16	+ 6.7	— 4.4	— 2.0	— 2.5
June	1	+ 8.2	+ 0.8	+ 1.7	+ 1.5		18	+ 11.6	— 0.5	+ 1.0	+ 0.2
	2	+ 12.4	+ 3.6	+ 7.3	+ 5.9		20	+ 7.3	— 1.7	+ 0.9	— 0.3
	4	+ 16.7	+ 5.3	+ 11.4	+ 7.0		21	+ 6.1	— 1.0	— 4.5	— 6.1
	6	+ 4.7	— 1.8	+ 8.9	+ 1.3		22	+ 5.0	— 1.0	+ 2.2	— 0.1
	8	0.0	+ 5.0	+ 16.5	+ 7.3		23	+ 5.7	— 0.6	+ 0.1	— 2.9
	15	+ 14.6	+ 8.0	— 1.8	— 2.7		24	+ 12.3	+ 4.8	+ 4.8	+ 0.7
	17	+ 6.4	— 1.0	— 4.7	— 1.7		25	+ 12.0	+ 3.4	+ 0.9	— 4.0
	18	+ 6.0	— 0.9	— 3.9	+ 0.7		26	+ 14.0	+ 5.2	— 1.1	— 6.2
	19	+ 3.2	— 3.6	— 7.8	— 1.8		27	+ 16.8	+ 7.7	+ 3.1	— 1.5
	20	+ 6.9	+ 0.4	— 10.6	— 3.3		28	+ 18.4	+ 8.7	— 0.1	— 3.5
	21	+ 6.5	+ 0.6	— 11.5	— 3.0		29	+ 13.1	+ 3.3	+ 3.7	+ 1.8
	22	+ 9.1	+ 4.3	— 10.1	— 0.8						
	23	+ 0.9	— 2.6	— 9.8	+ 0.1	October	2	+ 11.1	+ 4.2	— 11.5	— 7.6
	24	+ 9.0	+ 6.0	— 6.2	+ 3.6		3	+ 4.7	— 0.2	— 4.7	+ 0.4
	25	+ 4.0	+ 0.5	— 8.7	+ 0.7		5	+ 3.4	— 0.3	— 6.0	— 0.1
	26	+ 7.6	+ 2.5	— 11.1	— 3.0		6	+ 7.2	+ 2.2	— 5.4	+ 0.4
	27	+ 5.2	— 2.1	— 8.5	— 1.8		13	+ 22.1	+ 6.0	+ 1.5	+ 0.4
	28	+ 10.4	+ 1.3	— 4.6	+ 0.3		17	+ 1.9	— 5.5	— 0.4	— 2.0
	30	+ 22.4	+ 11.0	— 0.7	+ 0.6		18	+ 7.9	+ 0.7	+ 1.4	— 0.5
							19	+ 3.2	— 2.6	+ 0.7	— 1.5
July	4	+ 12.6	+ 5.1	+ 7.1	+ 1.5		20	+ 1.5	— 2.2	+ 1.1	— 1.9
	5	+ 6.9	+ 2.6	+ 9.1	+ 2.2		21	+ 2.6	+ 0.9	+ 3.5	— 0.1
	7	+ 7.2	+ 7.2	+ 8.0	+ 0.8		22	+ 2.2	+ 0.4	+ 3.3	— 1.2
	8	+ 3.9	+ 4.6	+ 7.7	+ 1.4		23	+ 6.5	+ 2.4	+ 6.7	+ 1.7
	18	+ 10.4	+ 4.3	— 3.8	+ 0.7		24	+ 8.2	+ 1.2	+ 2.3	— 2.8
	21	+ 3.3	— 1.6	— 8.1	— 0.7		25	+ 12.6	+ 3.5	+ 1.6	— 2.4
	22	+ 6.4	+ 0.5	— 4.8	+ 3.1		26	+ 13.1	+ 3.4	— 4.9	— 7.4
	23	+ 3.8	— 3.3	— 6.1	+ 2.0		28	+ 13.6	+ 5.7	— 1.5	— 0.3
	25	+ 10.2	— 0.3	— 7.8	— 0.3		29	+ 14.4	+ 7.4	— 5.7	— 2.5
	26	+ 14.2	+ 1.9	— 5.1	+ 1.2		30	+ 12.0	+ 5.6	— 5.4	— 0.6
	27	+ 11.2	— 2.5	— 5.1	0.0		31	+ 8.2	+ 2.5	— 3.5	+ 2.5
	28	+ 16.8	+ 2.2	+ 0.3	+ 3.9						
	29	+ 15.4	+ 1.1	+ 0.4	+ 2.3	November	1	+ 7.2	+ 2.0	— 11.9	— 4.9
	30	+ 16.5	+ 4.2	+ 4.2	+ 4.3		10	+ 24.8	+ 3.7	— 2.6	— 2.6
	31	+ 10.6	+ 1.3	+ 2.7	+ 1.4		15	+ 7.6	+ 1.6	+ 1.9	+ 1.9
							16	+ 5.9	— 1.1	+ 4.2	+ 3.2
August	1	+ 8.6	+ 2.6	+ 3.4	+ 0.5		17	+ 6.2	— 0.6	+ 1.1	— 0.9
	2	+ 4.4	— 0.3	+ 7.4	+ 3.5		18	+ 6.0	+ 0.8	— 1.0	— 4.0
	3	+ 6.1	+ 1.4	+ 5.0	+ 1.1		19	+ 1.2	— 2.5	+ 5.0	+ 1.3
	6	+ 4.6	+ 1.6	+ 0.6	— 0.2		21	+ 3.7	— 1.6	+ 5.9	+ 1.9
	14	+ 15.9	+ 2.2	— 3.2	+ 0.2		22	+ 5.1	— 1.5	— 3.3	+ 0.3
	20	+ 5.0	— 6.5	— 1.8	+ 1.4		23	+ 4.3	— 3.2	— 4.3	— 5.9
	21	+ 10.4	— 1.8	— 3.5	— 0.3		24	— 0.8	— 8.7	— 1.5	— 1.8
	23	+ 9.3	— 2.2	+ 0.9	+ 3.9		27	+ 8.0	+ 3.7	— 4.5	0.0

ERRORS OF THE MOON'S TABULAR PLACES IN LONGITUDE AND ECLIPTIC NORTH POLAR DISTANCE, AS DEDUCED FROM
THE TABLES OF BURCKHARDT AND HANSEN—*continued*.

1847. ALTAZIMUTH OBSERVATIONS—*concluded*.

Day.	Longitude.		E. N. P. D.		Day.	Longitude.		E. N. P. D.	
	B-O.	H-O.	B-O.	H-O.		B-O.	H-O.	B-O.	H-O.
	"	"	"	"		"	"	"	"
November 28	+ 4.7	+ 0.7	- 7.0	- 1.3	December 13	+ 9.0	+ 1.8	+ 1.5	+ 2.6
29	+ 6.3	+ 2.2	- 1.5	+ 5.5	14	+ 8.6	+ 1.4	+ 4.4	+ 4.5
30	+ 3.7	- 0.5	- 9.7	- 1.9	16	+ 6.5	- 2.1	+ 3.4	+ 0.8
December 1	+ 8.8	+ 4.3	- 4.7	+ 4.2	18	+ 6.1	- 2.1	+ 7.3	+ 3.8
3	+ 1.6	- 1.2	- 10.6	- 3.1	19	+ 1.8	- 6.1	- 1.8	- 4.8
11	+ 15.6	+ 3.2	+ 2.3	+ 4.0	23	- 3.2	- 8.9	- 1.1	- 0.4
12	+ 13.1	+ 4.2	+ 2.9	+ 4.4	27	0.0	- 3.5	- 1.9	+ 3.0
					28	- 1.0	- 3.9	- 0.7	+ 4.9

1848. MERIDIONAL OBSERVATIONS.

January 12	+ 6.1	- 2.8	+ 3.3	+ 0.6	June 7	- 0.4	- 7.0	- 3.5	0.0
15	+ 8.5	- 3.3	+ 4.5	+ 1.6	11	+ 7.1	- 0.9	+ 1.8	+ 8.8
16	+ 7.4	- 4.0	+ 0.8	- 0.7	13	+ 4.5	+ 0.8	- 0.6	+ 4.0
26	+ 2.4	+ 0.2	- 5.2	- 0.9	15	- 0.1	- 1.0	+ 1.1	+ 3.1
February 12	+ 4.7	- 8.1	+ 1.5	- 0.8	21	+ 13.7	+ 2.1	+ 5.7	+ 1.8
14	+ 8.3	- 3.3	+ 1.1	+ 3.4	July 5	+ 9.1	- 2.6	+ 1.2	+ 4.0
15	+ 7.2	- 0.8	- 2.7	+ 1.2	6	+ 8.3	- 0.6	- 1.9	+ 1.3
16	+ 3.4	- 1.2	+ 2.8	+ 7.9	11	+ 4.0	- 1.7	- 1.4	+ 1.1
17	+ 2.6	0.0	- 3.7	+ 1.7	12	+ 6.0	+ 1.5	- 0.1	+ 1.7
18	+ 1.8	- 0.9	- 4.4	+ 1.2	13	- 0.3	- 4.6	+ 0.6	+ 2.0
20	+ 2.2	- 2.1	- 5.9	- 0.7	15	+ 4.6	- 1.3	+ 0.6	+ 1.6
22	+ 3.4	+ 0.7	- 5.9	- 1.7	16	+ 11.5	+ 4.0	- 2.5	- 1.5
27	+ 0.8	- 1.4	- 2.7	+ 0.3	17	+ 11.2	+ 2.7	+ 4.2	+ 4.6
28	- 0.3	- 0.8	+ 1.8	+ 4.6	18	+ 13.9	+ 5.0	+ 2.5	+ 2.2
March 11	+ 7.7	- 1.8	+ 2.6	+ 1.8	20	+ 7.4	- 2.3	- 1.5	- 4.2
14	+ 4.7	- 4.3	- 4.6	+ 0.9	21	+ 12.9	+ 2.2	+ 5.3	+ 1.7
18	+ 3.8	+ 0.4	- 6.8	+ 0.8	August 4	+ 3.8	- 3.5	- 2.3	+ 0.4
19	+ 5.5	+ 1.6	- 9.3	- 2.4	5	+ 2.6	- 1.9	- 1.4	+ 0.3
21	+ 7.6	+ 2.7	- 5.4	- 0.4	10	+ 2.4	- 3.1	+ 0.5	- 0.3
April 10	- 0.6	- 4.1	- 0.9	+ 2.5	16	+ 12.2	+ 4.1	+ 3.2	+ 2.6
14	+ 6.2	- 0.8	- 7.0	+ 1.5	17	+ 13.2	+ 5.9	- 0.3	+ 1.9
17	+ 1.8	- 2.2	- 5.4	+ 0.7	18	+ 10.6	+ 3.4	- 0.4	- 2.4
18	+ 6.3	+ 1.5	- 6.0	- 1.3	19	+ 12.3	+ 4.0	+ 0.9	- 1.6
19	+ 4.1	- 1.8	- 2.5	+ 0.5	22	+ 12.5	+ 1.2	+ 0.4	+ 1.9
25	+ 7.7	+ 2.9	+ 3.9	+ 2.3	September 4	+ 0.4	- 2.1	+ 1.3	- 0.1
May 7	- 1.4	- 1.7	- 0.9	- 0.9	6	- 1.9	- 4.6	+ 5.4	+ 3.0
8	- 0.2	- 0.1	+ 0.4	+ 2.2	8	- 1.5	- 5.5	+ 9.2	+ 6.5
9	- 1.2	- 3.1	- 4.5	- 0.7	11	+ 3.9	- 1.7	+ 2.2	0.0
10	+ 3.2	- 2.0	- 3.5	+ 1.3	12	+ 8.5	+ 2.1	+ 5.3	+ 3.1
11	+ 7.3	- 0.5	- 7.1	+ 0.3	14	+ 12.0	+ 3.4	+ 4.1	+ 1.7
12	+ 9.3	+ 0.4	- 6.4	+ 1.8	15	+ 15.7	+ 6.5	+ 4.1	+ 1.9
13	+ 7.7	- 0.4	- 6.1	+ 2.3	16	+ 15.4	+ 5.8	+ 2.2	+ 0.4
14	+ 5.6	- 0.5	- 6.0	+ 1.7	17	+ 14.4	+ 4.6	+ 1.1	- 0.3
15	+ 5.3	+ 1.5	- 3.5	+ 2.8	18	+ 14.0	+ 3.7	- 0.4	- 0.2
16	+ 2.2	- 0.3	- 0.9	+ 3.8	19	+ 17.1	+ 6.2	- 2.1	- 0.5
18	+ 3.6	+ 0.3	+ 2.5	+ 3.5	20	+ 19.1	+ 8.0	- 8.1	- 4.9
20	+ 7.8	+ 1.4	+ 3.1	+ 1.4	October 3	+ 3.3	- 1.9	- 5.3	- 9.0
22	+ 9.3	+ 0.7	+ 5.0	+ 1.5	5	+ 4.3	+ 0.9	+ 8.3	+ 4.0
23	+ 12.3	+ 2.9	+ 4.3	+ 0.3	6	+ 7.0	+ 3.5	+ 3.5	- 0.8
24	+ 15.2	+ 5.4	+ 7.1	+ 2.1	8	+ 1.9	- 0.4	+ 6.5	+ 2.0
June 5	+ 7.5	+ 0.5	+ 3.4	+ 3.3	9	+ 0.1	- 1.1	+ 5.3	+ 0.8
6	+ 4.2	- 2.4	- 0.1	+ 1.5	10	+ 1.9	+ 0.9	+ 2.8	- 1.4
					11	+ 4.7	+ 1.9	+ 3.8	- 0.3

ERRORS OF THE MOON'S TABULAR PLACES IN LONGITUDE AND ECLIPTIC NORTH POLAR DISTANCE, AS DEDUCED FROM
THE TABLES OF BURCKHARDT AND HANSEN—*continued*.

1848. MERIDIONAL OBSERVATIONS—*concluded*.

Day.	Longitude.		E. N. P. D.		Day.	Longitude.		E. N. P. D.	
	B-O.	H-O.	B-O.	H-O.		B-O.	H-O.	B-O.	H-O.
	"	"	"	"		"	"	"	"
October 12	+ 12.0	+ 5.8	+ 5.4	+ 1.7	December 1	+ 6.6	- 5.1	- 0.2	- 0.6
14	+ 10.7	- 0.3	+ 6.6	+ 5.3	2	+ 6.8	- 3.6	- 0.5	- 1.3
18	+ 15.1	+ 5.1	- 4.4	+ 1.0	3	+ 10.5	- 0.7	+ 1.0	- 1.0
					4	+ 12.3	- 1.0	+ 2.8	+ 0.2
November 4	+ 8.7	+ 0.6	- 1.1	- 5.5	5	+ 11.8	- 3.2	+ 1.1	- 2.3
5	+ 9.9	+ 1.3	+ 4.7	- 0.4	6	+ 12.2	- 3.0	+ 2.8	- 0.3
7	+ 4.8	- 1.6	+ 8.2	+ 2.7	9	+ 7.6	- 3.5	- 1.1	- 0.5
9	+ 6.9	+ 0.4	+ 3.5	- 0.3	10	+ 9.6	- 0.2	- 2.4	- 0.9
10	+ 4.3	- 3.7	- 0.1	- 2.5	11	+ 6.1	- 2.1	- 2.0	+ 0.8
12	+ 8.8	+ 0.2	- 2.4	- 1.6	12	+ 4.5	- 0.8	- 4.9	- 2.1
14	+ 10.0	+ 4.7	- 4.9	- 0.4	13	+ 1.8	- 1.4	- 8.0	- 3.5
15	+ 6.9	+ 2.0	- 7.1	- 0.9	17	+ 9.9	+ 6.5	+ 0.2	+ 7.9
17	+ 11.6	+ 5.8	- 10.4	- 0.7	20	+ 6.3	+ 2.6	- 2.4	+ 2.8
18	+ 7.8	+ 2.6	- 13.4	- 2.6	21	+ 7.1	+ 4.4	- 5.4	- 1.8
20	+ 7.3	+ 4.4	- 7.4	+ 3.0					

1848. ALTAZIMUTH OBSERVATIONS.

January 3	+ 7.7	+ 2.8	- 5.3	- 0.5	March 21	+ 5.2	+ 0.3	- 6.7	- 1.7
12	+ 8.5	- 0.4	+ 3.7	+ 1.0	24	+ 8.8	+ 4.7	- 2.6	- 0.2
13	+ 13.1	+ 3.7	+ 14.1	+ 10.9	27	+ 5.4	+ 3.3	- 4.2	- 2.8
15	+ 12.5	+ 0.7	+ 2.6	- 0.3	29	+ 0.9	+ 4.2	+ 9.4	+ 11.1
16	+ 11.8	+ 0.4	+ 1.9	+ 0.4	31	- 8.3	0.0	+ 0.5	+ 2.1
18	+ 12.3	+ 6.4	+ 0.2	+ 1.2					
20	+ 4.8	+ 0.9	- 1.6	+ 0.5	April 6	+ 11.1	- 1.1	- 1.6	- 4.4
23	+ 4.2	- 1.0	- 2.9	+ 0.3	10	+ 5.7	+ 2.2	- 2.5	+ 0.9
26	+ 0.4	- 1.8	- 3.8	+ 0.5	11	+ 6.4	+ 0.6	- 2.2	+ 3.2
31	+ 5.0	+ 1.0	- 3.6	+ 0.4	12	+ 7.1	- 0.3	- 9.7	- 2.7
					14	+ 12.6	+ 5.6	- 9.5	- 1.0
February 8	+ 18.8	+ 0.4	+ 10.1	+ 6.1	17	+ 13.8	+ 9.8	- 10.8	- 4.7
9	+ 17.2	+ 3.2	+ 8.0	+ 3.5	18	+ 13.6	+ 8.8	- 4.6	+ 0.1
11	+ 9.5	- 2.0	+ 4.0	+ 0.3	19	+ 8.2	+ 2.3	- 5.6	- 2.6
12	+ 9.5	- 3.3	+ 3.7	+ 1.4	25	+ 6.2	+ 1.4	+ 4.1	+ 2.5
14	+ 15.0	+ 3.4	+ 0.3	+ 2.6	26	+ 1.6	- 1.4	+ 3.5	+ 1.9
15	+ 10.9	+ 2.9	- 3.5	+ 0.4	28	- 0.6	+ 4.1	+ 6.3	+ 3.8
16	+ 5.0	+ 0.4	- 3.7	+ 1.4					
17	+ 5.6	+ 3.0	- 7.1	- 1.7	May 4	+ 6.6	+ 2.6	+ 6.5	+ 2.3
18	+ 3.9	+ 1.2	- 6.2	- 0.6	5	+ 4.5	- 0.4	+ 6.5	+ 3.5
19	+ 6.7	+ 2.9	- 8.0	- 2.5	6	+ 5.0	+ 2.3	+ 4.5	+ 2.8
20	+ 2.4	- 1.9	- 5.1	+ 0.1	7	+ 5.8	+ 5.5	+ 4.0	+ 4.0
22	+ 5.3	+ 2.6	- 7.1	- 2.9	8	+ 1.5	+ 1.6	- 2.1	- 0.3
23	+ 6.5	+ 4.7	- 1.4	+ 2.5	9	+ 6.9	+ 5.0	- 1.5	+ 2.3
24	+ 7.0	+ 5.2	- 7.4	+ 3.9	10	+ 7.2	+ 2.0	- 5.2	- 0.4
25	+ 10.5	+ 8.0	- 3.8	- 0.4	11	+ 6.7	- 1.1	- 8.2	- 0.8
27	+ 3.1	+ 0.9	+ 3.7	+ 6.7	12	+ 11.1	+ 2.2	- 8.3	- 0.1
28	+ 1.9	+ 1.4	- 1.8	+ 1.0	13	+ 9.6	+ 1.5	- 10.7	- 2.3
					14	+ 8.3	+ 2.2	- 11.1	- 3.4
March 7	+ 18.6	- 3.7	- 4.6	+ 0.5	15	+ 6.1	+ 2.3	- 7.8	- 1.5
9	+ 18.6	+ 4.3	+ 10.7	+ 7.0	16	+ 6.3	+ 3.8	- 6.4	- 1.7
10	+ 14.0	+ 3.3	+ 3.7	+ 1.2	17	+ 2.2	- 0.1	- 1.5	+ 1.5
11	+ 9.0	- 0.5	- 0.7	- 1.5	18	+ 6.7	+ 3.4	- 3.4	- 2.4
12	+ 7.8	- 2.0	+ 2.8	+ 4.0	19	+ 5.2	+ 0.3	+ 3.3	+ 2.9
14	+ 10.9	+ 1.9	- 7.7	- 2.2	20	+ 8.2	+ 1.8	+ 0.7	- 1.0
17	+ 5.4	+ 1.9	- 7.9	+ 0.1	22	+ 9.1	+ 0.5	+ 8.3	+ 4.8
18	+ 3.8	+ 0.4	- 7.9	- 0.3	23	+ 5.1	- 4.3	+ 5.2	+ 1.2
19	+ 7.7	+ 3.8	- 9.4	- 2.5	24	+ 15.8	+ 6.0	- 4.3	- 9.3
20	+ 5.0	+ 0.7	- 6.7	- 0.7	25	+ 8.6	0.0	+ 8.1	+ 2.2

ERRORS OF THE MOON'S TABULAR PLACES IN LONGITUDE AND ECLIPTIC NORTH POLAR DISTANCE, AS DEDUCED FROM
THE TABLES OF BURCKHARDT AND HANSEN—continued.

1848. ALTAZIMUTH OBSERVATIONS—continued.

Day.	Longitude.		E. N. P. D.		Day.	Longitude.		E. N. P. D.	
	B-O.	H-O.	B-O.	H-O.		B-O.	H-O.	B-O.	H-O.
	"	"	"	"		"	"	"	"
May 27	— 1'3	— 0'2	+ 6'7	— 0'7	September 6	+ 6'9	+ 4'2	+ 4'0	+ 1'6
28	— 7'7	+ 0'4	+ 9'9	+ 2'2	8	+ 6'8	+ 2'8	+ 6'1	+ 3'4
June 3	+ 6'7	+ 0'2	+ 6'4	+ 3'1	9	+ 9'7	+ 5'4	+ 1'2	— 1'5
4	+ 14'7	+ 7'3	+ 5'2	+ 3'4	11	+ 8'1	+ 2'5	+ 3'0	+ 0'8
5	+ 10'1	+ 3'1	+ 1'8	+ 1'7	12	+ 19'5	+ 13'1	+ 3'0	+ 0'8
6	+ 8'6	+ 2'0	0'0	+ 1'6	13	+ 8'6	+ 1'0	+ 7'7	+ 5'7
7	+ 8'2	+ 1'6	— 4'5	— 1'0	14	+ 11'5	+ 2'9	+ 3'1	+ 0'7
8	+ 12'2	+ 4'9	— 4'6	+ 0'5	15	+ 7'2	— 2'0	— 2'7	— 4'9
11	+ 9'3	+ 1'3	— 9'7	— 2'7	16	+ 12'2	+ 2'6	+ 0'8	— 1'0
12	+ 7'5	+ 1'4	— 4'9	+ 1'0	17	+ 12'8	+ 3'0	— 3'3	— 4'7
13	+ 6'7	+ 3'0	— 6'9	— 2'3	18	+ 14'3	+ 4'0	— 2'3	— 2'1
14	— 1'0	— 2'6	— 4'9	— 1'6	19	+ 15'0	+ 4'1	— 5'4	— 3'8
15	+ 4'8	+ 3'9	— 4'7	— 2'7	20	+ 9'9	— 1'2	— 5'4	— 2'2
16	+ 5'4	+ 3'6	— 1'9	— 0'9	21	+ 10'8	+ 0'2	— 9'8	— 4'8
20	+ 9'9	+ 0'1	+ 5'5	+ 2'9	22	+ 7'9	— 1'3	— 14'4	— 7'7
21	+ 13'8	+ 2'2	+ 5'5	+ 1'6	October 3	+ 5'8	+ 0'6	+ 8'0	+ 4'3
July 5	+ 17'1	+ 5'4	— 1'4	+ 1'4	5	+ 5'4	+ 2'0	+ 4'9	+ 0'6
6	+ 9'3	+ 0'4	— 0'5	+ 2'7	6	— 2'9	— 6'4	+ 4'3	0'0
7	+ 10'3	+ 3'4	— 2'2	+ 1'5	7	+ 3'4	0'0	— 0'8	— 5'3
8	+ 2'3	— 3'8	— 2'0	+ 2'0	8	+ 3'4	+ 1'1	+ 3'8	— 0'7
9	+ 2'4	— 3'9	— 3'3	+ 0'3	9	+ 0'2	— 1'0	+ 2'4	— 2'1
10	+ 12'5	+ 6'2	— 2'3	+ 0'5	10	+ 2'0	+ 1'0	+ 2'6	— 1'6
11	+ 3'3	— 2'4	— 3'3	— 0'8	11	+ 1'8	— 1'0	— 0'3	— 4'4
12	+ 3'8	— 0'7	— 3'0	— 1'2	12	+ 9'9	+ 3'7	+ 2'7	— 1'0
13	+ 5'6	+ 1'3	— 1'6	— 0'2	13	+ 12'4	+ 3'1	+ 0'7	— 1'8
14	+ 4'6	0'0	— 2'0	— 0'7	14	+ 15'2	+ 4'2	— 2'0	— 3'3
15	+ 11'5	+ 5'6	+ 0'2	+ 1'2	15	+ 13'6	+ 3'1	— 5'5	— 5'4
16	+ 8'3	+ 0'8	— 0'7	+ 0'3	16	+ 14'4	+ 4'4	— 4'3	— 2'5
17	+ 9'8	+ 1'3	+ 0'8	+ 1'2	18	+ 9'2	— 0'8	— 6'6	— 1'2
18	+ 11'2	+ 2'3	— 3'1	— 3'4	19	+ 15'1	+ 5'3	— 8'4	— 1'2
20	+ 11'7	+ 2'0	— 0'3	— 3'0	21	+ 5'5	— 0'2	— 11'6	— 2'6
21	+ 12'2	+ 1'5	+ 5'5	+ 1'9	22	— 1'0	— 4'8	— 9'6	— 0'4
22	+ 13'4	+ 2'1	— 2'2	— 6'4	30	+ 21'3	+ 2'1	+ 2'1	— 1'0
24	+ 10'8	+ 1'8	— 2'0	— 4'3	November 3	+ 11'0	+ 3'2	+ 4'9	+ 0'8
26	+ 7'8	+ 3'3	— 4'8	— 3'4	4	+ 8'3	+ 0'2	+ 5'8	+ 1'4
August 2	+ 18'1	+ 1'7	+ 2'2	+ 7'4	5	+ 11'9	+ 3'3	+ 6'8	+ 1'7
4	+ 9'6	+ 2'3	+ 1'5	+ 4'2	6	+ 11'1	+ 3'1	+ 7'5	+ 2'1
5	+ 6'4	+ 1'9	— 0'4	+ 1'3	7	+ 5'9	— 0'5	+ 7'6	+ 2'1
6	+ 3'3	— 0'1	+ 0'6	+ 1'4	8	+ 2'8	— 2'9	+ 4'6	— 0'2
7	+ 0'3	— 3'3	+ 0'7	+ 0'8	9	+ 8'2	+ 1'7	+ 4'8	+ 1'0
8	+ 0'6	— 3'9	+ 6'7	+ 6'2	10	+ 7'4	— 0'6	+ 0'8	— 1'6
9	+ 3'7	— 1'3	— 0'5	— 1'5	11	+ 10'6	+ 1'3	— 1'0	— 1'8
10	+ 7'1	+ 1'6	+ 4'1	+ 3'3	12	+ 14'8	+ 6'2	— 4'7	— 3'9
12	+ 5'6	— 2'5	+ 0'1	— 0'3	13	+ 10'3	+ 3'4	— 9'5	— 7'0
15	+ 12'3	— 2'7	+ 0'5	+ 0'1	14	+ 8'8	+ 3'5	— 8'8	— 4'3
16	+ 13'8	+ 5'7	+ 3'9	+ 3'3	15	+ 11'5	+ 6'6	— 9'9	— 3'7
17	+ 10'9	+ 3'6	+ 1'2	— 0'4	16	+ 14'0	+ 8'6	— 12'0	— 3'8
18	+ 10'0	+ 2'8	— 0'5	— 2'5	17	+ 12'1	+ 6'3	— 10'3	— 0'6
19	+ 11'1	+ 2'8	— 0'3	— 2'8	18	+ 10'5	+ 5'3	— 12'7	— 1'9
20	+ 12'3	+ 2'6	+ 1'5	— 0'3	20	+ 11'7	+ 8'8	— 14'6	— 4'2
21	+ 10'7	0'0	— 4'4	— 4'9	December 2	+ 8'9	— 1'5	+ 1'7	+ 0'9
22	+ 13'4	+ 2'1	— 9'4	— 7'9	3	+ 10'2	— 1'0	+ 3'4	+ 1'4
24	+ 11'0	+ 0'3	— 10'8	— 5'2	4	+ 14'2	+ 0'9	+ 2'8	+ 0'2
September 3	+ 9'5	+ 5'6	— 1'0	— 1'3	5	+ 12'7	— 2'3	+ 1'6	— 1'8
4	+ 4'7	+ 2'2	+ 2'8	+ 1'4	6	+ 19'3	+ 4'1	+ 5'4	+ 2'3
					8	+ 15'7	+ 3'5	— 2'5	— 3'3

GREENWICH OBSERVATIONS, 1859.

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ERRORS OF THE MOON'S TABULAR PLACES IN LONGITUDE AND ECLIPTIC NORTH POLAR DISTANCE, AS DEDUCED FROM
THE TABLES OF BURCKHARDT AND HANSEN—*continued*.

1848. ALTAZIMUTH OBSERVATIONS—*concluded*.

Day.	Longitude.		E. N. P. D.		Day.	Longitude.		E. N. P. D.	
	B-O.	H-O.	B-O.	H-O.		B-O.	H-O.	B-O.	H-O.
	"	"	"	"		"	"	"	"
December 9	+ 13.1	+ 2.0	- 2.9	- 2.3	December 17	+ 7.6	+ 4.2	- 10.4	- 2.7
10	+ 5.1	- 4.7	- 1.5	0.0	18	+ 13.2	+ 9.0	- 12.0	- 4.3
11	+ 6.8	- 1.4	- 3.2	- 0.4	20	+ 9.5	+ 5.8	- 7.6	- 2.4
12	+ 4.9	- 0.4	- 3.8	- 1.0	21	+ 5.6	+ 2.9	- 5.1	- 1.5
13	+ 2.2	- 1.0	- 3.7	+ 0.8	22	+ 9.2	+ 6.5	- 4.5	- 2.3
14	+ 4.6	+ 2.5	- 3.3	+ 2.3	23	+ 9.6	+ 5.6	- 2.0	- 0.6
16	+ 11.2	+ 8.4	- 7.7	0.0	28	+ 18.0	+ 1.7	+ 4.9	+ 6.5

1849. MERIDIONAL OBSERVATIONS.

January 2	+ 5.6	- 5.7	+ 0.9	+ 1.0	May 7	+ 4.1	- 1.1	- 0.3	- 0.7
6	+ 7.4	- 6.4	- 2.0	+ 0.5	26	+ 4.9	- 2.9	- 2.5	+ 1.4
8	+ 10.5	- 1.6	- 2.7	+ 1.6	27	- 1.1	- 5.9	- 2.7	+ 2.4
10	+ 12.7	+ 1.8	- 3.1	+ 1.5	29	- 0.7	- 4.6	- 7.8	- 0.4
14	+ 6.2	+ 0.6	- 3.4	+ 0.6	31	+ 2.9	- 2.2	- 6.3	+ 0.1
15	+ 8.8	+ 2.8	- 4.0	- 0.8					
17	+ 9.0	+ 2.6	- 1.6	- 0.4	June 1	+ 3.1	- 1.8	- 4.5	- 0.1
28	+ 2.8	- 4.2	- 4.6	- 4.6	2	+ 4.3	- 0.1	- 1.9	+ 0.8
31	+ 1.0	- 7.7	- 1.3	- 1.0	3	+ 5.1	+ 1.6	- 3.1	- 2.1
February 4	+ 8.4	- 5.7	- 4.0	+ 1.8	11	+ 7.2	+ 0.4	+ 7.7	+ 1.2
8	+ 11.4	- 0.5	- 7.9	- 1.5	13	+ 4.0	- 2.8	+ 15.9	+ 7.5
10	+ 13.3	+ 3.4	- 5.7	- 1.1	24	+ 9.3	- 4.1	- 5.8	- 1.4
11	+ 10.1	+ 1.2	- 3.3	+ 0.2	27	+ 3.2	- 3.0	- 0.7	+ 3.1
12	+ 6.6	- 1.5	- 1.1	+ 1.0					
13	+ 7.1	- 0.8	- 0.3	+ 0.6	July 4	+ 1.2	+ 1.6	+ 5.0	+ 1.6
16	(+ 3.3)	(- 1.5)	(+ 11.6)	(+ 9.5)	5	+ 3.0	+ 2.5	+ 5.1	+ 1.8
17	(+ 1.8)	(+ 0.1)	(- 1.1)	(- 3.2)	6	+ 6.0	+ 3.5	+ 4.1	+ 0.9
27	+ 6.2	- 2.5	+ 3.8	+ 2.9	7	+ 8.8	+ 4.4	+ 4.6	+ 1.5
March 1	+ 2.8	- 6.7	- 0.2	+ 0.3	8	+ 13.4	+ 7.4	+ 6.9	+ 3.5
2	+ 1.3	- 10.7	- 3.2	- 1.0	9	+ 6.3	- 1.0	+ 3.5	- 0.2
4	+ 11.6	- 5.0	- 5.3	+ 1.1	10	+ 9.8	+ 1.2	+ 6.4	+ 2.3
5	+ 9.7	- 6.3	- 6.4	+ 1.5	11	+ 12.3	+ 2.0	+ 4.3	- 0.6
8	+ 8.5	+ 0.6	- 5.2	+ 2.8	24	+ 8.7	- 3.4	- 3.5	+ 1.9
9	+ 6.4	- 0.5	- 5.2	+ 1.5	28	+ 7.4	+ 1.2	+ 3.2	+ 1.0
10	+ 8.1	+ 1.3	- 8.1	- 3.0	29	+ 5.8	+ 0.5	+ 5.3	+ 1.4
16	+ 6.3	+ 1.1	+ 1.2	- 1.2	30	+ 5.3	+ 1.7	+ 7.5	+ 2.6
31	+ 3.1	- 6.7	- 7.2	- 2.6	31	+ 1.2	- 0.6	+ 6.4	+ 1.3
April 1	+ 11.0	- 2.0	- 3.0	+ 3.4	August 1	+ 3.2	+ 2.7	+ 6.7	+ 1.7
2	+ 12.0	- 2.4	- 5.7	+ 2.2	3	(- 3.3)	(- 4.2)	(+ 25.1)	(+ 21.4)
5	+ 2.2	- 4.6	- 7.3	+ 0.7	4	+ 6.2	+ 3.9	+ 6.3	+ 3.1
6	+ 1.1	- 3.9	- 8.1	- 1.6	6	+ 7.0	+ 3.2	+ 4.0	+ 1.4
7	+ 5.2	+ 0.7	- 5.6	- 1.0	8	+ 10.4	+ 3.4	+ 2.7	+ 0.2
8	+ 8.9	+ 4.3	- 0.8	+ 1.6	11	+ 12.6	- 0.7	+ 1.1	+ 1.0
11	+ 4.0	+ 1.4	+ 4.2	+ 1.4	24	+ 8.5	+ 2.7	+ 0.7	+ 1.8
13	+ 4.2	+ 1.4	+ 7.4	+ 3.5	29	+ 3.4	+ 2.4	+ 5.8	+ 0.9
15	+ 8.4	+ 5.7	+ 3.2	- 0.9	31	+ 2.4	+ 1.0	+ 6.4	+ 1.7
16	+ 4.4	+ 4.4	+ 5.5	+ 1.6	September 5	+ 4.7	+ 0.9	+ 2.3	+ 0.4
27	+ 3.6	- 0.6	- 11.0	- 6.7	8	+ 8.5	- 0.8	+ 1.6	+ 1.4
28	+ 1.5	- 1.9	- 6.1	- 0.8	9	+ 10.6	+ 0.5	- 0.1	+ 1.1
May 3	+ 3.3	- 2.3	- 7.9	- 0.1	22	+ 7.1	+ 1.7	- 5.1	- 5.5
4	+ 3.3	- 1.4	- 4.5	+ 1.4	25	- 0.9	+ 0.2	+ 4.0	+ 0.3
5	+ 3.6	- 1.0	- 4.4	- 0.7	26	- 0.5	+ 0.9	+ 5.4	+ 0.9
					30	+ 2.6	- 0.5	+ 8.0	+ 2.7

ERRORS OF THE MOON'S TABULAR PLACES IN LONGITUDE AND ECLIPTIC NORTH POLAR DISTANCE, AS DEDUCED FROM
THE TABLES OF BURCKHARDT AND HANSEN—*continued*.

1849. MERIDIONAL OBSERVATIONS—*concluded*.

Day.	Longitude.		E. N. P. D.		Day.	Longitude.		E. N. P. D.	
	B-O.	H-O.	B-O.	H-O.		B-O.	H-O.	B-O.	H-O.
October 2	+ 10.2	+ 2.3	+ 7.1	+ 3.6	November 27	+ 9.8	- 2.2	+ 9.3	+ 4.6
4	+ 10.4	+ 1.8	+ 4.9	+ 4.0	30	+ 11.1	- 1.0	- 1.0	+ 0.6
5	+ 8.4	+ 0.2	+ 1.0	+ 0.5					
8	+ 7.1	- 2.1	+ 0.4	+ 4.9	December 1	+ 13.3	+ 2.9	- 11.2	- 7.5
9	+ 11.2	+ 1.2	- 6.3	- 0.2	4	+ 7.6	+ 2.2	- 11.6	- 1.7
28	+ 4.5	+ 2.2	+ 4.0	- 3.9	5	+ 6.5	+ 0.1	- 9.9	+ 1.6
29	+ 4.3	- 0.9	+ 8.5	+ 2.0	6	+ 13.9	+ 5.0	- 12.7	- 0.4
31	+ 12.8	+ 1.8	+ 3.7	+ 0.7	8	+ 7.7	- 1.3	- 10.8	- 0.2
November 1	+ 9.6	- 2.5	+ 1.1	+ 0.1	20	+ 5.2	- 1.7	+ 2.9	+ 2.1
4	+ 10.0	+ 1.2	- 4.0	+ 1.6	21	+ 2.8	- 4.4	+ 1.1	+ 0.1
5	+ 11.3	+ 2.7	- 5.9	+ 2.1	23	+ 10.3	- 2.7	+ 3.0	+ 0.9
22	+ 3.6	- 1.9	+ 9.8	+ 4.6	27	+ 13.1	- 3.5	- 1.7	+ 0.2
24	+ 6.2	- 2.2	+ 10.9	+ 4.0	28	+ 12.9	- 2.7	- 0.2	+ 3.3
25	+ 10.4	+ 0.1	+ 10.4	+ 3.5	29	+ 16.7	+ 1.8	- 2.8	+ 1.9
26	+ 9.4	- 1.9	+ 7.5	+ 1.3	31	+ 8.1	- 1.9	- 5.2	+ 1.5

1849. ALTAZIMUTH OBSERVATIONS.

January 2	+ 11.5	+ 0.2	+ 0.1	+ 0.2	March 5	+ 12.9	- 3.1	- 8.5	- 0.6
3	+ 5.3	- 9.1	- 2.8	- 2.8	6	+ 8.1	- 5.4	- 10.0	- 1.4
5	+ 10.4	- 3.4	- 1.8	- 0.2	8	+ 8.1	+ 0.2	- 11.0	- 3.0
6	+ 7.0	- 6.8	- 4.3	- 1.8	9	+ 4.1	- 2.8	- 10.6	- 3.9
8	+ 4.8	- 7.3	- 1.9	+ 2.4	10	+ 4.1	- 2.7	- 8.7	- 3.6
9	+ 10.1	- 1.8	- 0.8	+ 3.9	16	+ 6.1	+ 0.9	- 0.3	- 2.7
10	+ 6.5	- 4.4	- 14.1	- 9.5	17	+ 5.4	+ 2.0	+ 2.8	+ 0.5
11	+ 7.5	- 1.6	- 3.3	+ 1.2	29	+ 3.4	- 3.5	- 0.8	+ 1.6
14	+ 3.7	- 1.9	- 3.5	+ 0.5	30	+ 7.0	+ 0.2	0.0	+ 3.1
15	+ 8.4	+ 2.4	- 6.5	- 3.3	31	+ 4.7	- 5.1	- 3.1	+ 1.5
16	+ 10.7	+ 4.3	- 6.5	- 4.2					
17	+ 9.6	+ 3.2	- 1.3	- 0.1	April 1	+ 4.3	- 8.7	- 4.5	+ 1.9
26	+ 9.6	- 3.1	+ 1.1	+ 1.2	2	+ 8.7	- 5.7	- 6.4	+ 1.5
28	+ 3.6	- 3.4	+ 0.9	+ 0.9	3	+ 9.8	- 3.6	- 9.3	- 0.5
29	+ 1.8	- 3.8	+ 3.5	+ 3.3	5	+ 5.6	- 1.2	- 7.9	+ 0.1
31	+ 5.6	- 3.1	- 0.5	- 0.2	6	- 1.2	- 6.2	- 7.0	- 0.5
February 1	- 1.5	- 12.8	- 4.3	- 3.0	7	+ 0.6	- 3.9	- 9.7	- 5.1
2	+ 7.3	- 6.0	- 0.6	+ 2.3	8	- 0.7	- 5.3	- 2.7	- 0.3
4	+ 16.5	+ 2.4	- 3.6	+ 2.2	11	+ 6.4	+ 3.8	- 1.0	- 3.8
8	+ 9.4	- 2.5	- 10.9	- 4.5	13	+ 5.9	+ 3.1	+ 6.4	+ 2.5
9	+ 8.6	- 2.5	- 3.1	+ 2.6	14	+ 6.3	+ 3.1	+ 4.8	+ 0.7
10	+ 8.3	- 1.6	- 5.0	- 0.4	15	+ 7.4	+ 4.7	+ 5.5	+ 1.4
11	+ 10.4	+ 1.5	- 8.6	- 5.1	17	- 1.5	+ 2.9	+ 4.2	+ 0.8
12	+ 7.1	- 1.0	- 6.2	- 4.1	26	+ 3.7	- 3.6	0.0	+ 3.4
13	+ 9.3	+ 1.4	- 3.7	+ 2.8	28	+ 3.3	- 0.1	- 4.9	- 0.4
16	+ 2.8	- 2.0	+ 0.9	- 1.2	30	+ 7.5	+ 1.2	- 7.2	+ 0.8
17	+ 1.8	+ 0.1	- 2.1	- 4.2					
25	+ 4.6	- 6.1	+ 1.8	+ 0.9	May 1	+ 6.6	- 0.5	- 9.0	- 0.2
26	+ 4.2	- 5.7	+ 2.8	+ 1.7	2	+ 4.4	- 2.4	- 9.2	- 0.5
27	+ 4.8	- 3.9	+ 1.1	+ 0.2	3	+ 2.4	- 3.2	- 9.6	- 1.8
28	+ 8.6	+ 0.4	+ 10.0	+ 9.4	4	+ 4.1	- 0.6	- 4.7	+ 1.2
March 1	+ 2.4	- 7.1	- 0.6	- 0.1	5	+ 5.5	+ 0.9	- 8.2	- 4.5
2	+ 2.5	- 9.5	- 3.6	- 1.4	7	+ 7.4	+ 2.2	- 1.6	- 2.0
3	+ 9.6	- 5.2	- 3.2	+ 1.2	8	+ 8.5	+ 3.6	+ 2.9	+ 0.5
4	+ 8.4	- 8.2	- 5.6	+ 0.8	11	+ 4.2	+ 1.4	+ 6.7	+ 1.3
					12	+ 3.6	+ 0.3	+ 8.3	+ 2.5
					13	+ 7.4	+ 3.1	+ 8.6	+ 1.7

ERRORS OF THE MOON'S TABULAR PLACES IN LONGITUDE AND ECLIPTIC NORTH POLAR DISTANCE, AS DEDUCED FROM THE TABLES OF BURCKHARDT AND HANSEN—continued.									
1849. ALTAZIMUTH OBSERVATIONS—continued.									
Day.	Longitude.		E. N. P. D.		Day.	Longitude.		E. N. P. D.	
	B-O.	H-O.	B-O.	H-O.		B-O.	H-O.	B-O.	H-O.
May	16	— 2.6	— 1.4	+ 7.3	August	3	+ 1.8	+ 0.9	+ 3.9
	17	— 9.9	— 4.0	+ 9.7		4	+ 2.6	+ 0.3	+ 1.9
	25	+ 12.4	+ 0.8	+ 1.9		5	+ 4.8	+ 1.6	+ 2.4
	26	+ 4.4	— 3.4	— 6.5		6	+ 2.4	— 1.4	+ 3.9
	27	+ 4.9	+ 0.1	— 3.9		7	+ 7.7	+ 3.1	+ 5.0
	29	+ 3.4	— 0.5	— 6.8		8	+ 10.7	+ 3.7	+ 2.4
	30	+ 4.9	+ 0.4	— 6.9		9	+ 11.0	+ 1.0	0.0
	31	+ 2.7	— 2.4	— 5.6		10	+ 16.2	+ 3.5	— 1.5
						11	+ 9.6	— 3.7	— 6.2
						12	+ 11.5	+ 0.9	— 6.0
June	1	+ 4.4	— 0.5	— 4.5		13	+ 6.6	+ 0.1	— 8.2
	2	+ 3.8	— 0.6	— 3.0		14	+ 3.6	0.0	— 10.9
	3	+ 3.1	— 0.4	— 1.0		15	+ 4.6	+ 0.7	— 12.0
	4	+ 3.7	+ 0.9	— 0.8		23	+ 17.3	+ 7.4	— 6.8
	6	+ 0.7	— 2.4	+ 1.0		24	+ 6.6	+ 0.8	— 3.4
	7	+ 4.4	+ 0.7	+ 4.3		25	+ 11.1	+ 7.8	— 2.3
	8	+ 3.4	— 1.0	+ 2.9		26	+ 7.6	+ 5.5	— 3.4
	9	+ 6.4	+ 1.1	+ 6.7		28	+ 0.5	— 0.9	+ 4.6
	10	+ 6.7	+ 0.6	+ 6.3		31	— 0.3	— 1.7	+ 4.3
	11	+ 4.8	— 2.0	+ 8.3	September	2	+ 4.7	+ 1.1	+ 7.3
	12	+ 9.5	+ 2.3	+ 8.2		4	+ 3.7	— 0.1	+ 0.9
	13	+ 10.5	+ 3.7	+ 13.0		5	+ 5.6	+ 1.8	— 0.8
	14	+ 6.4	+ 1.4	+ 11.3		6	+ 3.8	— 1.3	+ 3.2
	15	+ 0.8	— 1.5	+ 7.0		7	+ 8.6	+ 1.3	— 0.8
	16	— 1.5	+ 0.3	+ 8.7		8	+ 9.5	+ 0.2	— 2.0
	17	+ 0.2	+ 4.3	+ 11.2		9	+ 11.8	+ 1.7	— 1.2
	22	+ 20.3	+ 0.4	— 2.9		10	+ 8.5	— 1.2	— 4.0
	23	+ 15.7	— 2.2	— 1.0		11	+ 8.2	— 0.3	— 9.4
	24	+ 14.4	+ 1.0	— 9.8		19	+ 22.8	+ 0.5	— 6.4
	25	+ 6.4	— 2.9	— 5.5	October	21	+ 12.1	+ 1.0	— 6.8
	26	+ 5.0	— 1.7	— 5.9		24	+ 1.5	+ 1.8	+ 4.2
	27	+ 5.1	— 1.1	— 7.2		25	— 3.1	— 2.0	+ 5.4
	28	+ 3.1	— 3.6	— 1.8		26	— 2.4	— 1.0	+ 4.6
	30	+ 2.4	— 3.8	— 2.3		28	+ 0.7	+ 1.7	+ 3.0
July	1	— 3.6	— 7.7	+ 3.1		30	+ 4.4	+ 1.3	+ 2.7
	2	— 0.9	— 2.6	— 3.7			2	+ 12.1	+ 4.2
	4	+ 2.5	+ 2.9	+ 4.8			3	+ 13.6	+ 4.9
	5	+ 1.0	+ 0.5	+ 1.9			4	+ 4.1	— 4.5
	6	+ 5.4	+ 2.9	+ 2.8			5	+ 2.7	— 5.5
	7	+ 3.3	— 1.1	+ 2.2			6	+ 7.7	— 0.1
	8	+ 5.5	— 0.5	— 1.9			8	+ 9.6	+ 0.4
	9	+ 4.0	— 3.3	+ 5.9			9	+ 7.6	— 2.4
	10	+ 11.3	+ 2.7	— 4.4			10	+ 12.0	+ 2.0
	11	+ 13.0	+ 2.7	+ 2.4			11	+ 9.5	0.0
	12	+ 13.6	+ 1.7	+ 5.6			13	+ 5.6	— 4.5
	13	+ 12.2	+ 0.5	+ 1.9			18	+ 24.0	— 0.5
	15	+ 3.2	— 1.0	+ 0.3			19	+ 21.8	+ 2.2
	16	— 2.4	— 2.7	— 4.9			21	+ 7.4	— 0.3
	23	+ 14.3	— 2.1	— 9.4			23	+ 3.8	+ 2.7
	24	+ 11.3	— 0.8	— 4.5			24	— 0.9	— 1.1
	25	+ 6.8	— 2.1	— 2.7			25	+ 1.1	+ 1.3
	26	+ 2.8	— 4.5	+ 0.7			26	+ 1.9	+ 2.1
	27	+ 5.1	— 1.7	— 1.1			27	+ 2.2	+ 1.7
	28	0.0	— 6.2	+ 0.1			28	+ 4.3	+ 2.0
	29	+ 3.4	— 1.9	+ 4.0			29	+ 4.7	— 0.5
	30	+ 3.3	— 0.3	+ 3.8			30	+ 13.8	+ 5.5
	31	+ 1.4	— 0.4	+ 4.5			31	+ 13.4	+ 2.4
August	1	— 0.3	— 0.8	+ 6.0					

ERRORS OF THE MOON'S TABULAR PLACES IN LONGITUDE AND ECLIPTIC NORTH POLAR DISTANCE, AS DEDUCED FROM
THE TABLES OF BURCKHARDT AND HANSEN—continued.

1849. ALTAZIMUTH OBSERVATIONS—concluded.

Day.	Longitude.		E. N. P. D.		Day.	Longitude.		E. N. P. D.	
	B-O.	H-O.	B-O.	H-O.		B-O.	H-O.	B-O.	H-O.
November 1	+ 10.2	— 1.9	— 1.7	— 2.7	December 3	+ 7.5	+ 1.7	— 9.9	— 2.1
2	+ 11.2	— 0.3	— 5.8	— 4.5	4	+ 1.9	— 3.5	— 10.7	— 0.8
4	+ 11.0	+ 2.2	— 12.7	— 7.1	5	+ 5.0	— 1.4	— 17.4	— 5.9
5	+ 8.9	+ 0.3	— 13.3	— 5.3	6	+ 10.3	+ 1.4	— 13.0	— 0.7
6	+ 7.2	— 2.4	— 13.5	— 3.4	8	+ 7.3	— 1.7	— 12.4	— 1.8
12	+ 11.5	+ 1.1	— 14.2	— 6.5	17	+ 17.8	+ 2.7	+ 2.0	+ 0.8
17	+ 21.3	+ 0.9	— 0.1	— 2.3	18	+ 10.3	— 1.8	+ 1.1	+ 0.3
21	+ 6.2	+ 0.5	+ 6.4	+ 2.2	19	+ 8.3	— 0.8	+ 2.8	+ 2.3
22	+ 4.0	— 1.5	+ 5.4	+ 0.2	20	+ 2.9	— 4.0	+ 2.7	+ 1.9
24	+ 2.8	— 5.6	+ 7.8	+ 0.9	21	+ 6.0	— 1.2	+ 1.9	+ 0.9
25	+ 13.0	+ 2.7	+ 10.2	+ 3.3	23	+ 7.8	— 5.2	+ 2.9	+ 0.8
26	+ 15.9	+ 4.6	+ 6.4	+ 0.2	25	+ 11.8	— 6.1	+ 3.5	+ 2.4
27	+ 14.3	+ 2.3	+ 1.2	— 3.5	26	+ 13.3	— 4.3	+ 2.1	+ 2.6
28	+ 8.8	— 3.5	+ 1.4	— 1.4	27	+ 7.9	— 8.7	— 1.3	+ 0.6
29	+ 12.5	0.0	— 2.7	— 3.3	28	+ 13.6	— 2.0	— 1.9	+ 1.6
30	+ 9.3	— 2.8	— 6.6	— 5.0	29	+ 9.6	— 5.3	— 8.9	— 4.2
December 1	+ 11.6	+ 1.2	— 3.0	+ 0.7	30	+ 6.5	— 6.4	— 8.0	— 2.1
					31	+ 7.5	— 2.5	— 5.2	+ 1.5

1850. MERIDIONAL OBSERVATIONS.

January 1	+ 10.9	+ 4.1	+ 0.6	+ 7.9	April 28	+ 6.9	+ 3.7	+ 0.4	+ 1.1
4	+ 9.0	+ 1.3	— 6.8	— 0.4	29	+ 1.7	— 1.7	+ 0.5	— 0.4
5	+ 8.3	— 0.4	— 7.3	— 2.3	May 1	+ 3.8	+ 0.5	+ 4.1	+ 0.2
6	+ 6.8	— 1.0	— 3.8	— 1.1	2	+ 6.2	+ 3.0	+ 7.9	+ 2.8
23	+ 4.6	— 10.4	— 2.1	+ 0.5	18	+ 4.9	— 4.6	— 8.7	+ 0.4
26	+ 14.0	— 4.4	— 6.7	+ 0.3	19	+ 4.6	— 5.0	— 10.9	— 1.3
30	+ 10.4	— 2.3	— 5.4	+ 1.5	20	+ 7.2	— 3.0	— 10.4	— 1.0
February 1	+ 7.7	— 0.7	— 4.3	— 1.0	21	+ 8.5	— 1.0	— 7.7	+ 0.5
3	+ 11.0	+ 3.0	+ 3.1	+ 2.2	22	+ 4.7	— 3.6	— 7.7	— 1.5
5	+ 4.2	— 0.1	+ 7.0	+ 2.5	23	+ 6.1	— 0.2	— 4.5	0.0
16	— 2.0	— 3.0	— 3.5	— 4.3	27	+ 6.4	+ 1.5	+ 1.5	+ 0.2
18	— 6.1	— 7.3	+ 0.8	+ 0.5	28	+ 5.6	+ 1.6	+ 1.9	— 0.6
21	+ 2.6	— 10.4	— 3.3	0.0	30	+ 4.1	+ 2.8	+ 4.0	— 0.4
22	+ 8.5	— 7.3	— 3.6	+ 1.7	31	+ 5.7	+ 5.2	+ 5.4	0.0
23	+ 9.8	— 7.2	— 6.6	+ 0.8	June 1	+ 2.4	+ 2.4	+ 13.1	+ 6.4
26	+ 12.5	— 2.6	— 12.3	— 2.6	2	— 1.2	— 0.7	+ 17.8	+ 10.0
March 3	+ 8.9	+ 1.3	+ 0.1	+ 0.3	3	— 3.8	— 2.6	+ 12.4	+ 3.8
4	+ 8.2	+ 1.5	+ 1.8	+ 0.1	17	+ 4.1	— 4.1	— 6.5	— 0.6
5	+ 6.0	— 0.1	+ 3.7	+ 0.3	18	+ 2.4	— 4.9	— 5.6	— 1.3
18	— 2.2	— 5.0	+ 5.5	+ 5.2	19	+ 4.2	— 2.0	— 3.3	— 0.5
25	+ 7.4	— 5.9	— 8.5	+ 2.2	20	+ 5.8	+ 1.0	— 2.8	— 1.7
26	+ 4.5	— 5.5	— 9.8	+ 0.7	21	+ 3.8	0.0	— 1.0	— 1.5
27	+ 4.7	— 2.6	— 9.2	+ 0.2	22	+ 6.4	+ 2.6	+ 2.4	+ 1.1
28	+ 3.5	— 2.4	— 8.6	— 1.0	23	+ 4.6	+ 0.7	+ 4.5	+ 2.1
29	+ 5.0	— 0.2	— 7.3	— 1.9	24	+ 5.0	+ 0.4	+ 3.5	+ 0.8
April 2	+ 9.1	+ 3.6	+ 1.6	— 0.5	25	+ 5.8	+ 1.4	+ 4.1	+ 1.5
21	+ 11.9	— 3.7	— 11.1	— 0.7	29	+ 3.4	+ 3.4	+ 6.1	+ 3.0
22	+ 10.9	— 3.0	— 10.5	+ 0.9	July 1	+ 5.9	+ 1.9	+ 8.7	+ 4.4
24	+ 4.7	— 2.5	— 6.9	+ 1.8	4	+ 3.0	— 2.9	+ 9.9	+ 4.9
25	+ 4.7	+ 0.5	— 9.0	— 2.3	14	+ 11.2	— 5.5	— 7.1	— 1.1
27	+ 3.7	+ 0.8	— 7.2	— 4.2	15	+ 12.7	+ 0.4	— 6.2	— 1.9
					21	— 0.9	— 1.8	+ 5.3	+ 1.3

ERRORS OF THE MOON'S TABULAR PLACES IN LONGITUDE AND ECLIPTIC NORTH POLAR DISTANCE, AS DEDUCED FROM
THE TABLES OF BURCKHARDT AND HANSEN—*continued*.

1850. MERIDIONAL OBSERVATIONS—*concluded*.

Day.	Longitude.		E. N. P. D.		Day.	Longitude.		E. N. P. D.	
	B-O.	H-O.	B-O.	H-O.		B-O.	H-O.	B-O.	H-O.
	"	"	"	"		"	"	"	"
July 22	+ 2'9	+ 2'3	+ 3'2	- 0'7	October 11	+ 9'4	- 0'8	- 6'3	- 6'9
25	+ 6'4	+ 5'3	+ 4'4	+ 1'9	12	+ 3'9	- 1'3	- 0'7	- 2'6
26	(+ 5'8)	(+ 4'6)	(+ 2'8)	(+ 1'0)	14	+ 5'6	+ 4'3	+ 4'5	+ 0'3
27	+ 7'3	+ 5'5	+ 3'0	+ 1'6	15	- 0'2	- 1'3	+ 6'3	+ 1'4
					16	+ 3'9	+ 2'0	+ 4'2	- 1'2
August 3	(+ 5'5)	(- 1'4)	(- 22'4)	(- 21'1)	17	(+ 0'1)	(- 3'6)	(+ 11'8)	(+ 6'3)
13	+ 15'4	+ 2'0	- 5'1	- 0'8	18	+ 7'8	+ 1'0	+ 5'0	+ 0'1
15	+ 5'7	- 0'5	- 4'9	- 4'8	20	+ 15'5	+ 1'9	+ 3'8	+ 0'6
18	+ 0'9	0'0	+ 4'5	+ 1'0	21	+ 15'0	+ 0'4	+ 4'8	+ 2'6
19	- 0'1	+ 0'2	+ 3'2	- 0'6	22	+ 16'2	+ 2'9	+ 2'2	+ 1'6
20	+ 2'2	+ 3'6	+ 4'0	+ 0'2	25	+ 8'2	- 0'7	- 6'3	- 3'1
21	+ 3'8	+ 5'0	+ 4'6	+ 1'2	26	+ 9'7	- 0'5	- 2'1	+ 3'2
22	+ 3'0	+ 3'1	+ 3'7	+ 0'9	28	+ 10'8	- 2'2	- 8'3	+ 0'4
23	+ 5'1	+ 3'2	+ 4'6	+ 2'6					
24	+ 8'3	+ 4'6	+ 3'4	+ 2'0	November 11	+ 1'0	- 0'2	+ 9'3	+ 4'4
26	+ 6'3	- 0'3	+ 0'9	+ 0'6	12	+ 1'0	+ 0'2	+ 4'8	- 0'7
28	+ 14'5	+ 5'8	+ 1'3	+ 1'3	13	- 1'3	- 3'0	+ 5'4	- 0'5
29	+ 11'6	+ 1'2	- 0'6	- 0'3	14	+ 3'4	- 0'2	+ 5'0	- 0'9
30	+ 10'9	- 0'2	- 1'3	- 0'3	24	+ 13'6	+ 0'7	- 13'2	- 3'4
September 11	+ 19'8	+ 4'9	- 9'0	- 4'7	25	+ 13'6	- 1'0	- 12'0	- 0'7
12	+ 12'0	+ 3'1	- 3'3	- 0'9	28	+ 19'9	+ 1'6	- 9'3	+ 0'2
14	+ 3'7	+ 0'1	0'0	- 0'9					
18	+ 1'0	+ 0'5	+ 0'2	- 3'5	December 12	+ 3'1	- 2'1	+ 2'6	- 0'2
21	+ 9'1	+ 1'3	+ 2'8	+ 0'5	17	+ 11'2	- 3'6	+ 4'5	+ 4'9
22	+ 8'5	- 1'1	+ 4'9	+ 3'2	19	+ 18'0	+ 0'7	- 3'8	- 0'4
25	+ 7'4	+ 0'7	- 1'2	- 1'3	20	+ 17'8	+ 0'9	- 2'6	+ 2'5
26	+ 7'7	+ 0'7	+ 0'1	+ 0'3	21	+ 16'0	+ 0'7	- 7'4	- 0'2
27	+ 8'3	- 0'7	+ 0'1	+ 1'1	22	+ 15'6	+ 1'6	- 7'3	+ 1'4
					27	+ 16'2	- 1'5	- 2'6	+ 1'1

1850. ALTAZIMUTH OBSERVATIONS.

January 1	+ 4'1	- 2'7	- 6'8	+ 0'5	February 23	+ 8'5	- 8'5	- 5'3	+ 2'1
4	+ 5'8	- 1'9	- 7'2	- 0'8	24	+ 20'1	+ 3'4	- 12'2	- 3'1
5	+ 10'0	+ 1'3	- 3'0	+ 2'0	26	+ 10'8	- 4'3	- 10'7	- 1'0
6	+ 2'0	- 5'8	- 1'9	+ 0'8	27	+ 13'6	0'0	- 11'9	- 3'3
7	- 2'8	- 8'0	+ 0'8	+ 1'6					
23	+ 5'3	- 9'7	- 1'7	+ 0'9	March 2	+ 14'5	+ 5'8	- 2'2	+ 0'3
25	+ 9'1	- 8'5	- 4'5	+ 0'9	3	+ 10'1	+ 2'5	- 1'6	- 1'4
26	+ 15'9	- 2'5	- 6'1	+ 0'9	4	+ 4'9	- 1'8	+ 2'6	+ 0'9
27	+ 14'4	- 4'4	- 4'5	+ 3'2	5	+ 6'3	+ 0'2	- 2'1	- 5'5
28	+ 19'5	+ 1'7	- 3'0	+ 5'2	6	+ 6'4	+ 1'3	+ 2'0	- 2'4
30	+ 7'6	- 5'1	- 6'8	+ 0'1	15	- 5'3	- 4'2	+ 1'1	+ 0'4
February 1	+ 9'1	+ 0'7	- 4'9	- 1'6	16	- 5'7	- 6'4	+ 0'3	- 0'1
2	+ 9'3	+ 1'3	- 0'2	+ 1'3	17	+ 1'6	+ 0'1	- 3'6	- 4'1
3	+ 9'1	+ 1'1	+ 1'6	+ 0'7	18	- 0'9	- 3'7	+ 2'7	+ 2'4
4	+ 5'3	- 1'2	- 0'1	- 3'0	21	+ 6'4	- 6'9	- 2'0	+ 1'0
5	+ 6'2	+ 1'9	+ 4'3	- 0'2	22	+ 11'4	- 5'3	- 3'5	+ 1'8
6	- 5'7	- 6'8	+ 3'7	- 1'8	23	+ 13'8	- 4'0	- 5'5	+ 2'3
16	- 1'3	- 2'3	+ 3'1	+ 2'3	24	+ 12'0	- 4'1	- 10'8	- 1'1
18	- 2'8	- 4'0	+ 1'1	+ 0'8	25	+ 6'2	- 7'1	- 8'7	- 2'0
19	- 7'0	- 11'4	- 4'2	- 4'0	26	+ 6'1	- 3'9	- 9'7	+ 0'8
20	+ 0'5	- 8'4	- 6'5	- 5'1	27	+ 4'7	- 2'6	- 10'8	- 1'4
21	+ 2'7	- 10'3	- 2'4	+ 0'9	28	+ 5'0	- 0'9	- 10'3	- 2'7
22	+ 10'9	- 4'9	- 6'6	- 1'3	29	+ 4'6	- 0'6	- 10'2	- 4'8

ERRORS OF THE MOON'S TABULAR PLACES IN LONGITUDE AND ECLIPTIC NORTH POLAR DISTANCE, AS DEDUCED FROM
THE TABLES OF BURCKHARDT AND HANSEN—*continued*.

1850. ALTAZIMUTH OBSERVATIONS—*continued*.

Day.	Longitude.		E. N. P. D.		Day.	Longitude.		E. N. P. D.	
	B-O.	H-O.	B-O.	H-O.		B-O.	H-O.	B-O.	H-O.
March	30	"	"	"	June	29	"	"	"
	31	+ 0.7	- 4.8	- 3.7		30	+ 0.2	+ 0.2	- 1.0
		+ 5.8	+ 0.6	- 5.0			+ 5.7	+ 4.2	+ 3.0
April	2	+ 8.6	+ 3.1	+ 3.0	July	1	+ 8.2	+ 4.2	- 0.7
	4	+ 7.2	+ 2.8	+ 5.8		2	+ 11.4	+ 5.4	+ 3.2
	15	+ 6.6	+ 0.2	+ 5.1		4	+ 5.3	- 0.6	- 1.9
	17	+ 11.1	+ 0.3	+ 2.8		5	+ 2.9	- 1.9	- 0.9
	18	+ 5.8	- 6.6	- 4.7		13	+ 19.7	- 2.6	+ 1.2
	20	+ 18.0	+ 2.6	- 9.4		14	+ 16.1	- 0.6	- 0.3
	21	+ 14.0	- 1.6	- 10.0		15	+ 13.0	+ 0.7	- 3.1
	22	+ 11.9	- 2.0	- 12.3		16	+ 12.0	+ 2.9	+ 2.2
	23	+ 8.0	- 2.8	- 9.2		18	+ 6.0	+ 1.4	+ 8.0
	24	+ 6.7	- 0.5	- 8.4		21	+ 3.2	+ 2.3	+ 1.6
	25	+ 5.1	+ 0.9	- 8.9		22	+ 4.5	+ 3.9	- 0.9
	26	+ 1.3	- 1.7	- 7.7		24	+ 3.8	+ 3.0	+ 1.1
	27	+ 1.5	- 1.4	- 6.1		25	+ 5.0	+ 3.9	- 1.6
	28	+ 4.6	+ 1.4	- 2.1		26	+ 6.4	+ 5.2	- 2.1
	29	+ 0.5	- 2.9	+ 2.4		27	+ 6.2	+ 4.4	- 0.8
						29	+ 10.1	+ 4.2	- 2.7
						30	+ 11.0	+ 2.8	- 4.6
May	1	+ 1.3	- 2.0	+ 4.2	August	3	+ 7.3	+ 0.4	- 7.0
	2	+ 3.1	- 0.1	+ 2.7		4	+ 0.1	- 5.1	- 10.3
	3	+ 5.2	+ 3.3	+ 9.2		11	+ 28.7	+ 3.9	- 5.5
	4	- 2.8	- 2.0	+ 9.5		12	+ 17.9	- 1.0	+ 1.9
	13	+ 8.9	- 6.0	+ 1.5		13	+ 16.4	+ 3.0	+ 0.3
	15	+ 11.9	- 5.7	- 2.8		14	+ 14.3	+ 5.5	- 3.1
	18	+ 5.2	- 4.3	- 11.2		15	+ 7.6	+ 1.4	+ 3.5
	19	+ 2.1	- 7.5	- 10.7		16	+ 8.5	+ 4.4	+ 1.5
	20	+ 12.0	+ 1.8	- 13.7		17	+ 3.6	+ 0.9	+ 8.6
	21	+ 6.1	- 3.4	- 9.4		19	+ 8.3	+ 8.6	+ 1.8
	22	+ 7.2	- 1.1	- 9.1		20	+ 2.3	+ 3.7	+ 2.6
	23	+ 4.9	- 1.4	- 6.9		21	+ 1.3	+ 2.5	+ 1.7
	24	+ 5.9	+ 1.1	- 5.2		22	+ 3.6	+ 3.7	- 2.2
	25	+ 9.9	+ 5.1	- 0.4		23	+ 3.8	+ 1.9	- 3.0
	26	+ 9.5	+ 4.2	- 2.9		24	+ 7.2	+ 3.5	- 2.3
	27	+ 6.7	+ 1.8	+ 1.9		26	+ 12.3	+ 5.7	- 8.6
	28	+ 8.1	+ 4.1	- 2.3		27	+ 7.0	- 0.5	+ 6.7
	30	+ 3.1	+ 1.8	+ 5.8		28	+ 8.6	- 0.1	+ 2.0
	31	+ 1.5	+ 1.0	+ 2.5		29	+ 9.7	- 0.7	- 10.4
June	1	- 2.8	- 2.8	+ 8.3		30	+ 14.5	+ 3.4	- 8.2
	2	- 2.7	- 2.2	+ 3.9		31	+ 6.1	- 4.0	- 9.5
	3	- 4.9	- 3.7	+ 6.1	September	2	+ 4.0	- 0.4	- 16.7
	5	- 3.2	+ 0.9	+ 10.8		4	+ 6.4	- 1.7	- 19.8
	6	- 6.8	- 2.2	+ 4.3		8	+ 29.1	- 3.2	- 9.8
	13	+ 25.5	- 0.2	+ 3.5		10	+ 24.4	+ 2.2	- 3.0
	14	+ 24.0	+ 5.1	- 4.5		11	+ 18.3	+ 3.4	- 2.5
	15	+ 10.4	- 2.7	- 3.6		12	+ 11.6	+ 2.7	- 3.5
	16	+ 11.3	+ 1.5	- 3.6		13	+ 6.9	+ 1.4	- 0.4
	17	+ 8.3	+ 0.1	- 1.7		14	+ 5.4	+ 1.8	- 1.2
	18	+ 9.9	+ 2.6	- 2.7		17	+ 2.3	+ 1.4	+ 3.4
	19	+ 6.1	- 0.1	+ 0.2		18	+ 8.1	+ 7.6	+ 5.5
	20	+ 3.6	- 1.2	- 4.9		20	+ 6.6	+ 2.0	+ 4.8
	21	+ 4.1	+ 0.3	- 3.7		21	+ 7.3	- 0.5	- 0.6
	22	+ 3.5	- 0.3	- 4.2		22	+ 10.4	+ 0.8	+ 0.7
	23	+ 4.6	+ 0.7	- 1.0		23	+ 7.8	- 1.8	+ 0.8
	24	+ 9.9	+ 5.3	- 2.5		24	+ 8.7	+ 0.6	- 0.5
	25	+ 5.6	+ 1.2	- 4.7		25	+ 5.4	- 1.3	- 1.7
	27	+ 3.0	+ 1.4	- 0.2					

ERRORS OF THE MOON'S TABULAR PLACES IN LONGITUDE AND ECLIPTIC NORTH POLAR DISTANCE, AS DEDUCED FROM THE TABLES OF BURCKHARDT AND HANSEN—continued.									
1850. ALTAZIMUTH OBSERVATIONS—concluded.									
Day.	Longitude.		E. N. P. D.		Day.	Longitude.		E. N. P. D.	
	B-O.	H-O.	B-O.	H-O.		B-O.	H-O.	B-O.	H-O.
September 26	+ 5.0	— 2.0	— 0.5	— 0.3	November 14	+ 6.0	+ 2.4	+ 7.6	+ 1.7
27	+ 8.5	— 0.5	— 0.9	+ 0.1	15	+ 2.1	— 4.1	+ 5.4	— 0.5
28	+ 6.5	— 4.2	— 3.9	— 1.3	16	+ 10.5	+ 1.3	+ 9.0	+ 3.9
29	+ 7.6	— 3.0	— 6.2	— 2.1	17	+ 15.0	+ 2.7	+ 3.4	— 0.8
30	+ 8.5	— 0.2	— 7.6	— 1.9	19	+ 19.3	+ 3.6	— 4.2	— 5.4
October 1	+ 2.6	— 3.8	— 5.3	+ 1.9	21	+ 11.1	— 3.1	— 4.2	— 1.7
8	+ 36.9	+ 7.4	— 0.7	+ 2.7	22	+ 13.0	0.0	— 5.8	— 0.8
11	+ 20.1	+ 9.9	— 7.8	— 8.4	23	+ 10.0	— 2.3	— 10.2	— 2.9
12	+ 9.0	+ 3.8	+ 0.3	— 1.6	24	+ 9.6	— 3.3	— 13.2	— 3.9
14	+ 5.9	+ 4.6	+ 9.4	+ 5.2	25	+ 8.1	— 6.5	— 12.5	— 1.2
15	+ 1.2	+ 0.1	+ 4.2	— 0.7	27	+ 18.6	+ 0.1	— 11.4	— 0.2
16	+ 4.4	+ 2.5	+ 7.2	+ 1.8	28	+ 19.3	+ 1.0	— 11.1	— 1.6
17	+ 0.4	— 3.3	+ 5.2	— 0.3	29	+ 16.4	+ 0.3	— 3.8	+ 3.2
18	+ 4.5	— 2.3	+ 6.5	+ 1.6	December 7	+ 13.4	+ 3.9	+ 3.0	— 0.1
19	+ 9.6	— 1.0	+ 5.9	+ 1.5	12	+ 2.5	— 2.7	+ 3.7	+ 0.9
20	+ 13.2	— 0.4	+ 4.4	+ 1.2	13	+ 1.8	— 5.8	+ 1.4	— 1.3
21	+ 11.0	— 3.6	+ 0.2	— 2.0	14	+ 10.1	0.0	+ 3.8	+ 1.6
22	+ 13.9	+ 0.6	+ 0.6	0.0	15	+ 16.9	+ 5.1	+ 0.9	— 0.9
25	+ 8.8	— 0.1	— 4.7	— 1.5	16	+ 14.2	+ 0.8	+ 4.0	+ 3.3
26	+ 10.3	+ 0.1	— 7.4	— 2.1	17	+ 12.6	— 2.2	+ 1.4	+ 1.8
28	+ 7.4	— 5.6	— 8.7	0.0	18	+ 15.4	— 1.4	— 2.9	— 1.0
29	+ 10.0	— 2.6	— 9.8	— 0.2	19	+ 12.2	— 5.1	— 3.6	— 0.2
30	+ 9.7	— 2.6	— 8.7	+ 0.5	20	+ 19.4	+ 2.5	— 3.5	+ 1.6
November 6	+ 31.1	+ 6.4	+ 1.7	+ 0.2	21	+ 11.0	— 4.3	— 5.7	+ 1.5
7	+ 27.1	+ 6.6	+ 0.4	— 2.1	22	+ 12.2	— 1.8	— 10.9	— 2.2
8	+ 16.9	+ 2.5	+ 3.4	+ 0.1	23	+ 15.4	+ 0.8	— 7.7	+ 1.9
11	+ 2.2	+ 1.0	+ 5.9	+ 1.0	24	+ 15.9	— 0.9	— 11.9	— 2.4
12	+ 0.5	— 0.3	+ 6.9	+ 1.4	25	+ 19.9	+ 0.4	— 6.8	+ 1.8
13	+ 1.6	— 0.1	+ 8.9	+ 3.0	27	+ 19.6	+ 1.9	— 5.0	— 1.3
					29	+ 3.2	— 3.5	+ 0.3	— 0.6
1851. MERIDIONAL OBSERVATIONS.									
January 8	— 0.5	— 2.3	0.0	+ 0.7	March 16	+ 12.5	— 3.2	— 7.1	+ 1.9
9	+ 0.8	— 2.2	— 0.3	+ 0.8	18	+ 11.3	— 2.2	— 8.4	— 1.3
18	+ 17.3	— 2.8	— 9.9	— 2.7	20	+ 2.8	— 4.2	— 2.0	+ 1.6
21	+ 11.8	— 2.1	— 6.6	— 1.3	April 9	+ 12.0	— 5.8	— 5.9	— 0.2
22	+ 18.0	+ 4.4	— 4.9	— 1.0	10	+ 10.4	— 8.5	— 6.7	+ 1.0
24	+ 12.1	— 0.5	— 1.1	— 2.0	12	+ 10.4	— 5.4	— 10.0	0.0
26	+ 2.9	— 1.7	+ 9.6	+ 4.7	13	+ 7.2	— 6.0	— 8.6	+ 1.2
February 8	+ 0.2	— 2.8	— 2.0	— 1.0	14	+ 9.1	— 2.0	— 10.6	— 1.4
10	+ 2.8	— 8.6	— 8.6	— 6.3	17	+ 5.7	— 2.2	— 3.9	+ 1.3
11	+ 8.0	— 8.0	— 3.7	— 0.5	18	+ 7.6	+ 0.4	— 1.0	+ 2.4
13	+ 17.5	— 3.1	— 5.4	+ 0.7	20	+ 4.1	— 1.9	+ 1.2	+ 0.7
14	+ 16.1	— 4.7	— 4.1	+ 3.0	May 8	+ 11.2	— 7.1	— 8.2	+ 0.5
15	+ 18.1	— 2.9	— 8.9	— 1.0	10	+ 11.8	— 5.7	— 10.7	— 1.6
16	+ 18.3	— 1.9	— 5.5	+ 2.1	13	+ 5.5	— 4.9	— 4.0	+ 1.3
21	+ 3.8	— 1.3	+ 2.0	+ 0.9	14	+ 6.0	— 2.7	— 1.8	+ 2.4
22	+ 4.8	+ 0.9	+ 2.8	— 0.3	15	+ 9.1	+ 0.9	— 3.1	— 0.1
March 11	+ 3.9	— 9.6	— 2.4	— 0.4	19	+ 5.7	— 1.1	+ 4.5	+ 2.7
13	+ 14.8	— 3.5	— 5.9	+ 0.4	22	+ 2.9	+ 0.3	+ 5.0	+ 0.2
14	+ 9.3	— 7.9	— 6.4	+ 1.8	23	+ 2.5	+ 1.4	— 1.4	— 6.4

ERRORS OF THE MOON'S TABULAR PLACES IN LONGITUDE AND ECLIPTIC NORTH POLAR DISTANCE, AS DEDUCED FROM
THE TABLES OF BURCKHARDT AND HANSEN—*continued*.

1851. MERIDIONAL OBSERVATIONS—*concluded*.

Day.	Longitude.		E. N. P. D.		Day.	Longitude.		E. N. P. D.	
	B-O.	H-O.	B-O.	H-O.		B-O.	H-O.	B-O.	H-O.
	"	"	"	"		"	"	"	"
June 13	+ 8.6	— 0.1	0.0	— 1.3	September 15	+ 3.8	— 2.9	— 3.2	+ 0.1
14	+ 8.4	0.0	+ 4.1	+ 2.6	17	+ 8.7	— 2.0	— 5.3	— 1.4
16	+ 4.7	— 0.7	+ 2.0	+ 0.7	30	+ 18.4	+ 0.9	— 3.3	— 3.9
17	+ 3.0	+ 0.1	+ 1.7	+ 0.6	October 2	+ 9.0	+ 2.1	— 1.1	— 3.7
18	+ 3.0	+ 1.8	— 0.8	— 1.8	3	+ 3.9	— 0.7	+ 1.2	— 1.8
20	+ 3.6	+ 2.4	+ 2.7	+ 1.8	4	+ 4.8	+ 1.0	+ 2.2	— 0.8
22	+ 2.6	+ 0.1	+ 0.4	— 0.7	5	+ 4.0	— 1.0	+ 1.4	— 1.2
July 3	+ 19.6	— 6.5	— 6.6	— 1.5	8	+ 10.1	+ 0.1	— 5.6	— 5.1
7	+ 3.7	— 6.8	— 1.0	— 0.4	10	+ 20.8	+ 7.0	— 0.1	+ 2.4
10	+ 3.6	— 4.3	+ 2.9	— 0.4	11	+ 18.6	+ 4.3	— 2.3	+ 0.5
12	+ 6.6	— 0.8	+ 4.3	+ 0.9	14	+ 11.3	+ 1.3	— 6.2	— 2.8
14	+ 7.5	+ 2.1	— 0.3	— 1.9	15	+ 3.8	— 6.1	— 5.2	— 1.3
15	+ 3.5	+ 0.5	+ 0.6	0.0	16	+ 9.0	— 2.7	— 3.5	+ 1.5
17	— 0.9	— 2.0	+ 0.7	+ 2.3	17	+ 18.0	+ 3.7	— 7.9	— 1.6
18	+ 3.6	+ 2.3	— 1.9	+ 0.3	18	+ 14.0	— 2.3	— 6.1	+ 1.1
20	+ 6.3	+ 3.9	— 1.7	+ 0.6	30	+ 7.9	— 0.7	— 0.3	— 5.5
21	+ 9.7	+ 5.1	— 2.7	— 0.5	November 1	+ 3.4	— 1.5	+ 3.4	— 1.0
August 3	+ 12.0	— 3.1	— 3.1	— 0.2	2	+ 5.2	— 0.7	+ 4.6	+ 1.0
5	+ 7.8	+ 0.2	— 1.3	— 1.2	3	+ 6.3	— 1.1	+ 3.3	+ 0.8
7	— 2.4	— 6.5	+ 1.2	— 1.1	4	+ 9.4	+ 0.7	+ 3.2	+ 1.8
8	+ 1.7	— 1.9	+ 2.4	— 0.4	6	+ 10.3	— 0.2	— 1.9	— 0.9
11	+ 6.9	+ 0.9	+ 1.5	— 0.3	7	+ 11.0	— 1.1	— 2.4	— 0.8
12	+ 6.2	— 0.1	— 0.7	— 1.3	14	+ 11.3	+ 0.8	— 7.3	— 0.8
13	+ 7.7	+ 2.3	+ 0.9	+ 1.9	15	+ 10.0	— 4.3	— 7.1	+ 0.4
15	+ 6.1	+ 4.3	— 1.2	+ 1.6	16	+ 16.3	— 1.4	— 9.8	— 2.2
18	+ 6.5	+ 2.4	— 2.7	+ 0.7	17	+ 21.7	+ 2.9	— 8.3	— 1.9
20	+ 13.0	+ 3.8	— 6.0	— 2.0	29	— 3.6	— 6.9	+ 1.5	— 1.6
31	+ 21.4	— 2.4	— 5.7	— 1.6	30	+ 1.8	— 2.1	— 0.2	— 2.0
September 3	+ 7.4	+ 0.7	— 1.0	— 0.8	December 2	+ 5.6	— 1.4	+ 0.8	+ 1.3
8	+ 2.0	— 2.6	+ 1.6	+ 0.5	5	+ 4.6	— 4.6	— 9.0	— 6.1
9	+ 7.0	— 0.3	+ 1.7	+ 1.1	7	+ 12.2	— 0.4	— 3.9	— 0.8
10	+ 10.4	+ 0.7	+ 0.2	+ 0.9	8	+ 10.0	— 3.9	— 4.4	— 1.2
11	+ 8.3	— 2.3	— 2.8	— 0.9	10	+ 13.1	+ 1.9	— 4.4	— 0.1
12	+ 14.0	+ 4.2	— 0.3	+ 2.4	11	+ 8.3	— 1.0	— 4.5	+ 0.4
13	+ 13.4	+ 5.0	— 1.7	+ 1.5	30	+ 0.1	— 4.1	— 2.8	— 0.9
14	+ 10.4	+ 3.3	— 2.0	+ 1.4					

1851. ALTIZIMUTH OBSERVATIONS.

January 5	+ 10.7	+ 5.5	+ 3.9	+ 0.3	January 25	+ 11.4	+ 1.8	+ 0.9	— 2.0
6	+ 3.6	+ 1.2	+ 2.6	+ 2.0	26	+ 3.0	— 1.6	+ 2.5	— 2.4
8	+ 2.0	+ 0.2	+ 2.8	+ 3.5	27	— 3.2	— 2.3	+ 9.6	+ 3.6
9	— 0.7	— 3.7	+ 0.8	+ 1.9	February 4	+ 2.5	+ 0.9	+ 3.2	+ 2.4
12	+ 15.0	+ 2.5	— 5.4	— 3.6	6	+ 1.7	+ 1.1	+ 2.3	+ 2.9
15	+ 19.9	+ 0.9	— 6.8	— 2.6	8	+ 4.3	+ 1.3	+ 0.3	+ 1.3
16	+ 20.7	+ 0.3	— 0.2	+ 5.0	9	+ 9.2	+ 2.6	— 1.3	+ 0.1
17	+ 28.7	+ 7.9	— 4.4	+ 2.1	10	+ 8.9	— 2.5	— 1.5	+ 0.8
18	+ 18.4	— 1.7	— 8.2	— 1.0	11	+ 14.1	— 1.9	— 5.0	— 1.8
19	+ 17.8	— 0.3	— 7.6	— 0.2	12	+ 16.4	— 2.7	— 10.0	— 5.2
21	+ 14.7	+ 0.8	— 1.1	+ 4.2	13	+ 15.3	— 5.3	— 6.1	0.0
22	+ 14.2	+ 0.6	— 5.3	— 1.4	14	+ 21.0	+ 0.2	— 4.2	+ 2.9
23	+ 8.3	— 5.4	— 2.7	— 1.2	15	+ 18.4	— 2.6	— 6.5	+ 1.4
24	+ 16.7	+ 4.1	+ 2.0	+ 1.1					

GREENWICH OBSERVATIONS, 1859.

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ERRORS OF THE MOON'S TABULAR PLACES IN LONGITUDE AND ECLIPTIC NORTH POLAR DISTANCE, AS DEDUCED FROM THE TABLES OF BURCKHARDT AND HANSEN—continued.									
1851. ALTAZIMUTH OBSERVATIONS—continued.									
Day.	Longitude.		E. N. P. D.		Day.	Longitude.		E. N. P. D.	
	B-O.	H-O.	B-O.	H-O.		B-O.	H-O.	B-O.	H-O.
February	"	"	"	"	June	"	"	"	"
16	+ 13.0	- 7.2	- 9.5	- 1.9	5	+ 11.7	- 6.5	- 6.3	+ 0.6
17	+ 18.7	+ 0.6	- 9.4	- 2.8	6	+ 8.9	- 6.9	- 8.3	- 1.4
21	+ 4.8	- 0.3	+ 1.6	+ 0.5	7	+ 10.5	- 4.7	- 4.3	+ 1.6
22	+ 1.1	- 2.8	- 3.2	- 6.3	8	+ 9.3	- 5.4	- 8.2	- 3.7
24	- 6.1	- 5.5	+ 1.9	- 4.3	9	+ 10.7	- 3.1	- 1.3	+ 1.4
March					12	+ 8.2	- 1.0	- 0.3	- 1.3
8	+ 1.0	- 1.5	+ 2.8	+ 2.3	13	+ 12.5	+ 3.8	+ 3.6	+ 2.3
9	+ 1.9	- 2.8	+ 2.6	+ 2.0	14	+ 8.5	+ 0.1	+ 4.8	+ 3.3
10	+ 4.8	- 3.8	+ 2.2	+ 2.4	16	+ 9.6	+ 4.2	+ 0.8	- 0.5
11	+ 13.7	+ 0.2	- 3.4	- 1.4	17	- 0.2	- 3.1	- 1.3	- 2.4
13	+ 12.2	- 6.1	- 6.5	- 0.2	18	+ 2.6	+ 1.4	+ 3.8	+ 2.8
14	+ 13.2	- 4.0	- 6.4	+ 1.8	19	- 1.4	- 2.1	- 4.0	- 4.9
15	+ 12.4	- 4.0	- 10.6	- 1.6	20	+ 3.9	+ 2.7	+ 2.3	+ 1.4
16	+ 11.0	- 4.7	- 9.8	- 0.8	22	+ 2.6	+ 0.1	+ 1.1	0.0
18	+ 12.8	- 0.7	- 10.6	- 3.5	23	+ 6.6	+ 4.3	+ 4.6	+ 3.2
19	+ 7.3	- 3.3	- 10.6	- 5.1	24	+ 2.7	+ 0.7	- 1.6	- 3.5
20	+ 9.9	+ 2.9	- 5.4	- 1.8	25	+ 1.7	- 1.4	- 1.3	- 3.3
21	+ 6.7	+ 2.5	- 2.1	- 0.3	July				
23	+ 4.7	+ 2.3	+ 4.5	+ 2.2	2	+ 24.6	- 6.8	- 1.1	+ 3.8
24	+ 6.7	+ 5.1	+ 4.1	+ 0.7	4	+ 17.0	- 2.9	- 3.9	+ 0.6
26	(+ 1.5)	(+ 5.8)	(+ 15.6)	(+ 10.3)	5	+ 8.1	- 7.0	- 0.5	+ 3.0
April					6	+ 5.9	- 6.2	+ 3.2	+ 5.1
5	+ 0.4	- 5.3	+ 5.3	+ 5.8	9	+ 4.8	- 3.9	- 0.1	- 2.4
6	+ 1.6	- 6.6	+ 1.5	+ 2.5	10	+ 6.1	- 1.8	+ 0.1	- 3.2
8	+ 10.5	- 4.6	- 3.9	- 0.5	12	+ 11.3	+ 3.9	+ 4.7	+ 1.3
9	+ 14.4	- 3.4	- 5.1	+ 0.6	13	+ 8.9	+ 2.1	+ 2.8	0.0
10	+ 11.8	- 7.1	- 7.6	+ 0.1	14	+ 1.4	- 4.0	- 0.8	- 2.4
11	+ 13.1	- 4.9	- 8.2	+ 1.2	15	+ 0.8	- 2.2	+ 0.7	+ 0.1
12	+ 11.7	- 4.1	- 7.6	+ 2.4	16	- 3.5	- 3.8	- 4.2	- 3.5
13	+ 9.7	- 3.5	- 10.2	- 0.4	17	- 3.2	- 4.3	- 2.8	- 1.2
17	+ 5.8	- 2.1	- 7.1	- 1.9	18	- 4.6	- 5.9	- 6.1	- 3.9
18	+ 1.7	- 5.5	- 2.9	+ 0.5	20	+ 2.0	- 0.4	- 1.9	+ 0.4
19	+ 4.7	- 2.1	- 5.0	- 3.5	21	+ 4.0	- 0.6	- 3.3	- 1.1
20	+ 9.0	+ 3.0	+ 1.5	+ 1.0	August				
22	+ 5.4	+ 1.6	+ 4.5	+ 0.3	3	+ 17.2	+ 2.1	- 0.8	+ 2.1
23	- 2.7	- 4.2	+ 1.6	- 3.8	5	+ 9.2	+ 1.6	- 1.2	- 1.1
25	- 7.3	- 1.1	+ 6.3	+ 0.9	7	+ 6.9	+ 2.8	+ 2.3	0.0
May					8	+ 3.8	+ 0.2	+ 2.6	- 0.2
3	0.0	- 8.1	0.0	+ 1.0	10	+ 5.1	+ 0.2	+ 1.6	- 1.1
4	+ 5.8	- 6.5	- 1.0	+ 1.4	11	+ 14.5	+ 8.5	- 1.1	- 2.9
8	+ 9.7	- 8.6	- 8.3	+ 0.4	12	+ 8.8	+ 2.5	- 0.8	- 1.4
9	+ 16.0	- 2.3	- 11.3	- 1.9	13	+ 8.9	+ 3.5	- 2.1	- 1.1
10	+ 12.7	- 4.8	- 10.7	- 1.6	14	+ 9.6	+ 5.9	- 1.4	+ 0.6
11	+ 10.6	- 5.2	- 7.7	+ 0.5	15	+ 5.0	+ 3.2	- 7.0	- 4.2
12	+ 9.8	- 3.1	- 3.7	+ 3.1	16	+ 5.4	+ 4.3	+ 1.6	+ 4.8
13	+ 5.5	- 4.9	- 2.0	+ 3.3	17	+ 5.1	+ 3.2	- 5.7	- 2.2
14	+ 8.5	- 0.2	- 4.9	- 0.7	18	+ 5.9	+ 1.8	- 7.3	- 3.9
15	+ 7.4	- 0.8	- 2.7	+ 0.3	19	+ 6.9	0.0	- 5.7	- 2.1
16	+ 5.5	- 2.9	- 4.7	- 2.9	20	+ 11.1	+ 1.9	- 7.3	- 3.3
17	+ 5.7	- 4.0	- 6.6	- 5.9	21	+ 12.3	+ 2.2	- 7.3	- 3.1
18	+ 10.6	+ 2.3	+ 3.2	+ 2.7	22	+ 11.2	+ 1.5	- 12.8	- 7.6
19	+ 4.4	- 2.4	+ 4.8	+ 3.0	23	+ 3.7	- 5.5	- 7.8	- 2.1
21	+ 2.7	- 1.0	+ 4.3	+ 0.1	24	+ 5.3	- 6.3	- 8.9	- 2.2
22	+ 2.1	- 0.5	+ 4.3	- 0.5	29	+ 37.4	- 1.0	- 5.3	+ 1.5
26	- 4.6	+ 2.2	+ 4.1	- 0.2	31	+ 24.4	+ 0.6	- 2.4	+ 1.7
June					September				
1	+ 18.4	- 2.5	- 0.7	+ 0.3	1	+ 18.8	+ 2.4	- 1.3	+ 1.6
2	+ 23.0	- 0.5	- 1.0	+ 1.8	2	+ 8.7	- 2.3	- 2.4	- 0.7
4	+ 15.0	- 5.9	- 1.7	+ 4.6	3	+ 9.5	+ 2.8	- 5.0	- 4.8

ERRORS OF THE MOON'S TABULAR PLACES IN LONGITUDE AND ECLIPTIC NORTH POLAR DISTANCE, AS DEDUCED FROM
THE TABLES OF BURCKHARDT AND HANSEN—*continued*.

1851. ALTAZIMUTH OBSERVATIONS—*concluded*.

Day.	Longitude.		E. N. P. D.		Day.	Longitude.		E. N. P. D.	
	B-O.	H-O.	B-O.	H-O.		B-O.	H-O.	B-O.	H-O.
September 5	+ 5.6	+ 3.1	+ 0.2	- 1.6	October 30	+ 11.5	+ 2.9	+ 5.1	- 0.1
8	+ 3.3	- 1.3	- 0.7	- 1.8	November 1	- 1.5	- 6.4	+ 5.4	+ 1.0
9	+ 8.9	+ 1.6	- 3.9	- 4.5	2	+ 6.5	+ 0.6	+ 4.3	+ 0.7
10	+ 9.9	+ 0.2	- 0.8	- 0.1	3	+ 8.2	+ 0.8	+ 1.4	- 1.1
11	+ 11.4	+ 0.8	- 3.2	- 1.3	4	+ 7.2	- 1.5	+ 1.5	+ 0.1
12	+ 8.3	- 1.5	- 4.2	- 1.5	6	+ 12.8	+ 2.3	+ 5.2	+ 6.2
13	+ 8.6	+ 0.2	- 8.6	- 5.4	7	+ 18.9	+ 6.8	- 4.7	+ 3.1
14	+ 5.9	- 1.2	- 3.6	- 0.2	10	+ 17.5	+ 3.2	- 3.1	- 0.5
15	+ 8.8	+ 2.1	- 6.5	- 3.2	11	+ 13.5	+ 1.6	- 5.3	- 2.2
17	+ 10.7	0.0	- 7.5	- 3.6	12	+ 4.8	- 4.3	- 8.4	- 4.6
18	+ 12.8	+ 0.1	- 6.9	- 2.1	13	+ 7.6	- 1.0	- 2.5	+ 2.3
21	+ 8.0	- 3.8	- 10.9	- 3.6	14	+ 14.8	+ 4.3	- 10.7	- 4.2
22	+ 15.4	+ 2.3	- 13.2	- 5.6	15	+ 10.0	- 4.3	- 9.9	- 2.4
28	+ 41.4	+ 8.1	- 2.9	- 1.3	16	+ 13.1	- 4.6	- 12.9	- 5.3
29	+ 28.6	+ 3.3	+ 5.6	+ 5.9	17	+ 15.8	- 3.0	- 7.1	- 0.7
30	+ 18.8	+ 1.3	+ 2.2	+ 1.6	18	+ 15.1	- 2.0	- 6.6	- 2.3
October 2	+ 10.6	+ 3.7	+ 1.8	- 0.8	19	+ 8.5	- 5.7	- 4.7	- 3.0
3	+ 5.5	+ 0.9	+ 3.5	+ 0.5	25	+ 19.6	+ 2.3	+ 5.5	- 0.6
4	+ 9.3	+ 5.5	+ 1.0	- 2.0	29	+ 3.3	0.0	+ 4.8	+ 1.7
5	+ 10.0	+ 5.0	+ 1.5	- 1.1	30	+ 3.5	- 0.4	+ 0.9	- 0.9
6	+ 12.9	+ 5.7	+ 2.8	+ 1.1	December 2	+ 9.3	+ 2.3	+ 3.5	+ 4.0
7	+ 8.2	0.0	- 1.3	- 2.1	3	+ 8.4	+ 0.5	+ 7.5	+ 9.1
8	+ 17.4	+ 7.4	- 3.7	- 3.2	4	+ 14.1	+ 5.3	- 1.2	+ 1.2
9	+ 18.1	+ 5.9	- 1.0	+ 0.6	5	+ 12.3	+ 3.1	- 3.8	- 0.9
10	+ 16.1	+ 2.3	- 6.3	- 3.8	7	+ 15.0	+ 2.4	- 4.7	- 1.6
11	+ 21.7	+ 7.4	- 4.4	- 1.6	8	+ 19.6	+ 5.7	- 7.5	- 4.3
12	+ 17.5	+ 4.1	- 9.7	- 6.5	9	+ 17.2	+ 3.9	- 4.3	- 0.6
13	+ 16.2	+ 4.5	+ 2.8	- 5.8	10	+ 17.2	+ 6.0	- 11.5	- 7.2
14	+ 12.4	+ 2.4	- 12.1	- 8.7	11	+ 11.3	+ 2.0	- 11.9	- 7.0
15	+ 11.0	+ 1.1	- 5.8	- 1.9	13	+ 14.5	+ 1.9	- 11.3	- 4.8
16	+ 6.0	- 5.7	- 7.9	- 2.9	18	+ 20.8	+ 7.1	- 2.0	- 2.3
17	+ 7.7	- 6.6	- 11.8	- 5.5	26	+ 2.4	- 1.1	+ 5.3	+ 2.7
18	+ 21.6	+ 5.3	- 9.9	- 2.7	28	+ 6.8	+ 4.7	+ 5.0	+ 4.7
19	+ 17.2	+ 0.6	- 11.0	- 3.7	30	+ 2.1	- 2.1	- 4.1	- 2.2
26	+ 43.3	+ 11.1	+ 7.5	+ 4.3	31	+ 1.1	- 4.8	- 3.9	- 0.1
29	+ 16.9	+ 2.5	+ 2.4	- 2.4					

1852. MERIDIONAL OBSERVATIONS.

January 3	+ 7.1	- 2.8	- 5.2	+ 0.3	February 3	+ 9.9	- 3.8	- 5.4	+ 1.1
4	+ 9.8	- 2.0	- 6.4	- 0.9	6	+ 18.1	+ 0.5	- 5.5	- 1.0
5	+ 9.8	- 3.2	- 6.1	- 0.3	9	+ 13.4	+ 0.6	- 1.2	- 1.2
6	+ 11.9	- 2.4	- 5.1	+ 0.7	11	+ 10.1	- 0.4	+ 3.3	- 0.1
7	+ 15.1	+ 0.4	- 5.5	+ 0.4	25	- 1.7	- 2.7	- 3.4	- 1.0
9	+ 14.3	- 0.2	- 6.4	- 1.1	27	+ 2.4	- 4.2	- 4.2	- 1.1
11	+ 16.1	- 0.1	- 2.4	+ 1.3	29	+ 5.9	- 5.7	- 6.1	- 0.9
25	- 1.7	- 1.2	- 0.8	- 0.3	March 2	+ 11.9	- 0.7	- 3.9	+ 3.0
26	- 1.3	- 0.8	+ 1.2	+ 3.3	3	+ 8.3	- 3.2	- 5.8	+ 1.1
28	- 0.1	- 2.8	- 3.7	- 0.2	4	+ 11.3	- 2.2	- 6.2	- 0.1
29	+ 3.3	- 2.2	- 6.4	- 1.4	5	+ 13.0	- 1.8	- 3.9	+ 0.8
30	+ 5.3	- 3.1	- 6.6	- 1.5	6	+ 12.5	- 3.3	- 1.3	+ 1.8
February 1	+ 7.8	- 4.4	- 8.3	- 2.0	28	+ 4.2	- 6.5	- 5.2	- 0.3
2	+ 9.8	- 3.4	- 2.1	+ 4.6	30	+ 14.7	+ 1.6	- 9.3	- 1.6

ERRORS OF THE MOON'S TABULAR PLACES IN LONGITUDE AND ECLIPTIC NORTH POLAR DISTANCE, AS DEDUCED FROM THE TABLES OF BURCKHARDT AND HANSEN—continued.											
1852. MERIDIONAL OBSERVATIONS—concluded.											
Day.	Longitude.		E. N. P. D.		Day.	Longitude.		E. N. P. D.			
	B-O.	H-O.	B-O.	H-O.		B-O.	H-O.	B-O.	H-O.		
April	"	"	"	"	August	"	"	"	"		
1	+ 8.3	— 4.4	— 6.3	+ 1.8	31	+ 15.0	+ 2.4	— 0.8	+ 0.1		
2	+ 10.5	— 0.8	— 7.9	— 1.3	September	1	+ 10.9	+ 3.1	0.0	+ 1.7	
3	+ 11.0	— 1.7	— 4.8	+ 0.8	2	+ 7.3	+ 4.0	— 1.2	+ 1.0		
4	+ 11.6	— 1.3	— 0.6	+ 3.2	23	+ 4.9	— 0.1	+ 1.7	+ 1.3		
5	+ 10.8	— 2.2	+ 0.5	+ 2.6	24	+ 5.2	— 1.4	+ 0.6	— 1.5		
26	+ 4.2	— 8.5	— 7.6	— 0.4	25	+ 8.0	— 1.0	+ 4.1	+ 3.1		
27	+ 5.0	— 9.2	— 7.8	+ 0.2	29	+ 18.2	+ 4.5	— 2.0	+ 1.3		
May	1	+ 7.8	— 4.2	— 5.4	0.0	October	2	+ 5.4	+ 1.7	— 4.7	— 0.8
2	+ 8.6	— 3.1	— 0.6	+ 3.2	3	+ 7.1	+ 4.4	— 6.8	— 2.5		
3	+ 10.7	— 2.0	0.0	+ 2.2	4	+ 5.6	+ 1.4	— 7.2	— 1.9		
4	+ 10.6	— 3.2	— 2.2	— 1.2	6	+ 13.5	+ 1.8	— 10.8	— 2.4		
7	+ 6.1	— 1.2	+ 1.7	+ 0.2	18	+ 10.9	— 4.9	+ 5.0	— 2.0		
24	+ 7.1	— 7.6	— 6.0	— 0.6	19	+ 10.3	— 0.9	+ 4.4	— 2.5		
31	+ 7.8	— 3.2	+ 0.8	— 0.7	20	+ 8.9	0.0	+ 3.4	— 2.7		
June	4	+ 7.9	— 0.9	+ 0.5	— 2.5	23	+ 7.9	+ 0.9	+ 1.9	+ 0.9	
22	+ 11.8	— 7.1	— 6.2	— 3.4	24	+ 7.6	+ 0.7	+ 0.7	+ 1.2		
26	+ 5.5	— 6.9	— 1.1	— 2.3	25	+ 9.3	+ 1.5	— 2.1	— 0.1		
27	+ 4.0	— 7.4	+ 2.2	— 0.6	26	+ 10.8	+ 1.5	— 0.7	+ 2.5		
29	+ 5.2	— 4.9	+ 5.6	— 0.2	28	+ 14.6	+ 2.6	— 4.2	— 0.1		
July	1	+ 5.3	— 2.5	+ 5.9	— 0.1	29	+ 13.9	+ 2.4	— 3.8	+ 0.2	
2	+ 6.2	— 0.5	+ 8.3	+ 3.1	31	+ 8.3	+ 0.9	— 5.6	— 1.5		
3	+ 3.5	— 2.5	+ 5.6	+ 1.6	November	2	+ 5.4	— 0.9	— 5.6	— 0.3	
4	+ 9.0	+ 3.9	+ 2.7	+ 0.6	3	+ 9.3	— 0.1	— 8.2	— 2.2		
6	+ 7.2	+ 4.5	— 1.2	+ 0.2	17	+ 4.1	— 6.5	+ 4.5	— 1.2		
8	+ 6.1	+ 4.5	— 3.4	+ 0.3	18	+ 5.9	— 4.1	+ 5.2	+ 1.2		
9	+ 4.8	+ 2.8	— 5.9	— 1.3	24	+ 7.9	+ 1.4	— 4.0	+ 1.0		
10	+ 4.5	+ 2.3	— 4.2	+ 0.5	26	+ 9.5	+ 0.9	— 6.3	— 1.4		
23	+ 9.7	— 4.4	— 2.8	— 1.1	27	+ 10.1	+ 0.8	— 6.5	— 1.9		
27	+ 8.9	— 1.5	+ 3.4	— 1.2	28	+ 9.7	+ 0.4	— 4.3	0.0		
30	+ 5.6	— 4.5	+ 5.3	— 0.6	29	+ 8.2	+ 0.5	— 3.0	+ 0.9		
31	+ 9.9	— 0.4	+ 6.0	+ 1.4	30	+ 5.6	— 0.8	— 4.1	— 0.3		
August	2	+ 11.7	+ 3.5	+ 0.2	— 1.0	December	2	+ 8.9	+ 1.5	— 3.8	+ 0.5
3	+ 7.9	+ 3.2	+ 1.0	+ 1.5	15	+ 10.2	+ 2.6	+ 2.9	— 1.5		
4	+ 8.1	+ 6.9	— 0.1	+ 1.6	17	+ 7.1	+ 0.5	+ 0.5	+ 0.7		
7	+ 8.6	+ 8.6	— 8.3	— 4.5	18	+ 6.4	— 1.3	— 0.4	+ 1.8		
9	+ 3.5	+ 1.3	— 5.4	— 0.3	20	+ 6.3	— 3.3	— 6.4	— 0.5		
22	+ 5.1	— 3.9	— 2.9	— 1.7	21	+ 10.4	+ 1.0	— 6.4	+ 0.2		
26	+ 11.1	+ 2.3	+ 3.7	+ 0.1	27	+ 7.7	— 0.8	— 6.4	— 0.8		
28	+ 13.9	+ 0.1	+ 4.2	+ 1.3	28	+ 6.5	— 1.7	— 2.8	+ 2.1		
29	+ 13.8	— 1.9	+ 2.7	+ 1.1	30	+ 6.6	— 0.1	— 2.7	+ 1.3		
30	+ 18.1	+ 2.5	+ 0.7	+ 0.6							
1852. ALTAZIMUTH OBSERVATIONS.											
January	1	— 3.6	— 10.9	— 9.2	— 4.5	January	9	+ 12.0	— 2.5	— 7.6	— 2.3
2	+ 6.3	— 2.2	— 4.8	+ 0.3	10	+ 9.4	— 5.9	— 5.0	— 0.3		
3	+ 10.8	+ 0.9	— 7.4	— 1.9	11	+ 16.9	+ 0.7	— 3.9	— 0.2		
4	+ 9.1	— 2.7	— 1.3	+ 4.2	13	+ 24.5	+ 6.2	— 1.2	— 0.5		
5	+ 13.2	+ 0.2	— 4.3	+ 1.5	15	+ 13.6	— 2.6	+ 3.1	— 0.8		
6	+ 14.1	— 0.2	— 3.9	+ 1.9	16	+ 7.9	— 3.9	+ 5.7	— 0.5		
7	+ 11.3	— 3.4	— 6.1	— 0.2	17	+ 0.3	— 5.3	+ 7.5	0.0		
8	+ 16.3	+ 1.5	— 2.6	+ 2.9	18	+ 0.9	+ 1.2	+ 11.5	+ 3.4		

ERRORS OF THE MOON'S TABULAR PLACES IN LONGITUDE AND ECLIPTIC NORTH POLAR DISTANCE, AS DEDUCED FROM
THE TABLES OF BURCKHARDT AND HANSEN—*continued*.

1852. ALTAZIMUTH OBSERVATIONS—*continued*.

Day.	Longitude.		E. N. P. D.		Day.	Longitude.		E. N. P. D.	
	B - O.	H - O.	B - O.	H - O.		B - O.	H - O.	B - O.	H - O.
January	"	"	"	"	May	"	"	"	"
23	+ 0.2	+ 0.2	+ 5.1	+ 2.0	1	+ 15.7	+ 3.7	- 6.3	- 0.9
25	+ 2.5	+ 3.0	+ 3.9	+ 4.4	2	+ 8.9	- 2.8	- 3.1	+ 0.7
26	+ 1.9	+ 2.4	- 2.1	0.0	3	+ 11.5	- 1.2	+ 0.6	+ 2.8
27	+ 0.2	- 0.4	- 1.2	+ 2.0	4	+ 7.6	- 6.2	- 0.9	+ 0.1
28	- 0.1	- 2.8	- 5.3	- 1.8	5	+ 11.9	- 1.3	- 3.7	- 3.9
29	+ 5.4	- 0.1	- 5.2	- 0.2	10	+ 5.8	+ 3.8	+ 2.4	0.0
30	+ 9.0	+ 0.6	- 5.5	- 0.4	22	+ 9.9	- 3.6	+ 0.8	+ 4.8
					29	+ 6.2	- 6.7	+ 1.3	+ 2.8
					31	+ 5.8	- 5.2	- 0.3	- 1.8
February					June				
1	+ 11.8	- 0.4	- 9.7	- 3.4	1	+ 12.8	+ 0.8	+ 0.3	- 2.3
2	+ 17.4	+ 4.2	- 3.8	+ 2.9	2	+ 6.1	- 6.0	- 1.4	- 4.6
3	+ 14.2	+ 0.5	- 8.7	- 2.2	4	+ 8.5	- 0.3	- 1.0	- 4.0
5	+ 17.0	+ 0.5	- 7.4	- 1.9	10	+ 4.8	+ 1.2	- 9.2	- 5.9
6	+ 12.8	- 4.8	- 8.8	- 4.3	11	+ 3.6	+ 1.7	- 5.9	- 2.0
7	+ 15.4	- 1.7	- 4.0	- 0.9	19	+ 14.5	- 2.2	- 4.5	- 1.9
8	+ 14.5	- 1.1	+ 0.8	+ 2.3	21	+ 16.1	- 3.0	- 0.7	+ 2.3
9	+ 11.1	- 1.7	+ 0.1	+ 0.1	22	+ 13.0	- 5.9	- 1.7	+ 1.1
10	+ 8.7	- 2.3	+ 1.2	- 0.2	23	+ 13.5	- 4.5	- 0.1	+ 2.4
11	+ 8.7	- 1.8	+ 4.5	+ 1.1	24	+ 11.1	- 5.1	- 0.6	+ 1.1
22	- 6.8	- 3.9	- 1.4	- 1.2	26	+ 10.6	- 1.8	+ 1.5	+ 0.3
25	- 0.1	- 1.1	- 2.6	- 0.2	27	+ 4.0	- 7.4	+ 1.1	- 1.7
26	- 0.3	- 3.9	- 3.9	- 1.1	29	+ 6.5	- 3.6	+ 4.7	- 1.1
27	+ 8.0	+ 1.4	- 3.4	- 0.3	30	+ 11.4	+ 2.6	+ 9.3	+ 3.1
28	+ 11.6	+ 2.1	- 2.7	+ 1.4					
29	+ 9.8	- 1.8	- 2.6	+ 2.6	July				
March					1	+ 6.0	- 1.8	+ 7.6	+ 1.6
1	+ 8.1	- 4.7	- 8.7	- 2.4	2	+ 4.9	- 1.8	+ 4.7	- 0.5
2	+ 9.3	- 3.3	- 8.7	- 1.8	3	+ 6.2	+ 0.2	+ 3.8	- 0.2
3	+ 8.3	- 3.2	- 8.6	- 1.7	4	+ 8.5	- 3.4	+ 0.1	- 2.0
4	+ 10.1	- 3.4	- 9.5	- 3.4	5	+ 7.9	+ 3.9	- 1.9	- 1.9
5	+ 13.6	- 1.2	- 8.3	- 3.6	6	+ 3.9	+ 1.2	- 5.6	- 4.2
6	+ 12.9	- 2.9	- 7.9	- 4.8	7	+ 0.8	- 1.2	- 7.2	- 4.6
7	+ 11.0	- 3.3	- 6.1	- 4.9	8	- 0.6	- 2.2	- 6.0	- 2.3
14	0.0	+ 5.0	+ 5.6	- 1.5	9	+ 5.0	+ 3.0	- 9.4	- 4.8
22	- 7.3	- 3.3	+ 0.6	+ 2.2	10	+ 6.2	+ 4.0	- 6.3	- 1.6
23	+ 0.7	+ 1.1	+ 2.1	+ 4.1	20	+ 25.4	- 2.2	+ 1.3	+ 4.5
25	+ 6.6	+ 2.1	+ 0.7	+ 3.2	21	+ 19.2	- 4.3	+ 0.6	+ 3.4
26	+ 4.9	- 2.3	- 1.3	+ 1.7	22	+ 11.9	- 6.8	+ 5.5	+ 8.0
27	+ 11.3	+ 2.3	- 2.3	+ 1.6	23	+ 6.8	- 7.3	+ 4.8	+ 6.5
28	+ 18.2	+ 7.5	- 6.9	- 2.0	24	+ 5.2	- 6.2	+ 1.3	+ 1.9
30	+ 14.5	+ 1.4	- 4.6	+ 3.1	27	+ 7.4	- 3.0	+ 4.1	- 0.5
					29	+ 12.2	+ 2.4	+ 5.6	- 0.5
April					30	+ 11.3	+ 1.2	+ 3.5	- 2.4
1	+ 14.9	+ 2.2	- 11.6	- 3.5	31	+ 9.9	- 0.4	+ 6.4	+ 1.8
2	+ 11.8	- 0.5	- 9.1	- 2.1	August				
3	+ 10.8	- 1.9	- 4.2	+ 1.4	1	+ 10.0	0.0	+ 2.8	- 0.2
4	+ 8.2	- 4.7	- 5.7	- 1.9	2	+ 11.8	+ 3.6	+ 0.2	- 1.0
5	+ 8.6	- 4.4	- 4.8	- 2.7	3	+ 5.9	+ 1.2	- 4.5	- 4.0
8	+ 4.2	- 0.2	- 0.8	- 2.7	4	+ 3.9	+ 2.7	- 5.2	- 3.5
9	- 0.5	- 2.1	+ 4.1	+ 0.7	5	- 1.6	- 0.8	- 5.4	- 3.8
10	- 2.4	- 2.0	+ 5.3	+ 0.9	6	+ 4.1	+ 5.1	- 6.6	- 3.5
13	- 2.4	+ 5.2	+ 3.1	- 0.9	7	+ 8.9	+ 8.9	- 7.6	- 3.8
21	- 2.6	- 5.9	- 1.7	+ 1.2	8	+ 6.3	+ 4.8	- 8.6	- 4.3
22	+ 11.5	+ 3.9	+ 2.8	+ 6.2	9	+ 0.6	- 1.6	- 9.4	- 4.3
24	+ 12.6	+ 1.7	- 4.0	+ 0.7	10	+ 3.7	+ 0.8	- 7.1	- 1.6
25	+ 12.0	+ 0.1	- 6.5	- 0.7	18	+ 35.4	0.0	- 5.1	- 0.8
26	+ 11.8	- 0.9	- 11.7	- 4.5	19	+ 25.9	- 1.9	- 3.3	+ 0.2
27	+ 14.9	+ 0.7	- 7.8	+ 0.2	21	+ 7.9	- 5.0	+ 0.3	+ 2.1
29	+ 6.4	- 8.7	- 11.7	- 3.5	22	+ 10.4	+ 1.4	+ 0.1	+ 1.3

ERRORS OF THE MOON'S TABULAR PLACES IN LONGITUDE AND ECLIPTIC NORTH POLAR DISTANCE, AS DEDUCED FROM THE TABLES OF BURCKHARDT AND HANSEN—continued.									
1852. ALTAZIMUTH OBSERVATIONS—concluded.									
Day.	Longitude.		E. N. P. D.		Day.	Longitude.		E. N. P. D.	
	B-O.	H-O.	B-O.	H-O.		B-O.	H-O.	B-O.	H-O.
August 25	+ 7.0	— 0.4	+ 2.8	— 0.4	October 23	+ 8.2	+ 1.2	— 0.1	— 1.1
26	+ 11.3	+ 2.5	+ 6.0	+ 2.4	24	+ 6.5	— 0.4	— 1.9	— 1.4
27	+ 14.3	+ 3.2	+ 3.1	— 0.2	25	+ 11.1	+ 3.3	— 0.6	+ 1.4
28	+ 17.6	+ 3.8	+ 3.9	+ 1.0	26	+ 10.9	+ 1.6	— 6.1	— 2.9
29	+ 13.7	— 2.0	— 0.4	— 2.0	27	+ 11.4	+ 0.4	— 6.2	— 2.3
30	+ 16.1	+ 0.5	— 3.4	— 3.5	28	+ 17.3	+ 5.3	— 3.5	+ 0.6
31	+ 8.2	— 4.4	— 4.9	— 4.0	29	+ 13.3	+ 1.8	— 3.7	+ 0.3
September 1	+ 10.3	+ 2.5	— 2.7	— 1.0	30	+ 13.8	+ 4.1	— 0.7	+ 3.2
2	+ 4.3	+ 1.0	— 4.6	— 2.4	31	+ 10.6	+ 3.2	— 7.0	— 2.9
3	+ 1.9	+ 1.7	— 6.2	— 3.7	November 2	+ 10.2	+ 3.9	— 11.1	— 5.8
4	+ 7.2	+ 7.8	— 6.3	— 3.4	3	+ 2.6	+ 6.8	— 10.4	— 4.4
5	+ 5.9	+ 4.9	— 6.2	— 2.2	5	+ 15.8	— 2.0	— 13.0	— 6.2
7	+ 7.0	+ 0.9	— 10.1	— 3.4	7	+ 16.3	— 2.4	— 11.3	— 6.9
8	+ 6.3	— 1.9	— 12.2	— 4.2	16	+ 12.0	— 0.5	+ 9.0	+ 1.6
11	+ 13.5	— 6.3	— 10.9	— 1.6	17	+ 8.2	— 2.4	+ 7.7	+ 2.0
16	+ 37.0	— 3.7	— 3.5	— 1.4	18	+ 7.5	— 2.5	+ 3.5	— 0.5
17	+ 33.9	+ 1.7	— 3.3	— 2.5	19	+ 4.7	— 5.1	+ 2.2	+ 0.5
18	+ 25.2	+ 2.6	— 3.4	— 3.8	20	+ 14.3	+ 4.6	+ 0.2	+ 0.7
20	+ 9.3	+ 0.1	+ 5.5	+ 3.0	24	+ 7.1	+ 0.6	— 6.5	— 1.5
21	+ 9.5	+ 3.4	+ 0.7	— 2.6	26	+ 11.2	+ 2.6	— 7.5	— 2.6
22	+ 7.8	+ 2.9	+ 1.9	+ 1.5	27	+ 12.0	+ 2.7	— 6.3	— 1.7
23	+ 6.4	+ 1.4	+ 7.5	+ 4.5	28	+ 10.6	+ 1.3	— 6.1	— 1.8
24	+ 8.6	+ 2.0	+ 2.4	+ 0.3	29	+ 2.5	— 5.2	— 3.2	+ 0.7
25	+ 12.5	+ 3.5	+ 1.8	+ 0.8	30	— 4.5	— 10.9	— 5.1	— 1.3
26	+ 13.2	+ 1.1	+ 1.2	+ 1.6	December 1	+ 12.7	+ 6.9	— 2.0	+ 1.8
28	+ 15.0	— 0.2	— 6.2	— 3.5	2	+ 9.8	+ 2.4	— 4.6	— 0.3
29	+ 13.1	— 0.6	— 4.9	— 1.6	3	+ 10.5	— 0.2	— 6.0	— 1.9
30	+ 10.3	— 0.3	— 7.9	— 4.4	15	+ 10.7	+ 3.1	+ 6.6	+ 2.2
October 2	+ 1.1	— 2.7	— 9.6	— 5.7	17	+ 10.6	+ 4.0	+ 1.9	+ 2.1
3	+ 2.1	— 0.6	— 8.5	— 4.2	18	+ 5.7	— 2.0	— 3.5	— 1.3
4	+ 9.7	+ 5.5	— 8.4	— 3.1	19	+ 4.8	— 3.9	— 2.8	+ 1.3
5	+ 8.6	+ 1.5	— 8.1	— 1.4	20	+ 11.3	+ 1.7	— 5.7	+ 0.2
6	+ 4.3	— 7.4	— 11.4	— 3.0	21	+ 16.2	+ 6.8	— 3.5	+ 3.1
8	+ 11.1	— 7.1	— 10.0	— 0.5	22	+ 3.2	— 4.6	— 4.0	+ 3.3
11	+ 26.2	— 0.6	— 14.5	— 9.2	24	+ 6.6	+ 0.7	— 9.2	— 2.1
15	+ 41.1	+ 3.2	— 7.4	— 11.1	25	+ 5.6	— 0.9	— 8.2	— 1.7
17	+ 23.3	+ 0.7	+ 4.6	— 1.7	26	+ 7.6	— 0.1	— 5.6	+ 0.6
18	+ 7.6	— 8.2	+ 4.8	— 2.2	27	+ 10.1	+ 1.6	— 8.3	— 2.7
19	+ 7.2	— 4.0	+ 4.5	— 2.4	28	— 0.8	— 9.0	— 3.9	+ 1.0
20	+ 6.3	— 2.6	+ 5.3	— 0.8	29	+ 2.1	— 5.0	— 4.4	— 0.1
21	+ 7.9	+ 0.2	+ 5.1	+ 0.4	30	— 3.8	— 10.5	— 3.9	+ 0.1
22	+ 8.1	+ 1.0	+ 0.9	— 2.0	31	+ 3.9	— 3.6	— 6.5	— 2.9
1853. MERIDIONAL OBSERVATIONS.									
January 3	+ 6.8	— 4.4	+ 0.3	— 0.4	January 31	+ 10.2	— 3.2	+ 6.3	+ 5.0
4	+ 3.4	— 5.2	+ 3.5	+ 1.6	February 14	+ 5.7	+ 1.5	— 2.3	+ 0.3
15	+ 4.2	+ 0.8	— 0.3	+ 1.0	15	+ 4.4	— 1.6	— 7.2	— 2.9
18	+ 9.0	— 0.1	— 6.2	— 0.1	16	+ 7.8	+ 0.7	— 6.1	— 0.7
20	+ 8.4	+ 0.4	— 8.8	— 1.1	19	+ 3.4	+ 0.3	— 6.7	+ 1.0
21	+ 3.2	— 2.8	— 9.5	— 1.5	21	+ 2.8	— 0.2	— 7.7	— 0.8
22	+ 0.6	— 4.3	— 8.5	— 0.7	23	+ 3.7	— 3.4	— 3.0	+ 1.5
23	+ 5.2	— 0.3	— 7.2	+ 0.3	27	+ 8.9	— 4.0	+ 2.3	0.0
26	+ 6.2	— 3.7	— 4.3	+ 0.6	28	+ 10.7	— 2.5	+ 4.2	0.0
30	+ 7.4	— 4.6	— 2.2	— 1.5					

ERRORS OF THE MOON'S TABULAR PLACES IN LONGITUDE AND ECLIPTIC NORTH POLAR DISTANCE, AS DEDUCED FROM
THE TABLES OF BURCKHARDT AND HANSEN—*continued*.

1853. MERIDIONAL OBSERVATIONS—*concluded*.

Day.	Longitude.		E. N. P. D.		Day.	Longitude.		E. N. P. D.	
	B-O.	H-O.	B-O.	H-O.		B-O.	H-O.	B-O.	H-O.
March 18	+ 0.7	- 3.8	- 7.7	0.0	August 9	+ 18.4	- 2.8	- 3.9	+ 1.0
19	+ 1.2	- 2.0	- 8.9	+ 0.5	10	+ 14.8	- 3.8	- 4.0	+ 0.3
20	+ 0.7	+ 1.3	- 7.9	+ 0.8	11	+ 12.4	- 3.6	- 3.4	- 0.4
22	- 2.6	- 3.8	- 5.9	+ 1.5	13	+ 9.5	- 2.5	- 0.2	- 1.1
23	- 1.0	- 3.7	- 4.6	+ 1.5	17	+ 17.4	- 1.0	+ 8.0	+ 1.4
24	+ 6.0	+ 0.3	- 2.7	+ 1.4	18	+ 16.5	- 4.0	+ 5.2	- 1.1
25	+ 7.4	- 2.3	- 0.9	+ 1.1	23	+ 8.0	- 0.8	- 0.3	- 1.6
26	+ 9.1	- 4.0	- 1.1	- 1.6	24	+ 7.7	+ 3.0	+ 1.1	+ 1.1
27	+ 12.1	- 2.3	+ 4.5	+ 1.6	25	+ 4.8	+ 2.5	- 3.3	- 2.0
28	+ 8.9	- 4.5	+ 7.4	+ 2.5	26	+ 2.5	+ 1.4	- 3.8	- 1.3
29	+ 6.1	- 4.9	+ 7.9	+ 0.9	27	+ 3.2	+ 2.4	- 6.1	- 2.2
30	+ 7.5	- 1.0	+ 9.9	+ 1.4					
31	+ 7.6	+ 1.2	+ 4.5	- 5.0	September 10	+ 2.7	- 7.4	+ 2.2	+ 1.7
April 1	+ 1.7	- 2.5	+ 14.1	+ 4.8	13	+ 12.7	- 2.6	- 0.2	- 2.9
17	+ 2.8	- 3.3	- 9.5	- 0.4	16	+ 22.9	+ 1.5	+ 1.3	+ 0.3
20	- 0.5	- 6.2	- 6.0	+ 1.5	17	+ 18.7	- 2.9	- 1.2	- 1.6
23	+ 10.6	- 3.6	- 0.2	+ 1.4	18	+ 20.6	+ 0.4	- 0.2	- 0.2
26	+ 9.5	- 3.7	+ 4.7	- 0.3	20	+ 16.7	+ 5.4	+ 2.6	- 3.6
27	+ 8.1	- 1.0	+ 4.9	- 0.9	21	+ 7.4	+ 2.0	- 0.4	+ 0.9
May 14	+ 5.8	- 3.5	- 6.5	- 0.9	23	- 2.6	- 0.9	- 3.6	- 0.6
16	+ 4.7	- 6.0	- 4.7	+ 1.0	25	+ 0.9	- 0.2	- 6.2	- 0.4
18	+ 5.1	- 6.4	- 3.7	+ 0.9	October 9	+ 8.6	- 3.7	+ 5.7	+ 0.3
19	+ 4.2	- 7.5	- 2.4	+ 1.1	14	+ 16.4	+ 3.2	+ 0.5	+ 0.9
20	+ 7.4	- 5.1	- 2.9	- 0.8	15	+ 15.7	+ 1.5	- 1.2	0.0
21	+ 8.4	- 5.9	+ 2.5	+ 2.8	16	+ 17.5	+ 2.4	- 0.2	+ 2.0
22	+ 13.9	- 2.6	+ 3.8	+ 2.0	18	+ 12.1	- 0.3	- 3.8	- 1.2
23	+ 12.5	- 4.4	+ 6.5	+ 2.9	20	+ 2.7	+ 0.6	- 2.8	- 0.2
25	+ 13.0	+ 0.7	+ 6.2	+ 1.5	23	- 4.1	- 2.7	- 4.1	+ 0.2
26	+ 7.2	- 1.6	+ 6.6	+ 2.8	24	+ 7.6	+ 4.7	- 6.1	- 0.8
June 14	+ 7.3	- 6.1	- 1.6	- 0.1	25	+ 7.1	- 1.1	- 4.6	+ 1.3
16	+ 6.8	- 6.6	+ 0.4	- 0.5	26	+ 18.8	+ 6.0	- 6.9	- 0.3
17	+ 7.6	- 5.0	+ 2.2	- 0.2	November 9	+ 15.1	+ 0.7	+ 5.3	+ 2.9
18	+ 5.1	- 6.6	+ 2.7	- 1.4	10	+ 10.4	- 1.3	+ 0.5	0.0
21	+ 8.1	- 3.8	+ 8.2	+ 0.4	11	+ 9.9	+ 0.9	+ 1.0	+ 2.0
23	+ 14.0	+ 3.3	- 1.7	- 7.9	16	+ 12.9	+ 3.9	- 3.9	- 0.8
28	+ 5.5	+ 2.0	- 3.2	+ 0.4	17	+ 6.8	- 0.3	- 3.1	- 0.5
July 11	+ 14.6	- 2.3	- 2.3	+ 0.2	18	+ 4.1	- 0.2	- 2.8	- 0.8
12	+ 10.8	- 5.5	- 2.4	+ 0.2	19	+ 2.2	+ 0.9	- 1.0	+ 0.5
15	+ 3.9	- 9.6	+ 2.5	+ 0.5	20	- 1.0	- 1.4	- 3.6	- 2.1
17	+ 1.9	- 7.9	+ 8.8	+ 2.1	21	+ 1.3	- 0.1	- 5.1	- 3.3
19	+ 10.1	- 0.8	+ 9.5	0.0	December 8	+ 13.2	+ 0.8	- 1.6	0.0
22	+ 15.0	+ 1.0	+ 9.5	+ 2.0	12	+ 4.7	- 0.2	- 4.4	+ 1.1
24	+ 13.3	+ 3.1	+ 6.4	+ 2.7	25	+ 6.2	- 2.3	+ 1.8	+ 1.9
28	+ 7.6	+ 4.4	- 5.5	- 2.3					

1853. ALTIZIMUTH OBSERVATIONS.

January 1	+ 6.4	- 3.6	- 2.1	+ 0.9	January 15	+ 6.7	+ 3.3	+ 1.2	+ 2.5
3	+ 4.3	- 6.9	- 0.1	0.0	16	+ 0.9	- 4.2	+ 0.7	+ 3.9
4	+ 3.3	- 5.3	+ 1.4	- 0.5	18	+ 10.5	+ 1.4	- 5.9	+ 0.2
5	- 0.8	- 4.8	+ 4.8	+ 1.4	19	+ 11.5	+ 2.4	- 3.2	+ 3.9
13	+ 4.2	+ 0.9	+ 5.7	+ 3.0	20	+ 10.2	+ 2.2	- 11.2	- 3.5

ERRORS OF THE MOON'S TABULAR PLACES IN LONGITUDE AND ECLIPTIC NORTH POLAR DISTANCE, AS DEDUCED FROM THE TABLES OF BURCKHARDT AND HANSEN—continued.											
1853. ALTAZIMUTH OBSERVATIONS—continued.											
Day.	Longitude.		E. N. P. D.		Day.	Longitude.		E. N. P. D.			
	B-O.	H-O.	B-O.	H-O.		B-O.	H-O.	B-O.	H-O.		
	"	"	"	"		"	"	"	"		
January	21	+ 8.6	+ 2.6	- 8.9	- 0.9	May	14	+ 9.5	+ 0.2	- 6.6	- 1.0
	22	+ 4.3	- 0.6	- 10.4	- 2.6		15	+ 10.0	+ 0.1	- 5.8	+ 0.1
	23	+ 2.8	- 2.7	- 6.9	+ 0.6		16	+ 4.4	- 6.3	- 2.5	+ 3.2
	24	+ 4.0	- 3.3	- 6.0	+ 0.6		17	+ 7.8	- 3.6	- 5.4	- 0.1
	25	+ 5.8	- 3.4	- 7.9	- 1.9		18	+ 7.1	- 4.4	- 4.3	+ 0.3
	26	+ 10.3	+ 0.4	- 4.3	+ 0.6		19	+ 4.6	- 7.1	- 4.6	- 1.1
	27	+ 5.0	- 4.8	- 3.7	+ 0.1		20	+ 8.9	- 3.6	- 0.5	+ 1.6
	30	+ 5.5	- 6.5	+ 1.5	+ 2.2		21	+ 10.8	- 3.5	- 0.8	- 0.5
							22	+ 15.5	- 1.0	+ 3.0	+ 1.2
February	1	+ 5.9	- 7.3	+ 7.5	- 10.7		23	+ 9.9	- 7.0	+ 2.3	- 1.3
	11	+ 0.2	+ 0.8	+ 8.6	+ 7.0		25	+ 10.8	- 1.5	+ 7.2	+ 2.5
	15	+ 8.7	+ 2.7	- 3.0	+ 1.3		26	+ 5.1	- 3.7	+ 7.4	+ 3.6
	16	+ 8.9	+ 1.8	- 4.1	+ 1.3		27	+ 0.7	- 5.6	+ 1.1	- 1.8
	17	+ 5.8	- 0.9	- 6.5	0.0		28	- 1.9	- 6.2	+ 2.9	+ 1.8
	18	+ 6.7	+ 1.7	- 8.5	- 1.3						
	19	+ 5.8	+ 2.7	- 9.1	- 1.4	June	10	+ 9.4	- 3.9	- 0.7	+ 2.7
	20	- 0.2	- 2.5	- 11.4	- 4.1		11	+ 17.2	+ 3.7	- 1.9	+ 0.7
	21	+ 2.6	- 0.4	- 9.1	- 2.2		14	+ 9.1	- 4.3	- 3.2	- 1.7
	22	+ 3.5	- 1.3	- 6.9	- 1.1		16	+ 6.6	- 6.8	+ 0.1	- 0.8
	23	+ 4.8	- 2.3	- 6.2	- 1.7		17	+ 6.3	- 6.3	- 0.2	- 2.6
	25	+ 7.9	- 3.1	- 0.3	+ 0.7		18	+ 2.3	- 9.4	+ 1.3	- 2.8
	27	+ 10.1	- 2.8	+ 1.0	- 1.3		19	+ 6.0	- 5.2	+ 8.4	+ 2.4
	28	+ 10.5	- 2.7	+ 4.5	+ 0.3		21	+ 7.0	- 4.9	+ 4.3	- 3.5
							23	+ 12.9	+ 2.2	+ 4.6	- 1.6
March	3	+ 8.6	+ 0.4	+ 11.4	+ 2.0		28	+ 7.6	+ 4.1	- 2.4	+ 1.2
	11	- 5.5	- 0.7	+ 10.2	+ 10.1		29	+ 8.2	+ 5.8	- 2.4	+ 2.7
	12	- 1.7	+ 0.2	+ 5.9	+ 6.8		30	+ 3.0	+ 1.8	- 10.9	- 4.8
	13	+ 1.5	+ 0.9	+ 4.6	+ 6.6						
	14	- 0.3	- 2.6	+ 1.1	+ 4.3	July	9	+ 18.0	- 0.3	- 0.7	+ 2.6
	15	+ 2.2	- 1.6	- 1.7	+ 2.4		10	+ 17.8	- 0.2	- 0.9	+ 2.1
	17	+ 1.8	- 3.2	- 3.6	+ 3.1		12	+ 10.4	- 5.9	+ 1.3	+ 3.5
	18	+ 3.2	- 1.3	- 6.9	+ 0.8		14	+ 6.3	- 8.6	+ 1.7	+ 1.5
	19	- 0.4	- 3.6	- 10.2	- 1.8		15	+ 8.1	- 5.4	+ 3.0	+ 1.0
	20	- 5.4	- 7.4	- 5.3	+ 3.4		17	+ 5.1	- 4.7	+ 7.9	+ 1.2
	21	+ 0.4	- 0.7	- 6.0	+ 2.1		18	+ 0.1	- 9.4	+ 10.0	+ 1.5
	22	+ 3.4	+ 2.2	- 8.4	- 1.0		19	+ 10.5	- 0.4	+ 8.4	- 1.1
	23	- 3.5	- 6.2	- 7.6	- 1.5		22	+ 14.8	+ 0.8	+ 8.8	+ 1.3
	24	+ 5.5	- 0.2	- 5.6	- 1.5		23	+ 19.2	+ 6.8	+ 8.5	+ 2.8
	25	+ 7.9	- 1.8	- 3.8	- 1.8		24	+ 10.7	+ 0.5	+ 7.5	+ 3.8
	26	+ 8.2	- 4.9	- 1.5	- 2.0		25	+ 9.9	+ 2.1	- 0.2	- 1.9
	27	+ 8.4	- 6.0	+ 3.2	+ 0.3		26	+ 9.3	+ 3.5	- 3.2	- 3.2
	28	+ 8.4	- 5.0	+ 3.9	- 1.0		28	+ 10.3	+ 7.1	- 2.4	+ 0.8
	29	+ 5.9	- 5.1	+ 5.4	- 1.6		30	+ 2.3	+ 2.2	- 7.6	- 2.1
	30	+ 4.2	- 4.3	+ 9.3	+ 0.8	August	7	+ 27.4	+ 2.0	- 11.5	- 6.3
	31	+ 8.3	+ 1.9	+ 7.0	- 2.5		8	+ 19.9	- 3.8	- 5.6	- 0.6
April	1	+ 1.2	- 3.0	+ 8.3	- 1.0		9	+ 17.9	- 3.3	- 4.7	+ 0.2
	11	+ 7.3	+ 3.1	+ 2.7	+ 7.3		10	+ 11.5	- 7.1	- 0.7	+ 3.6
	13	+ 3.2	- 2.2	- 0.6	+ 5.3		11	+ 15.3	- 0.7	- 0.5	+ 2.5
	14	+ 6.6	+ 1.4	- 3.9	+ 3.2		12	+ 6.9	- 6.9	- 0.4	+ 0.9
	17	+ 4.4	- 1.7	- 10.0	- 0.9		13	+ 8.8	- 3.2	+ 0.4	- 0.5
	20	+ 2.7	- 3.0	- 7.9	- 0.4		17	+ 15.0	- 3.4	+ 4.5	- 2.1
	23	+ 13.6	- 0.6	- 5.9	- 4.3		18	+ 22.2	+ 1.7	+ 6.9	+ 0.6
	25	+ 13.2	- 3.4	+ 3.8	+ 0.5		20	+ 18.1	- 2.0	+ 3.9	- 0.8
	26	+ 13.6	+ 0.4	+ 2.3	- 2.7		23	+ 12.2	+ 3.4	+ 1.2	- 0.1
							24	+ 10.3	+ 5.6	- 1.5	- 1.5
May	10	+ 9.3	+ 1.5	- 6.7	- 1.6		25	+ 1.6	- 0.7	- 5.4	- 4.1
	11	+ 9.3	+ 1.2	- 3.9	+ 1.2		26	+ 3.6	+ 2.5	- 6.7	- 4.2
	13	+ 8.5	- 0.4	- 3.7	+ 1.6		27	+ 5.5	+ 4.7	- 7.9	- 4.0

ERRORS OF THE MOON'S TABULAR PLACES IN LONGITUDE AND ECLIPTIC NORTH POLAR DISTANCE, AS DEDUCED FROM
THE TABLES OF BURCKHARDT AND HANSEN—*continued*.

1853. ALTAZIMUTH OBSERVATIONS—*concluded*.

Day.	Longitude.		E. N. P. D.		Day.	Longitude.		E. N. P. D.	
	B-O.	H-O.	B-O.	H-O.		B-O.	H-O.	B-O.	H-O.
	"	"	"	"		"	"	"	"
August 28	+ 3.5	+ 2.0	- 6.9	- 1.5	October 24	+ 1.0	- 1.9	- 7.8	- 2.5
29	+ 1.2	- 2.2	- 9.9	- 3.3	25	+ 9.0	+ 0.8	- 9.0	- 3.1
30	+ 10.3	+ 3.2	- 10.0	- 2.5	27	+ 12.1	- 4.0	- 8.4	- 1.9
					28	+ 11.8	- 6.3	- 5.4	+ 0.7
September 5	+ 36.4	+ 0.3	- 12.5	- 7.2	30	+ 22.8	- 1.8	- 2.1	+ 1.6
6	+ 27.8	- 4.2	- 4.2	+ 0.2					
9	+ 12.5	- 0.7	- 6.7	- 5.8	November 8	+ 14.4	- 2.5	+ 6.9	+ 2.6
10	+ 7.5	- 2.6	- 1.4	- 1.9	9	+ 14.1	- 0.3	+ 1.6	- 0.8
11	+ 7.5	- 2.4	+ 2.8	+ 0.8	10	+ 16.2	+ 4.5	+ 2.1	+ 1.6
13	+ 12.0	- 3.3	+ 0.3	- 2.4	11	+ 12.6	+ 3.6	- 1.9	- 0.9
16	+ 19.4	- 2.0	+ 12.0	+ 11.0	12	+ 8.4	+ 1.0	- 2.2	- 0.1
17	+ 26.0	+ 4.4	- 0.5	- 0.9	13	+ 12.7	+ 5.3	- 4.4	- 1.6
18	+ 26.6	+ 6.4	- 1.1	- 1.1	14	+ 13.5	+ 5.0	- 3.5	- 0.3
19	+ 18.9	+ 2.1	- 3.2	- 2.5	16	+ 11.7	+ 2.7	- 6.3	- 3.2
20	+ 14.1	+ 2.8	- 1.6	- 0.6	17	+ 11.5	+ 4.4	- 6.6	- 4.0
21	+ 5.5	+ 0.1	- 4.8	- 3.5	18	+ 8.9	+ 4.6	- 8.4	- 6.4
22	+ 4.4	+ 3.9	- 5.5	- 3.3	19	+ 1.8	+ 0.5	- 6.0	- 4.5
23	- 0.8	+ 0.9	- 5.3	- 2.3	20	- 0.7	- 1.1	- 4.4	- 2.9
24	- 2.3	- 1.1	- 7.3	- 2.9	21	+ 0.7	- 0.7	- 7.2	- 5.4
25	+ 1.1	0.0	- 8.6	- 2.8	23	+ 1.3	- 7.0	- 1.3	+ 1.3
26	+ 3.6	- 1.2	- 9.3	- 2.2	26	0.0	- 12.8	- 0.5	+ 1.7
27	+ 8.7	- 0.6	- 12.0	- 4.0					
28	+ 15.2	+ 0.8	- 12.2	- 3.4	December 2	+ 23.0	- 1.2	+ 9.7	+ 3.5
29	+ 18.8	- 1.0	- 10.4	- 1.6	8	+ 16.2	+ 3.8	+ 0.5	+ 2.1
October 5	+ 33.5	- 4.8	+ 3.2	+ 2.6	9	+ 11.5	+ 0.7	+ 2.5	+ 5.9
8	+ 12.6	- 2.7	+ 5.9	+ 1.1	12	+ 3.5	- 1.4	- 8.8	- 3.3
9	+ 9.3	- 3.0	+ 5.0	- 0.4	13	+ 1.1	- 3.2	- 9.8	- 4.5
12	+ 10.5	- 3.1	+ 3.0	+ 0.4	14	+ 9.4	+ 4.5	- 8.0	- 3.2
13	+ 12.0	- 1.4	+ 5.0	+ 4.1	15	+ 8.0	+ 1.5	- 7.2	- 3.0
14	+ 13.2	0.0	+ 0.7	+ 1.1	16	+ 17.8	+ 10.3	- 6.2	- 2.6
15	+ 17.9	+ 3.7	- 0.9	+ 0.3	17	+ 15.8	+ 8.3	- 7.9	- 5.7
16	+ 18.2	+ 3.1	- 2.9	- 0.7	18	+ 7.6	+ 1.0	- 2.8	- 1.0
17	+ 16.1	+ 1.1	- 6.3	- 3.7	19	+ 5.6	+ 0.4	- 4.8	- 3.4
18	+ 17.1	+ 4.7	- 1.8	+ 0.8	22	+ 9.6	+ 3.9	- 4.1	- 2.3
19	+ 10.2	+ 2.5	- 4.4	- 1.6	23	+ 12.0	+ 4.2	- 2.1	- 0.6
20	+ 2.4	+ 0.3	- 6.2	- 3.6	24	+ 8.5	- 0.8	- 7.5	- 6.3
22	- 2.4	+ 1.0	- 5.4	- 2.0	25	+ 10.0	+ 1.5	- 2.1	- 2.0
23	+ 1.1	+ 2.5	- 6.2	- 1.9	26	+ 2.4	- 3.5	+ 0.2	- 0.5

1854. MERIDIONAL OBSERVATIONS.

January 5	+ 4.8	- 2.2	- 0.4	+ 1.3	February 13	+ 2.8	- 2.0	- 2.1	+ 1.5
8	+ 7.6	- 1.7	- 8.3	- 1.8	17	+ 11.7	- 0.1	- 0.6	- 0.5
19	+ 8.7	+ 2.5	- 1.6	+ 1.8	18	+ 12.0	- 1.6	+ 1.4	+ 1.0
20	+ 8.8	+ 1.4	- 1.4	+ 1.5					
21	+ 5.9	- 2.9	- 0.2	+ 1.9	March 2	+ 2.9	- 3.9	+ 5.7	+ 5.4
22	+ 7.5	- 1.8	- 0.1	+ 0.4	3	+ 6.2	- 1.8	- 0.1	+ 1.3
February 2	+ 4.4	- 0.4	+ 1.2	+ 0.5	5	+ 4.8	- 3.4	- 4.1	- 0.2
3	+ 6.1	- 0.5	- 2.0	- 1.0	6	+ 5.3	- 3.1	- 5.0	0.0
7	+ 4.8	- 2.5	- 6.8	- 0.5	9	- 0.5	- 4.3	- 7.1	- 1.7
9	+ 1.3	+ 0.1	- 7.0	- 1.1	10	- 2.8	- 3.5	- 6.1	- 1.2
11	- 0.3	0.0	- 5.2	- 0.6	11	- 3.8	- 2.3	- 3.4	+ 0.7
12	- 0.6	- 2.6	- 4.7	- 0.5	12	- 3.7	- 1.9	- 5.2	- 1.4

GREENWICH OBSERVATIONS, 1859.

4 Q

ERRORS OF THE MOON'S TABULAR PLACES IN LONGITUDE AND ECLIPTIC NORTH POLAR DISTANCE, AS DEDUCED FROM THE TABLES OF BURCKHARDT AND HANSEN— <i>continued</i> .									
1854. MERIDIONAL OBSERVATIONS— <i>concluded</i> .									
Day.	Longitude.		E. N. P. D.		Day.	Longitude.		E. N. P. D.	
	B-O.	H-O.	B-O.	H-O.		B-O.	H-O.	B-O.	H-O.
March	13	"	"	"	September	1	"	"	"
		— 2.9	— 2.8	— 4.9			+ 11.2	— 7.7	+ 2.7
	16	+ 9.0	— 1.3	+ 2.2		2	+ 14.9	— 4.4	+ 0.7
	17	+ 12.8	— 0.8	+ 5.7		3	+ 15.3	— 4.6	+ 0.6
	19	+ 14.7	— 2.4	+ 8.7		4	+ 20.5	— 1.1	0.0
April	1	+ 3.9	— 3.6	— 3.1		5	+ 22.9	— 0.2	+ 1.4
	4	+ 3.2	— 4.1	— 6.1		6	+ 26.5	+ 1.5	+ 3.6
	5	+ 3.3	— 4.0	— 6.7		9	+ 21.0	+ 2.1	— 1.0
	6	+ 1.9	— 4.4	— 7.8		10	+ 14.7	+ 1.3	+ 1.2
	7	+ 2.1	— 2.4	— 6.5		11	+ 11.9	+ 3.3	— 0.5
	8	— 0.7	+ 2.9	— 6.0		28	+ 1.6	— 13.0	— 4.2
	9	— 4.1	+ 4.8	— 4.2		29	+ 3.2	— 11.6	— 0.2
	10	— 0.8	+ 1.2	— 1.5		30	+ 7.7	— 8.2	+ 0.6
	11	— 1.3	— 3.7	— 1.8	October	1	+ 10.2	— 6.8	— 0.9
	13	+ 9.2	— 0.7	+ 1.1		2	+ 14.0	— 4.3	+ 0.5
	14	+ 10.6	— 3.3	+ 4.7		3	+ 15.1	— 4.4	— 1.2
	15	+ 15.1	— 1.2	+ 7.6		4	+ 15.7	— 4.6	+ 1.1
	17	+ 15.7	— 1.3	+ 8.2		7	+ 16.6	— 0.6	— 6.1
	18	+ 18.3	+ 2.2	+ 10.2		8	+ 15.5	+ 2.4	— 5.2
May	4	+ 1.8	— 5.6	— 5.7		9	+ 10.5	+ 2.2	— 7.0
	5	+ 2.3	— 5.4	— 6.8		11	+ 2.6	+ 2.3	— 3.6
	6	+ 1.8	— 5.7	— 5.7		12	— 2.8	— 2.1	— 1.7
	7	— 2.9	— 10.1	— 4.4		28	+ 9.1	— 5.6	+ 2.1
	8	+ 3.0	— 4.3	— 3.2		29	+ 11.2	— 3.6	+ 1.4
	10	+ 6.1	— 3.4	— 3.3		30	+ 15.0	— 0.1	+ 1.3
	11	+ 6.0	— 6.7	+ 0.1		31	+ 12.0	— 3.6	— 0.4
	12	+ 13.3	— 2.5	+ 1.8	November	2	+ 10.1	— 3.4	— 4.5
	15	+ 19.1	+ 1.2	+ 4.1		3	+ 12.3	+ 0.1	— 3.6
	18	+ 13.1	— 3.4	+ 5.7		5	+ 11.6	+ 2.0	— 4.4
	19	+ 7.2	— 0.1	— 2.3		6	+ 7.8	+ 0.1	— 2.7
June	1	+ 5.0	— 3.3	— 0.1		9	+ 1.1	+ 2.6	+ 2.8
	3	+ 3.1	— 6.6	+ 0.5		29	+ 12.1	— 1.4	— 1.2
	8	+ 5.7	— 8.3	+ 3.2	December	1	+ 4.4	— 3.4	— 4.0
	10	+ 11.2	— 5.8	+ 3.7		2	+ 8.8	+ 2.6	— 4.2
	12	+ 18.8	0.0	+ 7.5		3	+ 3.8	— 2.1	— 5.8
	17	+ 5.3	+ 1.6	— 4.3		5	+ 6.7	— 0.2	— 1.9
July	6	+ 10.2	— 4.5	+ 5.9		6	+ 9.6	+ 3.7	— 1.0
	12	+ 21.6	+ 5.6	+ 2.7		7	+ 6.0	+ 2.4	+ 0.6
	13	+ 13.7	+ 1.3	+ 4.0		8	+ 4.7	+ 3.7	+ 4.0
	17	+ 6.5	+ 3.2	— 2.9		9	+ 0.7	+ 1.5	+ 0.9
	18	+ 2.5	+ 0.7	— 6.8		10	+ 0.2	+ 0.8	+ 2.9
August	6	+ 13.1	— 4.1	+ 8.3		11	+ 2.7	+ 1.2	+ 1.3
	8	+ 20.6	— 0.8	+ 6.0		12	+ 5.8	+ 0.9	+ 2.7
	10	+ 21.5	+ 1.0	+ 4.2		14	+ 9.7	+ 0.4	+ 0.2
	11	+ 16.8	— 0.7	+ 3.6		25	+ 9.7	— 1.6	— 2.8
	12	+ 15.8	+ 2.4	+ 2.0		26	+ 10.5	— 0.8	— 3.8
	13	+ 12.1	+ 2.9	— 0.1		27	+ 8.7	— 2.3	— 4.8
	14	+ 7.8	+ 1.2	— 2.2		28	+ 8.2	— 0.9	— 5.2
	29	+ 12.6	— 7.0	— 5.2		29	+ 2.7	— 3.3	— 7.8
						30	+ 2.8	— 0.3	— 7.9
						31	— 2.5	— 4.1	— 5.6

ERRORS OF THE MOON'S TABULAR PLACES IN LONGITUDE AND ECLIPTIC NORTH POLAR DISTANCE, AS DEDUCED FROM
THE TABLES OF BURCKHARDT AND HANSEN—*continued*.

1854. ALTAZIMUTH OBSERVATIONS.

Day.	Longitude.		E. N. P. D.		Day.	Longitude.		E. N. P. D.	
	B-O.	H-O.	B-O.	H-O.		B-O.	H-O.	B-O.	H-O.
January	"	"	"	"	April	"	"	"	"
1	+ 7.6	- 4.0	+ 4.8	0.0	5	+ 6.2	- 1.1	- 3.7	+ 2.4
6	+ 6.9	- 1.8	- 0.3	+ 3.3	6	+ 4.1	- 2.2	- 7.2	- 1.2
7	+ 11.2	+ 1.4	- 2.9	+ 2.4	7	+ 2.0	- 2.5	- 6.1	- 0.6
8	+ 13.7	+ 4.4	- 6.4	+ 0.1	8	+ 0.2	- 2.0	- 6.2	- 1.2
13	- 1.2	- 4.1	- 5.7	- 0.2	9	- 1.8	- 2.5	- 5.4	- 0.7
14	+ 2.6	- 2.8	- 6.4	- 1.6	10	+ 0.4	0.0	- 5.0	- 1.0
15	+ 3.4	- 4.1	- 4.3	0.0	11	+ 0.6	- 1.8	- 5.8	- 2.7
16	+ 8.3	0.0	- 4.9	- 1.3	12	+ 0.8	- 5.2	- 1.2	+ 0.5
18	+ 7.7	+ 1.0	- 5.9	- 2.5	13	+ 4.3	- 5.6	- 1.2	- 1.3
19	- 0.4	- 6.6	- 2.8	+ 0.6	14	+ 8.6	- 5.3	+ 2.0	+ 0.2
20	+ 7.2	- 0.2	- 1.6	+ 1.3	15	+ 14.9	- 1.4	+ 2.9	- 1.7
21	+ 4.3	- 4.5	- 1.2	+ 0.9	17	+ 12.7	- 4.3	+ 9.9	+ 1.8
22	+ 8.1	- 1.2	+ 1.2	- 1.7	18	+ 13.8	- 2.3	+ 4.5	- 3.8
23	- 2.8	- 9.6	+ 0.4	- 0.7	19	+ 9.8	- 4.9	+ 2.5	- 4.9
24	- 9.8	- 11.6	+ 1.9	- 0.8	20	+ 15.1	+ 2.4	+ 7.5	+ 1.7
30	+ 7.7	+ 3.5	+ 15.5	+ 11.0					
February					May				
2	+ 6.8	+ 2.0	+ 4.0	+ 3.3	2	+ 6.2	- 0.1	- 3.0	+ 1.7
3	+ 7.4	+ 0.8	+ 4.1	+ 5.1	3	+ 3.7	- 2.9	- 1.5	+ 2.7
7	+ 9.4	+ 2.1	- 10.9	- 4.6	4	+ 3.8	- 3.6	- 3.3	+ 0.6
8	+ 3.1	- 1.3	- 8.7	- 2.3	5	+ 6.6	- 1.1	- 3.1	+ 0.4
9	+ 4.5	+ 3.3	- 10.7	- 4.8	6	+ 4.7	- 2.8	- 5.9	- 2.3
10	- 1.5	- 1.0	- 9.9	- 4.6	7	+ 9.2	+ 2.0	- 6.3	- 3.0
11	- 2.3	- 2.0	- 8.4	- 3.8	8	+ 0.3	- 7.0	- 4.2	- 1.1
12	- 0.9	- 2.9	- 5.7	- 1.5	9	- 11.0	- 18.9	- 2.1	+ 0.8
13	- 3.2	- 8.0	- 6.0	- 2.4	10	+ 3.1	- 6.4	- 1.9	+ 0.1
14	+ 2.0	- 5.4	- 1.8	+ 1.1	11	+ 9.1	- 3.6	- 4.7	- 3.7
15	+ 1.3	- 7.7	- 2.3	+ 0.2	12	+ 10.5	- 5.3	- 1.9	- 2.4
16	+ 7.6	- 2.4	+ 5.4	+ 7.4	13	+ 16.7	- 1.6	+ 0.7	- 1.5
17	+ 3.3	- 8.5	- 4.4	- 3.3	15	+ 21.7	+ 3.8	- 3.2	- 7.0
18	+ 11.7	- 1.9	- 4.7	+ 4.3	16	+ 10.3	- 5.2	+ 1.5	- 2.0
20	+ 7.5	- 4.9	+ 1.6	- 2.1	18	+ 10.5	+ 0.8	+ 2.2	+ 0.8
21	+ 5.7	- 2.2	+ 4.2	- 0.8	30	+ 10.5	+ 1.7	+ 0.1	+ 1.9
22	- 4.1	- 5.5	+ 5.2	- 0.4	31	+ 4.5	- 4.1	+ 2.4	+ 3.2
March					June				
1	+ 1.9	- 2.4	+ 4.5	+ 3.0	4	+ 4.0	- 7.2	+ 1.4	+ 0.5
2	+ 4.3	- 2.5	+ 3.9	+ 3.6	8	+ 7.7	- 6.3	+ 4.5	+ 1.4
3	+ 7.4	- 0.6	+ 2.5	+ 3.9	9	+ 10.6	- 4.6	+ 3.7	- 0.1
4	+ 7.7	- 0.4	+ 5.0	+ 7.9	10	+ 12.8	- 4.2	+ 2.4	- 2.2
5	+ 13.1	+ 4.9	- 1.9	+ 2.0	12	+ 17.5	- 1.3	+ 1.7	- 2.6
6	+ 6.4	- 2.0	- 6.4	- 1.4	13	+ 16.8	+ 0.4	+ 2.3	- 0.9
8	+ 9.6	+ 3.0	- 5.9	- 0.1	17	+ 6.3	+ 2.6	- 6.5	- 3.0
9	+ 4.0	+ 0.2	- 6.9	- 1.5	18	+ 6.3	+ 4.5	- 5.0	0.0
10	- 3.2	- 3.9	- 6.4	- 1.5	20	- 2.5	- 0.1	- 9.7	- 2.4
11	- 3.0	- 1.5	- 5.9	- 1.8	28	+ 15.3	+ 1.8	- 1.6	- 0.8
12	- 3.8	- 2.0	- 9.9	- 6.1	29	+ 10.5	- 2.9	+ 5.0	+ 5.1
13	- 1.3	- 1.2	- 6.8	- 3.8					
14	+ 1.3	- 1.7	- 4.8	- 2.7	July				
15	+ 7.2	+ 0.4	- 1.2	- 0.3	3	+ 12.2	- 3.0	+ 5.4	+ 2.9
16	+ 6.1	- 4.2	+ 0.3	- 0.4	6	+ 10.9	- 3.8	+ 6.9	+ 0.2
17	+ 10.7	- 2.9	+ 1.8	- 0.7	13	+ 9.3	- 3.1	+ 5.3	+ 0.9
19	+ 6.0	- 11.1	+ 7.3	+ 0.5	14	+ 14.4	+ 5.4	- 7.9	- 10.3
21	+ 11.5	- 4.0	+ 10.1	+ 1.5	17	+ 7.5	+ 4.2	- 3.6	- 0.1
30	+ 7.3	+ 3.4	+ 1.5	+ 5.0	18	+ 5.8	+ 4.0	- 9.7	- 4.8
31	+ 8.2	+ 1.3	- 0.2	+ 4.1	20	- 0.6	+ 1.4	- 9.1	- 2.9
April					21	+ 1.3	+ 3.5	- 11.8	- 5.8
1	+ 8.5	+ 1.0	+ 2.1	+ 6.9	22	+ 3.6	+ 4.4	- 8.6	- 3.1
3	+ 13.7	+ 6.7	- 2.4	+ 3.6	28	+ 19.8	- 0.6	- 0.2	+ 2.2
4	+ 11.1	+ 3.8	- 4.8	+ 1.5	29	+ 16.8	- 3.6	- 4.0	- 1.6
					30	+ 16.8	- 2.9	+ 4.1	+ 6.1

ERRORS OF THE MOON'S TABULAR PLACES IN LONGITUDE AND ECLIPTIC NORTH POLAR DISTANCE, AS DEDUCED FROM
THE TABLES OF BURCKHARDT AND HANSEN—continued.

1854. ALTAZIMUTH OBSERVATIONS—concluded.

Day.		Longitude.		E. N. P. D.		Day.		Longitude.		E. N. P. D.		
		B-O.	H-O.	B-O.	H-O.			B-O.	H-O.	B-O.	H-O.	
		"	"	"	"			"	"	"	"	
August	1	+ 14'4	— 5'1	+ 3'6	+ 3'4	October	8	+ 20'3	+ 7'2	— 4'6	— 0'3	
	6	+ 13'3	— 3'9	+ 4'0	— 2'9		9	+ 2'6	— 5'7	— 1'5	+ 2'2	
	7	+ 15'9	— 3'4	+ 7'5	+ 0'4		10	+ 3'3	— 0'4	— 10'1	— 6'6	
	8	+ 22'4	+ 1'0	+ 8'0	+ 1'1		11	+ 1'3	+ 1'0	— 7'5	— 4'8	
	10	+ 19'3	— 1'2	+ 2'8	— 2'5		12	— 5'9	— 5'2	— 8'0	— 5'5	
	11	+ 17'8	+ 0'3	+ 2'8	— 1'5		16	+ 4'7	— 5'1	— 6'8	— 4'7	
	12	+ 17'5	+ 4'1	— 0'5	— 3'3		27	+ 10'3	— 5'2	+ 5'9	+ 3'5	
	13	+ 11'9	+ 2'7	— 0'1	— 1'3		28	+ 7'1	— 7'6	+ 1'2	— 1'3	
	14	+ 9'6	+ 3'0	— 5'2	— 4'9		29	+ 10'2	— 4'6	+ 1'7	— 0'1	
	15	— 0'7	— 5'0	— 7'6	— 5'9		30	+ 12'8	— 2'3	— 0'6	— 0'8	
	16	+ 6'6	+ 3'7	— 6'4	— 3'7		31	+ 13'5	— 2'1	+ 2'0	+ 3'0	
	17	+ 3'4	+ 0'9	— 6'7	— 3'2		November	1	+ 14'5	— 0'3	— 2'8	— 0'2
	18	+ 2'9	+ 0'2	— 9'1	— 5'4			2	+ 10'3	— 3'2	— 5'6	— 1'8
	21	+ 4'2	— 4'8	— 6'1	— 2'8			3	+ 11'8	— 0'4	— 0'8	+ 3'2
	28	+ 17'4	— 4'4	— 2'8	+ 0'9			4	+ 2'5	— 8'5	— 6'4	— 1'9
	29	+ 17'8	— 1'8	— 0'3	+ 2'3			5	+ 9'9	+ 0'3	— 6'7	— 2'6
	30	+ 15'5	— 3'2	— 0'1	+ 1'3			6	+ 8'5	+ 0'8	— 6'6	— 3'2
31	+ 12'7	— 5'9	+ 1'5	+ 1'4	7	— 1'7		— 6'3	— 2'3	+ 0'1		
September	1	+ 18'4	— 0'5	+ 2'7	+ 1'5	8	0'0	— 1'1	— 4'6	— 3'2		
	2	+ 14'0	— 5'3	+ 3'1	+ 1'5	9	— 4'7	— 3'2	— 1'8	— 1'3		
	3	+ 15'0	— 4'9	— 2'0	— 3'4	11	+ 2'9	+ 3'7	— 3'3	— 3'6		
	4	+ 16'0	— 5'6	— 2'5	— 3'7	12	— 0'1	— 1'9	+ 0'5	+ 0'2		
	5	+ 25'7	+ 2'6	— 3'6	— 4'4	26	+ 3'6	— 12'4	— 2'6	— 3'2		
	6	+ 24'2	— 0'8	— 5'6	— 6'2	27	+ 14'4	— 0'9	+ 3'4	+ 4'1		
	7	+ 21'3	— 3'6	— 4'8	— 5'0	29	+ 14'0	+ 0'5	— 6'4	— 2'9		
	8	+ 26'3	+ 3'3	— 2'0	— 1'9	30	+ 11'7	+ 1'0	+ 1'1	+ 5'8		
	9	+ 20'5	+ 1'6	— 7'1	— 6'5	December	1	+ 8'5	+ 0'7	— 5'8	— 0'9	
	10	+ 17'0	+ 3'6	— 7'4	— 6'3		2	+ 5'5	— 0'7	— 5'4	— 0'3	
	11	+ 9'9	+ 1'3	— 8'4	— 6'8		3	+ 7'7	+ 1'8	— 6'9	— 2'3	
	12	+ 8'6	+ 3'9	— 11'9	— 9'9		4	+ 8'8	+ 2'0	— 7'9	— 4'5	
	13	+ 4'9	+ 2'3	+ 2'1	+ 4'5		5	+ 10'9	+ 4'0	— 6'6	— 4'5	
	14	+ 1'4	— 1'1	— 8'5	— 5'6		6	+ 0'6	— 5'3	— 4'8	— 4'2	
	16	+ 15'4	+ 8'4	— 12'4	— 9'7		7	+ 6'2	+ 2'6	— 2'3	— 3'0	
	17	+ 10'7	+ 1'2	— 8'4	— 5'8	8	+ 4'5	+ 3'5	— 2'9	— 4'5		
	19	+ 16'9	+ 0'5	— 10'6	— 7'9	9	— 0'9	— 0'1	— 1'5	— 3'3		
20	(+ 33'0)	(+ 11'5)	(— 36'2)	(— 33'1)	10	— 3'9	— 3'3	— 2'6	— 4'4			
26	+ 14'9	— 4'8	— 2'1	— 0'6	11	+ 2'4	+ 0'9	+ 1'7	+ 0'1			
27	+ 14'8	— 1'3	— 2'4	— 2'2	12	+ 7'2	+ 2'3	— 2'7	— 4'1			
28	+ 10'7	— 3'9	— 3'2	— 3'8	14	+ 4'2	— 5'1	— 0'3	— 1'6			
29	+ 9'4	— 5'4	— 1'9	— 2'8	15	+ 6'6	— 2'8	— 1'2	— 2'5			
30	+ 13'0	— 2'9	— 0'8	— 1'7	25	+ 12'8	+ 1'5	— 0'9	+ 1'8			
October	1	+ 11'0	— 6'0	— 2'7	— 2'8	26	+ 15'4	+ 4'1	— 3'5	+ 0'5		
	2	+ 16'0	— 2'3	— 2'2	— 1'2	27	+ 11'9	+ 0'9	— 3'9	+ 1'4		
	3	+ 19'4	— 0'1	— 2'5	— 0'4	28	+ 7'6	— 1'5	— 8'3	— 1'6		
	4	+ 20'8	+ 0'5	— 7'3	— 4'1	29	+ 3'2	— 2'8	— 6'9	+ 0'1		
	5	+ 25'1	+ 4'6	— 4'6	— 0'5	30	+ 7'8	+ 4'7	— 12'1	— 5'2		
	7	+ 15'8	— 1'4	— 3'4	+ 1'0	31	+ 0'4	— 1'2	— 4'9	+ 1'2		

1855. MERIDIONAL OBSERVATIONS.

January	3	+ 5'1	— 0'1	— 3'8	— 1'4	February	3	+ 5'4	+ 1'8	+ 1'8	+ 2'8
	4	+ 6'2	+ 0'4	— 2'6	— 1'6		9	+ 4'5	— 4'4	+ 1'5	+ 0'7
	27	+ 4'8	+ 0'1	— 5'7	+ 0'7		20	+ 7'0	— 2'3	— 2'0	0'0

ERRORS OF THE MOON'S TABULAR PLACES IN LONGITUDE AND ECLIPTIC NORTH POLAR DISTANCE, AS DEDUCED FROM
THE TABLES OF BURCKHARDT AND HANSEN—continued.

1855. MERIDIONAL OBSERVATIONS—concluded.

Day.	Longitude.		E. N. P. D.		Day.	Longitude.		E. N. P. D.	
	B-O.	H-O.	B-O.	H-O.		B-O.	H-O.	B-O.	H-O.
February 22	+ 3.5	— 2.9	— 5.2	— 1.9	August 2	+ 8.2	— 0.1	+ 3.2	+ 3.2
23	+ 5.3	— 1.8	— 2.7	+ 0.9	4	+ 8.4	+ 4.9	— 4.1	— 0.5
March 1	— 5.1	— 1.3	+ 0.4	— 0.5	18	+ 15.7	— 2.1	— 0.5	+ 0.1
2	— 5.5	— 1.3	+ 1.5	+ 0.5	21	+ 16.0	— 3.7	+ 4.7	+ 1.3
3	— 2.0	— 0.2	0.0	— 0.8	25	+ 18.3	— 1.5	+ 3.6	+ 0.7
4	+ 4.3	+ 1.9	+ 1.9	+ 0.8	26	+ 20.4	— 0.3	+ 2.7	+ 0.7
5	+ 5.8	— 0.8	+ 4.0	+ 3.1	27	+ 22.5	+ 1.9	+ 1.1	+ 0.2
6	+ 11.7	+ 2.0	+ 3.8	+ 2.2	28	+ 24.6	+ 5.6	— 0.7	— 0.7
8	+ 11.2	— 0.3	+ 4.2	+ 1.5	29	+ 19.2	+ 2.4	0.0	+ 0.9
25	+ 10.2	— 1.2	— 3.6	— 0.7	30	+ 12.8	+ 0.3	— 4.5	— 2.9
26	+ 12.2	— 0.3	— 4.0	— 2.5	September 1	+ 8.0	+ 2.7	— 3.2	+ 0.4
30	— 1.2	— 2.5	+ 1.5	— 0.8	2	+ 7.1	+ 2.7	— 4.5	— 0.8
31	— 2.5	— 2.4	+ 2.5	+ 0.3	6	+ 10.5	+ 4.4	+ 1.3	+ 2.3
April 1	— 2.6	— 3.6	+ 3.1	+ 0.6	20	+ 14.9	— 5.1	— 1.2	— 1.2
4	+ 10.0	+ 0.6	+ 5.7	+ 1.9	21	+ 13.6	— 5.2	+ 0.1	+ 0.9
7	+ 11.6	— 3.1	+ 3.7	— 2.7	22	+ 12.1	— 4.7	+ 0.2	+ 2.2
22	+ 7.6	— 1.5	— 3.8	— 0.9	23	+ 13.2	— 2.5	— 3.3	— 0.4
23	+ 6.8	— 3.9	— 2.1	— 0.9	24	+ 14.7	— 1.3	— 2.9	+ 0.9
25	+ 10.1	— 2.7	— 0.6	— 1.8	25	+ 18.0	+ 0.7	— 4.4	+ 0.6
27	+ 3.6	— 6.0	— 2.5	— 4.8	26	+ 19.9	+ 2.4	— 5.5	+ 0.3
May 1	+ 5.4	— 0.6	+ 2.0	+ 0.1	October 5	+ 11.2	+ 3.2	+ 1.0	+ 0.6
2	+ 7.6	+ 0.2	+ 3.7	+ 1.8	18	+ 5.1	— 7.7	— 2.0	— 2.2
4	+ 11.7	+ 0.7	+ 5.5	+ 2.8	19	+ 8.5	— 4.4	— 0.8	— 0.5
5	+ 15.8	+ 2.0	+ 4.6	+ 1.9	24	+ 9.5	— 1.4	— 6.1	+ 0.5
8	+ 16.3	+ 1.3	+ 0.6	+ 0.2	26	+ 14.3	+ 3.6	— 6.6	+ 0.4
23	+ 5.8	— 3.3	+ 2.6	— 0.1	31	+ 5.4	+ 0.4	+ 0.1	+ 1.1
25	+ 9.0	— 1.7	+ 2.8	— 1.4	November 3	+ 8.8	+ 1.9	+ 0.5	— 0.8
26	+ 8.6	— 1.7	+ 6.0	+ 1.8	15	+ 9.0	— 1.0	— 0.7	— 1.1
June 1	+ 11.4	— 1.8	+ 2.8	+ 0.9	16	+ 7.8	— 1.6	— 1.8	— 2.3
2	+ 17.0	+ 1.6	+ 2.9	+ 2.0	20	+ 1.1	— 8.3	— 6.2	— 1.6
5	+ 14.9	+ 2.1	— 2.0	+ 0.4	22	+ 5.6	— 1.5	— 7.0	— 1.0
9	— 1.7	— 3.8	— 10.1	— 1.3	25	+ 9.0	+ 1.1	— 4.3	— 0.3
20	+ 5.8	— 1.4	+ 1.3	— 1.0	26	+ 9.6	+ 2.0	— 1.7	+ 0.9
21	+ 4.5	— 3.6	+ 1.8	— 1.3	29	+ 0.7	— 2.1	+ 1.6	+ 0.6
24	+ 7.4	— 2.3	+ 7.6	+ 0.9	December 2	+ 5.7	+ 0.5	+ 2.9	+ 0.3
26	+ 4.7	— 4.2	+ 6.2	— 1.8	18	+ 9.6	— 1.8	— 5.4	+ 0.4
27	+ 4.4	— 5.3	+ 7.9	+ 0.1	19	+ 10.1	+ 0.7	— 6.2	+ 0.5
28	+ 9.6	— 2.5	+ 8.8	+ 1.5	20	+ 5.3	— 1.6	— 10.5	— 3.3
30	+ 18.4	+ 0.1	+ 4.1	— 0.4	21	+ 1.0	— 4.3	— 2.3	+ 4.5
July 4	+ 12.2	+ 2.3	— 0.6	+ 1.1	24	+ 7.8	+ 1.2	— 4.9	— 1.6
25	+ 11.9	— 2.1	+ 8.9	+ 0.4	26	+ 3.2	— 1.5	+ 1.0	+ 1.9
26	(+ 12.2)	(— 3.1)	(— 3.2)	(— 12.1)	27	+ 2.7	— 0.4	— 2.2	— 2.4
27	+ 17.8	+ 0.6	+ 8.0	— 0.2	29	+ 4.2	+ 1.4	— 4.5	— 5.5
28	+ 19.8	+ 0.5	+ 7.4	+ 0.3	30	— 1.0	— 5.1	+ 3.0	+ 1.5
31	+ 18.4	+ 2.0	+ 2.0	— 1.1					

1855. ALTAZIMUTH OBSERVATIONS.

January 3	+ 8.4	+ 3.2	— 7.4	— 5.0	January 9	+ 4.7	+ 0.1	+ 1.0	+ 0.7
4	+ 9.0	+ 3.2	+ 0.9	+ 1.9	12	+ 6.9	— 4.0	+ 1.6	— 0.1
6	+ 0.4	— 3.6	— 1.3	— 1.5	13	+ 1.7	— 8.5	+ 1.8	— 0.6

ERRORS OF THE MOON'S TABULAR PLACES IN LONGITUDE AND ECLIPTIC NORTH POLAR DISTANCE, AS DEDUCED FROM
THE TABLES OF BURCKHARDT AND HANSEN—*continued*.

1855. ALTAZIMUTH OBSERVATIONS—*continued*.

Day.	Longitude.		E. N. P. D.		Day.	Longitude.		E. N. P. D.	
	B-O.	H-O.	B-O.	H-O.		B-O.	H-O.	B-O.	H-O.
	"	"	"	"		"	"	"	"
January 23	+ 4'9	- 1'1	- 3'9	- 1'1	May 22	+ 7'2	- 0'4	+ 2'0	+ 2'4
26	+ 7'9	+ 2'1	- 7'6	- 1'4	23	+ 8'0	- 1'1	+ 2'5	- 0'2
27	+ 6'7	+ 2'0	- 10'2	- 3'8	24	+ 8'0	- 2'3	+ 2'7	- 0'8
28	+ 3'6	+ 1'3	- 8'6	- 3'1	25	+ 11'7	+ 1'0	+ 3'4	- 0'8
29	+ 0'8	+ 1'1	- 6'2	- 1'7	26	+ 12'2	+ 1'9	+ 1'3	- 2'9
					28	+ 5'6	- 2'3	+ 6'8	+ 2'7
February 1	- 0'1	+ 0'7	+ 1'5	+ 2'8	29	+ 6'8	- 1'1	+ 3'5	- 0'4
3	+ 3'0	- 0'6	- 4'2	- 3'2					
9	+ 7'9	- 1'0	+ 0'3	- 0'5	June 1	+ 10'2	- 3'0	+ 1'8	- 0'1
10	+ 9'1	+ 0'7	+ 4'4	+ 2'5	2	+ 13'1	- 2'3	+ 3'4	+ 2'5
18	+ 8'0	- 5'2	- 0'6	+ 0'6	5	+ 10'2	- 2'6	- 6'6	- 4'2
20	+ 12'1	+ 2'8	+ 1'8	+ 3'8	7	+ 14'1	+ 6'2	- 4'9	+ 0'8
21	+ 4'2	- 2'8	- 1'1	+ 1'6	8	+ 9'1	+ 3'8	- 5'8	+ 1'6
22	+ 7'0	+ 0'6	- 3'2	+ 0'1	9	+ 0'7	- 1'4	- 11'1	- 2'3
23	+ 8'1	+ 1'0	- 4'9	- 1'3	19	+ 6'9	+ 0'7	+ 5'0	+ 3'8
28	+ 2'6	+ 3'5	- 1'9	- 2'2	20	+ 5'1	- 2'1	+ 4'2	+ 1'9
					21	+ 4'5	- 3'6	+ 10'4	+ 7'3
March 1	- 5'8	- 2'0	- 3'6	- 4'5	23	+ 5'9	- 3'8	+ 9'4	+ 3'8
2	- 6'5	- 2'3	+ 0'6	- 0'4	24	+ 6'6	- 3'1	+ 6'5	- 0'2
3	- 2'9	- 1'1	0'0	- 0'8	25	+ 10'0	+ 0'8	+ 7'2	- 0'3
4	- 1'2	- 3'6	+ 0'4	- 0'7	26	+ 9'6	+ 0'7	+ 7'0	- 1'0
5	+ 1'7	- 4'9	- 1'0	- 1'9	27	+ 10'8	+ 1'1	+ 8'2	+ 0'4
6	+ 4'6	- 5'1	+ 4'8	+ 3'2	28	+ 14'8	+ 2'7	+ 6'7	- 0'6
7	+ 3'1	- 8'0	+ 2'0	- 0'2	29	+ 14'9	- 0'5	+ 6'4	+ 0'3
8	+ 2'5	- 9'0	+ 6'4	+ 3'7	30	+ 17'6	- 0'7	+ 7'6	+ 3'1
23	+ 6'6	- 2'4	- 4'1	+ 0'7					
25	+ 9'9	- 1'5	- 4'5	- 1'6	July 3	+ 15'8	+ 2'6	+ 0'3	+ 0'4
26	+ 10'8	- 1'7	- 0'1	+ 1'4	4	+ 13'6	+ 3'7	- 5'0	- 3'3
27	+ 7'0	- 4'8	- 0'5	- 0'5	5	+ 9'2	+ 2'2	- 3'5	+ 0'1
28	+ 3'9	- 5'2	+ 2'1	+ 1'0	6	+ 8'4	+ 4'0	- 8'1	- 2'6
29	+ 4'5	- 0'5	- 0'3	- 2'3	18	+ 6'4	- 6'9	+ 3'6	+ 3'5
30	+ 2'4	+ 1'1	+ 5'8	+ 3'5	19	+ 3'2	- 9'2	+ 3'2	+ 2'5
31	- 0'1	0'0	+ 2'4	+ 0'2	20	+ 4'0	- 8'3	+ 3'0	+ 1'3
					21	+ 12'1	- 0'5	+ 6'6	+ 3'7
April 1	+ 0'6	- 0'4	+ 4'2	+ 1'7	22	+ 10'5	- 2'3	+ 5'5	+ 0'7
2	+ 6'0	+ 2'2	+ 3'9	+ 1'5	25	+ 11'5	- 2'5	+ 9'1	+ 0'6
4	+ 6'9	+ 2'5	+ 4'5	+ 0'7	26	+ 13'8	- 1'5	+ 10'4	+ 1'5
6	+ 13'4	+ 0'4	+ 8'2	+ 2'4	27	+ 15'2	- 2'0	+ 7'0	- 1'2
7	+ 9'7	- 5'0	+ 5'9	- 0'5	28	+ 18'6	- 0'7	+ 5'0	- 2'1
9	+ 13'3	- 1'7	+ 8'8	+ 3'6	29	+ 21'0	+ 0'8	+ 4'3	+ 1'5
18	+ 7'3	+ 2'1	- 3'2	+ 4'3	31	+ 18'4	+ 2'0	- 1'1	- 4'2
19	+ 7'6	+ 1'0	- 4'4	+ 2'3					
20	+ 14'4	+ 7'0	- 2'6	+ 3'0	August 1	+ 15'4	+ 3'4	+ 1'2	- 0'2
21	+ 12'1	+ 4'2	- 6'3	- 2'1	2	+ 11'9	+ 3'6	- 4'0	- 4'0
22	+ 11'8	+ 2'7	- 7'3	- 4'4	3	+ 14'1	+ 8'6	- 4'1	- 1'9
23	+ 9'1	- 1'6	- 2'8	- 1'6	5	+ 4'9	+ 2'8	- 7'1	- 2'5
24	+ 6'8	- 5'2	+ 1'3	+ 1'0	7	+ 3'9	+ 2'7	- 4'0	+ 0'6
25	+ 9'8	- 3'0	+ 0'5	- 0'7	9	+ 4'1	0'0	- 4'4	- 1'7
26	+ 3'1	- 8'6	+ 4'0	+ 1'8	16	+ 19'9	- 0'3	- 0'9	+ 0'4
27	+ 9'1	- 0'5	+ 4'3	+ 2'0	17	+ 18'0	- 0'8	- 0'8	+ 0'4
30	+ 0'9	- 4'5	+ 3'9	+ 2'1	20	+ 15'2	- 3'2	+ 2'7	+ 0'6
					21	+ 17'8	- 1'9	+ 1'7	- 1'7
May 1	+ 4'6	- 1'4	+ 1'8	- 0'1	22	+ 22'5	+ 1'7	+ 3'3	- 0'9
2	+ 0'8	- 6'6	+ 2'7	+ 0'8	23	+ 19'9	- 0'9	+ 3'6	- 0'7
4	+ 6'6	- 4'4	+ 4'7	+ 2'0	24	+ 15'1	- 5'0	+ 3'4	- 0'1
5	+ 6'7	- 7'1	+ 5'0	+ 2'3	25	+ 16'9	- 2'9	+ 2'0	- 0'9
8	+ 9'4	- 5'6	- 0'1	- 0'5	26	+ 17'8	- 2'9	+ 0'8	- 1'2
18	+ 3'7	- 0'6	- 3'4	+ 1'8	27	+ 19'4	- 1'2	- 0'4	- 1'3
19	+ 5'5	- 0'4	- 1'5	+ 1'8	28	+ 24'2	+ 5'2	- 6'4	- 6'4

ERRORS OF THE MOON'S TABULAR PLACES IN LONGITUDE AND ECLIPTIC NORTH POLAR DISTANCE, AS DEDUCED FROM
THE TABLES OF BURCKHARDT AND HANSEN—*continued*.

1855. ALTAZIMUTH OBSERVATIONS—*concluded*.

Day.	Longitude.		E. N. P. D.		Day.	Longitude.		E. N. P. D.	
	B-O.	H-O.	B-O.	H-O.		B-O.	H-O.	B-O.	H-O.
	"	"	"	"		"	"	"	"
August 29	+ 20.3	+ 3.5	- 8.4	- 7.5	October 28	+ 10.0	+ 1.6	- 7.9	- 2.7
30	+ 17.6	+ 5.1	- 8.6	- 7.0	31	+ 3.2	- 1.8	- 0.8	+ 0.2
31	+ 10.4	+ 2.2	- 9.2	- 6.4					
September 1	+ 7.9	+ 2.6	- 11.4	- 7.8	November 3	+ 1.2	- 5.7	- 1.7	- 3.0
2	+ 5.8	+ 1.4	- 11.2	- 7.5	5	+ 6.4	- 2.0	- 1.1	- 2.7
3	+ 11.4	+ 7.1	- 9.6	- 5.9	15	+ 6.1	- 3.9	- 1.3	- 1.7
4	+ 9.8	+ 4.8	- 5.2	- 2.4	20	+ 6.6	- 2.8	- 6.3	- 1.7
5	+ 6.6	+ 1.0	- 10.0	- 8.1	22	+ 8.1	+ 1.0	- 7.5	- 1.5
6	+ 4.7	- 1.4	- 5.4	- 4.4	23	+ 3.6	- 3.0	- 7.8	- 1.7
7	+ 4.2	- 2.7	- 4.0	- 3.9	24	+ 6.5	- 0.8	- 4.9	+ 0.3
19	+ 14.5	- 4.9	+ 1.1	+ 0.9	25	+ 11.0	+ 3.1	- 4.4	- 0.4
20	+ 13.0	- 7.0	- 1.3	- 1.3	26	+ 8.2	+ 0.6	- 4.8	- 2.2
21	+ 18.5	- 0.3	- 0.7	+ 0.1	27	+ 8.0	+ 2.0	- 1.6	- 0.4
22	+ 13.4	- 3.4	- 0.9	+ 1.1	28	+ 2.7	+ 1.1	+ 0.1	+ 0.1
23	+ 15.2	- 0.5	+ 0.7	+ 3.6	29	+ 5.0	+ 2.2	- 0.4	- 1.4
24	+ 19.9	+ 3.9	- 4.2	- 0.4	30	+ 1.5	- 1.5	- 0.9	- 2.7
25	+ 18.5	+ 1.2	- 7.6	- 2.6					
26	+ 15.9	- 1.6	- 11.3	- 5.5	December 2	+ 5.0	- 0.2	+ 3.1	+ 0.5
28	+ 15.3	+ 3.3	- 11.2	- 5.1	4	+ 5.4	+ 0.2	+ 1.8	- 1.2
29	+ 15.0	+ 6.1	- 10.6	- 4.7	5	+ 3.5	- 2.1	+ 5.5	+ 2.6
30	+ 10.2	+ 3.4	- 7.0	- 2.1	6	+ 7.3	- 0.5	+ 3.1	+ 0.5
October 1	+ 11.4	+ 5.4	- 6.4	- 2.3	12	+ 25.1	+ 4.6	+ 13.5	+ 13.4
2	+ 8.8	+ 2.7	- 8.4	- 5.4	13	+ 13.5	- 2.7	+ 3.4	+ 3.7
3	+ 17.7	+ 11.1	+ 3.5	+ 5.4	15	+ 10.6	- 0.7	+ 5.8	+ 6.9
4	+ 8.5	+ 1.2	- 9.3	- 8.8	17	+ 10.8	- 1.0	+ 1.3	+ 5.5
6	+ 8.0	- 0.6	- 2.1	- 2.9	18	+ 9.9	- 1.5	- 10.7	- 4.9
7	+ 10.4	+ 0.7	- 6.5	- 7.3	19	+ 6.4	- 3.0	- 10.7	- 4.0
16	+ 7.7	- 5.1	- 0.1	+ 0.5	20	+ 8.4	+ 1.5	- 13.2	- 6.0
18	+ 6.9	- 5.9	- 1.9	+ 2.1	21	+ 3.3	- 2.0	- 11.0	- 4.2
19	+ 8.3	- 4.6	+ 0.9	+ 1.2	22	+ 2.4	- 2.4	- 7.8	- 2.0
20	+ 10.1	- 1.9	- 0.1	+ 1.4	23	- 0.1	- 5.7	- 3.9	+ 0.5
22	+ 9.6	- 0.8	+ 0.2	+ 4.2	24	+ 3.0	- 3.6	- 2.4	+ 0.9
23	+ 3.9	- 6.7	- 5.0	+ 0.3	26	+ 4.9	+ 0.2	+ 0.6	+ 1.5
24	+ 10.0	- 0.9	- 7.9	- 1.3	27	+ 3.4	+ 0.5	- 1.6	+ 1.8
25	+ 13.5	+ 2.3	- 7.5	- 0.4	28	+ 0.3	- 1.9	0.0	- 0.5
27	+ 8.4	- 1.5	- 10.6	- 4.5	29	- 0.4	- 3.2	+ 3.6	+ 2.6
					30	+ 1.9	- 2.2	+ 8.2	+ 6.7

1856. MERIDIONAL OBSERVATIONS.

January 12	+ 10.8	- 3.5	- 3.8	- 0.6	February 25	+ 2.5	- 2.8	+ 3.2	+ 1.4
13	+ 9.5	- 1.8	- 4.6	0.0	26	+ 3.0	- 2.2	+ 3.4	+ 0.8
14	+ 10.4	0.0	- 6.5	- 0.5					
15	+ 8.5	- 2.1	- 8.3	- 1.1	March 13	+ 4.7	- 5.0	- 4.5	- 0.8
18	+ 1.9	- 2.6	- 6.8	- 0.3	14	+ 7.9	- 2.3	- 1.9	- 0.2
19	+ 0.5	- 1.6	- 6.7	- 1.6	22	+ 4.6	- 0.8	+ 4.0	+ 0.4
24	+ 3.9	+ 0.1	+ 1.4	+ 2.2	26	+ 3.0	- 5.9	+ 6.9	+ 2.7
25	+ 3.2	- 0.1	+ 1.1	+ 1.6	28	+ 6.1	- 0.8	+ 3.8	- 0.5
27	+ 1.2	- 2.0	+ 2.4	+ 2.1	29	+ 2.9	- 1.7	+ 3.3	- 0.6
28	+ 3.5	- 0.6	+ 3.0	+ 1.7					
29	+ 4.2	- 1.0	+ 3.4	+ 1.1	April 9	+ 4.9	- 3.0	- 2.8	+ 2.8
February 14	+ 8.2	- 1.1	- 5.6	- 0.3	12	+ 8.5	- 2.0	- 0.7	- 1.0
15	+ 6.1	- 1.2	- 3.1	+ 0.8	13	+ 10.0	- 2.7	+ 0.7	- 1.5
16	+ 4.1	+ 0.3	- 3.2	- 1.2	15	+ 10.5	- 1.8	+ 2.1	- 2.8
24	+ 4.7	- 0.8	+ 3.7	+ 2.5	16	+ 3.0	- 6.7	+ 5.2	0.0
					20	+ 2.3	- 2.9	+ 5.3	+ 1.5

ERRORS OF THE MOON'S TABULAR PLACES IN LONGITUDE AND ECLIPTIC NORTH POLAR DISTANCE, AS DEDUCED FROM
THE TABLES OF BURCKHARDT AND HANSEN—*continued*.

1856. MERIDIONAL OBSERVATIONS—*concluded*.

Day.	Longitude.		E. N. P. D.		Day.	Longitude.		E. N. P. D.	
	B-O.	H-O.	B-O.	H-O.		B-O.	H-O.	B-O.	H-O.
	"	"	"	"		"	"	"	"
April 21	+ 3.6	— 3.8	+ 5.7	+ 2.2	August 14	+ 14.8	— 1.8	+ 4.9	0.0
22	+ 8.6	— 0.9	+ 4.4	+ 1.3	15	+ 18.8	+ 0.7	+ 4.2	+ 0.1
27	+ 5.9	— 3.9	+ 0.2	— 1.0	22	+ 12.7	+ 5.1	— 7.0	— 1.4
May 10	+ 6.4	— 0.7	— 3.0	— 2.0	September 12	+ 11.9	— 1.8	+ 1.5	+ 1.0
11	+ 6.4	— 3.7	+ 0.2	— 0.7	14	+ 15.2	+ 0.5	— 1.4	+ 0.4
13	+ 11.9	— 3.2	+ 3.7	— 0.7	15	+ 16.8	+ 2.3	— 3.7	— 0.1
14	+ 11.8	— 2.7	+ 5.8	+ 0.7	16	+ 16.7	+ 4.4	— 4.9	— 0.2
17	+ 2.9	— 1.7	+ 5.5	+ 0.6	18	+ 13.3	+ 3.1	— 6.3	+ 0.1
18	+ 0.2	— 3.4	+ 2.9	— 1.2	19	+ 18.5	+ 7.4	— 5.7	+ 0.3
19	+ 1.2	— 2.9	+ 3.5	+ 0.4	21	+ 17.5	+ 5.3	— 2.6	+ 1.1
20	+ 6.1	— 0.2	+ 2.5	+ 0.2	23	+ 12.6	+ 3.2	+ 0.8	+ 1.6
22	+ 6.7	— 3.4	— 0.6	— 1.0	October 12	+ 3.4	— 4.8	— 4.5	— 0.5
26	+ 14.9	+ 0.4	— 2.4	+ 1.2	13	+ 7.9	— 1.2	— 5.2	+ 0.4
June 10	+ 7.2	— 3.3	+ 4.3	+ 1.4	16	+ 16.4	+ 3.7	— 7.6	— 1.2
11	+ 7.7	— 3.0	+ 6.0	+ 1.7	21	+ 19.0	+ 7.8	— 1.0	— 1.2
14	+ 3.2	— 2.0	+ 6.4	— 0.5	November 4	+ 5.9	— 4.5	— 0.9	— 0.4
15	+ 0.5	— 3.7	+ 7.5	+ 1.0	6	+ 8.9	— 2.4	+ 0.6	+ 1.3
17	+ 4.6	— 2.3	— 0.6	— 5.6	8	+ 4.8	— 4.7	— 0.9	+ 1.7
20	+ 12.2	— 0.1	+ 1.0	— 0.3	10	+ 1.9	— 4.3	— 6.5	— 1.5
25	+ 12.0	+ 2.2	— 5.8	+ 1.2	11	+ 4.2	— 3.3	— 6.3	— 0.2
26	+ 9.4	+ 4.3	— 11.5	— 2.6	14	+ 14.0	+ 2.1	— 4.9	+ 0.1
July 16	+ 13.7	+ 0.3	+ 5.3	— 1.5	15	+ 12.6	+ 1.3	— 1.7	+ 2.0
17	+ 16.2	+ 0.7	+ 8.0	+ 2.0	16	+ 15.3	+ 4.9	+ 0.1	+ 2.3
18	+ 18.5	+ 1.7	+ 5.1	+ 0.3	December 2	+ 9.4	— 2.7	0.0	— 1.6
22	+ 13.8	+ 2.1	— 1.2	+ 1.4	7	+ 9.0	— 2.8	— 5.3	— 1.8
25	+ 8.3	+ 2.2	— 7.6	— 0.6	9	+ 5.8	— 4.2	— 7.2	— 1.6
August 5	+ 10.7	— 1.6	— 1.7	— 0.8	13	+ 11.9	+ 1.3	— 3.7	+ 0.6
6	+ 4.5	— 4.2	— 1.3	— 0.8	14	+ 10.9	+ 0.9	— 2.4	+ 1.1
7	+ 4.0	— 3.0	+ 2.7	+ 2.3	15	+ 8.5	— 1.0	— 2.5	— 0.2
10	+ 6.0	— 4.3	+ 4.7	+ 0.7	16	+ 11.4	+ 2.6	— 0.1	+ 0.9
12	+ 9.5	— 4.6	+ 4.9	— 0.4	17	+ 10.9	+ 2.6	+ 1.4	+ 1.2
13	+ 11.3	— 4.0	+ 5.1	— 0.2	18	+ 10.5	+ 2.7	+ 2.3	+ 0.6

1856. ALTAZIMUTH OBSERVATIONS.

January 10	+ 22.4	— 1.3	+ 5.0	+ 6.6	January 31	+ 6.4	+ 0.2	+ 2.3	— 1.6
11	+ 14.9	— 4.1	+ 1.7	+ 4.3	February 8	+ 21.3	— 4.2	— 1.8	+ 2.1
12	+ 12.8	— 1.5	— 0.4	+ 2.8	9	+ 16.8	— 4.0	— 7.0	— 2.2
13	+ 13.0	+ 1.7	— 7.1	— 2.5	11	+ 10.9	— 0.2	— 4.9	+ 1.2
14	+ 7.6	— 2.8	— 11.1	— 5.1	12	+ 5.9	— 3.8	— 6.4	+ 0.1
15	+ 9.1	— 1.5	— 8.2	— 1.0	13	+ 3.5	— 6.2	— 5.3	+ 0.9
18	+ 1.2	— 3.3	— 9.7	— 3.2	14	+ 1.8	— 7.5	— 6.4	— 1.1
19	0.0	— 2.1	— 3.8	+ 1.3	15	+ 4.9	— 2.4	— 5.8	— 1.9
20	+ 0.7	— 0.3	— 2.6	+ 1.2	16	+ 1.1	— 2.7	— 5.3	— 3.3
23	+ 2.0	— 1.6	+ 0.7	+ 2.3	20	+ 4.9	+ 5.0	— 2.9	— 4.1
24	+ 0.7	— 3.1	— 1.9	— 1.1	22	+ 5.8	+ 1.5	+ 4.4	+ 3.3
25	+ 0.1	— 3.2	+ 1.3	+ 1.8	24	— 0.3	— 5.8	+ 1.7	+ 0.5
26	+ 0.2	— 2.7	+ 2.8	+ 2.9	26	0.0	— 5.2	+ 2.9	+ 0.3
27	— 4.0	— 7.2	+ 3.6	+ 3.3	March 8	+ 19.6	— 3.3	— 4.3	+ 2.0
28	+ 1.8	— 2.3	+ 7.2	+ 5.9	11	+ 9.1	— 1.7	— 5.4	+ 0.9
29	+ 4.5	— 0.7	— 0.2	— 2.5					
30	+ 4.1	— 2.0	+ 3.0	— 0.1					

ERRORS OF THE MOON'S TABULAR PLACES IN LONGITUDE AND ECLIPTIC NORTH POLAR DISTANCE, AS DEDUCED FROM
THE TABLES OF BURCKHARDT AND HANSEN—continued.

1856. ALTAZIMUTH OBSERVATIONS—continued.

Day.			Longitude.		E. N. P. D.		Day.			Longitude.		E. N. P. D.	
			B-O.	H-O.						B-O.	H-O.		
			"	"	"					"	"	"	
March	12	+ 4.1	— 5.6	— 6.0	— 0.8	June	23	+ 19.6	+ 4.2	— 2.8	+ 0.3		
	13	+ 4.2	— 5.5	— 9.2	— 5.5		25	+ 8.3	— 1.5	— 9.2	— 2.2		
	14	+ 8.7	— 1.5	— 1.4	+ 0.3		26	+ 2.9	— 2.2	— 10.0	— 1.1		
	19	+ 1.2	+ 0.4	+ 0.2	— 4.0		27	— 5.9	— 6.6	— 9.6	+ 0.2		
	21	+ 3.8	+ 0.8	+ 2.6	— 1.2		28	— 1.0	+ 1.0	— 15.7	— 5.4		
	22	+ 5.0	— 0.4	+ 4.2	+ 0.6		29	— 7.5	— 5.3	— 12.9	— 2.7		
	26	+ 4.1	— 4.8	+ 2.2	— 2.0		July	3	+ 13.9	+ 0.8	— 8.0	— 1.8	
	27	+ 2.1	— 6.1	— 0.9	— 5.2			5	+ 13.6	— 2.4	— 0.5	+ 3.0	
	28	— 1.1	— 8.0	+ 4.5	+ 0.2			8	+ 3.9	— 5.4	+ 2.9	+ 2.3	
	29	— 4.6	— 9.2	+ 1.3	— 2.6			10	+ 3.8	— 2.5	+ 6.8	+ 3.2	
	30	— 7.8	— 9.0	+ 1.7	— 1.6			12	+ 2.5	— 2.9	+ 6.8	+ 0.5	
31	— 5.0	— 1.9	— 5.5	— 7.9	14	+ 6.6		— 1.5	+ 7.5	— 0.1			
April	6	+ 8.4	— 3.9	— 12.1	— 3.9	15		+ 10.3	— 0.6	+ 8.2	+ 0.6		
	7	+ 9.9	— 2.5	— 10.5	— 2.1	16	+ 15.6	+ 2.2	+ 6.6	— 0.2			
	9	+ 6.6	— 1.3	— 6.3	— 0.7	17	+ 10.8	— 4.7	+ 5.5	— 0.5			
	10	+ 7.5	+ 0.3	— 2.0	+ 1.8	18	+ 13.8	— 3.0	+ 2.9	— 1.9			
	12	+ 8.3	— 2.2	— 0.5	— 0.8	22	+ 14.0	+ 2.3	— 5.3	— 2.7			
	13	+ 7.7	— 5.0	— 0.5	— 2.7	24	+ 7.9	+ 0.8	— 10.3	— 3.9			
	15	+ 6.0	— 6.3	+ 4.0	— 0.9	25	+ 5.6	— 0.5	— 12.4	— 5.4			
	16	+ 4.3	— 5.4	+ 7.4	+ 2.2	26	+ 10.6	+ 4.5	— 12.6	— 5.5			
	17	+ 3.4	— 3.2	+ 5.7	+ 0.4	28	+ 7.7	0.0	— 6.3	— 0.8			
	18	— 1.0	— 5.5	+ 3.4	— 1.3	29	+ 11.3	+ 1.5	— 4.8	— 0.6			
	19	+ 1.7	— 2.3	+ 1.3	— 2.9	August	3	+ 21.2	+ 0.3	— 1.3	0.0		
	20	— 2.9	— 8.1	+ 3.7	— 0.1		4	+ 15.7	— 0.9	+ 1.2	+ 2.4		
	21	+ 4.2	— 3.2	+ 2.2	— 1.3		5	+ 8.4	— 3.9	— 1.8	— 0.9		
	22	+ 7.4	— 2.1	+ 3.9	+ 0.8		6	+ 8.1	— 0.6	— 1.1	— 0.6		
	27	+ 0.5	— 9.3	+ 0.4	— 0.8		7	— 1.1	— 8.1	— 4.3	— 4.7		
	28	+ 0.3	— 6.1	— 3.7	— 3.9		9	+ 1.1	— 7.4	+ 2.7	0.0		
	May	10	+ 5.3	— 1.8	— 2.6		— 1.6	10	— 0.4	— 10.7	+ 3.5	— 0.5	
11		+ 10.4	+ 0.3	+ 3.1	+ 2.2	12	+ 12.2	— 1.9	+ 6.0	+ 0.7			
13		+ 11.7	— 3.4	+ 4.7	+ 0.3	13	+ 13.1	— 2.2	+ 5.1	— 0.2			
14		+ 11.6	— 2.9	+ 2.2	— 2.9	14	+ 12.5	— 4.1	+ 0.7	— 4.2			
16		+ 6.3	— 1.6	+ 7.3	+ 2.0	15	+ 19.3	+ 1.2	+ 3.1	— 1.0			
17		+ 3.6	— 1.0	+ 3.2	— 1.7	16	+ 19.2	+ 0.1	+ 3.7	+ 0.7			
18		+ 0.7	— 2.9	+ 0.8	— 3.3	21	+ 13.1	+ 6.2	— 11.6	— 6.5			
19		+ 4.1	0.0	+ 2.3	— 0.8	22	+ 9.3	+ 1.7	— 13.5	— 7.9			
20		+ 1.3	— 5.0	+ 2.5	+ 0.2	23	+ 11.7	+ 2.4	— 10.0	— 4.9			
22		+ 3.1	— 7.0	— 3.6	— 4.0	25	+ 9.9	+ 0.5	— 5.4	— 2.7			
23		+ 8.6	— 3.6	— 3.0	— 2.7	September	4	+ 5.7	— 5.8	— 1.5	— 0.5		
25		+ 13.1	— 1.9	— 3.1	— 0.8		5	+ 9.0	— 1.5	— 0.4	+ 0.5		
26		+ 15.1	+ 0.6	— 5.0	— 1.4		10	+ 12.6	— 2.3	+ 2.2	+ 0.9		
28		+ 6.6	+ 1.6	— 10.6	— 3.8		11	+ 9.9	— 4.1	— 1.6	— 2.6		
June		4	+ 3.3	— 0.2	— 7.9		+ 1.1	12	+ 9.9	— 3.8	+ 2.3	+ 1.8	
	5	+ 3.6	— 3.2	— 5.7	+ 1.6		13	+ 14.3	— 0.1	— 3.6	— 3.0		
	6	+ 6.1	— 2.2	— 4.6	+ 0.6		14	+ 20.4	+ 5.7	— 6.4	— 4.6		
	7	+ 7.1	— 1.6	— 1.1	+ 1.9		15	+ 15.1	+ 0.6	— 5.0	— 1.4		
	8	+ 9.7	+ 0.3	+ 0.6	+ 1.5	16	+ 10.4	— 1.9	— 9.1	— 4.4			
	10	+ 9.0	— 1.5	+ 1.9	— 1.0	17	+ 14.2	+ 3.5	— 8.4	— 2.7			
	11	+ 10.2	— 0.5	+ 1.7	— 2.6	18	+ 10.0	— 0.2	— 14.4	— 8.0			
	14	+ 1.0	— 4.2	+ 5.8	— 1.1	19	+ 15.6	+ 4.5	— 12.2	— 6.2			
	15	+ 0.6	— 3.6	+ 4.6	— 1.9	20	+ 12.3	+ 0.3	— 14.4	— 9.3			
	16	+ 6.5	+ 1.5	+ 3.0	— 3.1	21	+ 14.8	+ 2.6	— 10.4	— 6.7			
	17	+ 12.3	+ 5.4	+ 9.2	+ 4.2	22	+ 17.5	+ 6.5	— 8.7	— 6.6			
	19	+ 7.4	— 3.4	— 1.7	— 4.3	23	+ 8.8	— 0.6	— 5.5	— 4.7			
	20	+ 11.6	— 0.7	+ 0.1	— 1.2	24	+ 6.4	— 1.8	— 2.4	— 2.7			
22	+ 13.9	— 1.3	— 4.4	— 2.9	25	+ 6.9	— 1.3	— 1.0	— 1.3				

GREENWICH OBSERVATIONS, 1859.

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ERRORS OF THE MOON'S TABULAR PLACES IN LONGITUDE AND ECLIPTIC NORTH POLAR DISTANCE, AS DEDUCED FROM
THE TABLES OF BURCKHARDT AND HANSEN—*continued*.

1856. ALTAZIMUTH OBSERVATIONS—*concluded*.

Day.	Longitude.		E. N. P. D.		Day.	Longitude.		E. N. P. D.	
	B-O.	H-O.	B-O.	H-O.		B-O.	H-O.	B-O.	H-O.
	"	"	"	"		"	"	"	"
October 10	+ 4.9	- 5.1	- 2.6	- 0.7	November 15	+ 12.2	+ 0.9	- 8.1	- 4.4
12	+ 1.9	- 6.3	- 3.6	+ 0.4	16	+ 10.5	+ 0.1	- 9.0	- 6.8
13	+ 7.3	- 1.8	- 5.9	- 0.3	17	+ 10.5	+ 0.4	- 5.1	- 4.4
14	+ 8.5	- 2.1	- 9.9	- 3.4					
16	+ 13.4	+ 0.7	- 11.9	- 5.5	December 2	+ 13.1	+ 1.0	+ 2.4	+ 0.8
18	+ 12.9	- 0.1	- 4.9	- 0.8	3	+ 10.1	- 0.6	+ 5.9	+ 4.1
20	+ 9.9	- 2.3	- 1.9	- 0.7	7	+ 12.5	+ 0.7	- 1.2	+ 2.3
21	+ 12.0	+ 0.8	- 1.6	- 1.8	8	+ 9.5	- 1.0	- 3.6	+ 1.2
25	+ 9.0	+ 1.2	0.0	- 2.0	9	+ 6.1	- 3.9	- 7.5	- 1.9
November 4	+ 8.9	- 1.5	- 1.0	- 0.5	10	+ 8.1	- 2.0	- 9.4	- 3.4
5	+ 6.4	- 4.1	- 3.1	- 2.8	11	+ 7.4	- 3.4	- 5.1	+ 0.8
6	+ 7.4	- 3.9	- 3.2	- 2.5	12	+ 8.3	- 2.3	- 6.2	- 1.2
8	+ 5.0	- 4.5	- 1.7	+ 0.9	13	+ 5.1	- 5.5	- 6.0	- 1.7
9	+ 4.8	- 2.5	- 3.7	+ 0.2	14	+ 5.7	- 4.3	- 4.6	- 1.1
10	- 2.2	- 8.4	- 7.0	- 2.0	15	+ 8.3	- 1.2	- 4.2	- 1.9
11	+ 3.6	- 3.9	- 9.1	- 3.0	16	+ 5.4	- 3.4	- 10.3	- 9.3
12	+ 9.8	- 0.1	- 7.8	- 1.4	17	+ 5.1	- 3.2	+ 2.2	+ 2.0
13	+ 13.2	+ 1.7	- 5.3	+ 0.5	18	+ 7.1	- 0.7	+ 3.1	+ 1.4
14	+ 10.2	- 1.7	- 7.5	- 2.5	30	+ 12.5	- 7.3	+ 3.5	- 8.0

1857. MERIDIONAL OBSERVATIONS.

January 2	+ 8.4	- 3.8	- 0.1	+ 0.2	April 9	+ 6.5	- 1.9	+ 2.1	- 0.1
3	+ 10.8	- 1.7	- 1.2	+ 0.8	14	+ 4.6	- 4.2	- 2.1	- 1.5
11	+ 10.2	0.0	- 2.0	+ 1.2	18	+ 1.8	- 1.5	+ 2.8	+ 2.4
13	+ 9.0	- 1.8	- 2.6	- 0.5					
14	+ 9.6	0.0	- 1.5	- 0.2	May 1	+ 7.4	- 1.2	- 0.1	- 1.0
15	+ 5.2	- 3.1	+ 0.7	+ 1.0	3	+ 11.1	- 1.2	+ 2.6	- 1.0
16	+ 8.4	+ 1.2	+ 3.2	+ 2.6	4	+ 8.8	- 3.0	+ 4.9	+ 0.6
31	+ 10.0	- 4.4	- 5.3	- 0.9	5	+ 5.8	- 3.9	+ 3.4	- 0.7
February 4	+ 13.2	- 3.2	- 4.4	- 1.1	6	+ 5.3	- 2.8	+ 3.8	+ 0.3
7	+ 7.7	- 0.6	- 0.8	+ 0.1	7	+ 2.8	- 3.9	+ 3.9	+ 1.4
8	+ 8.4	+ 0.4	- 1.1	- 0.2	8	+ 0.4	- 6.5	+ 1.8	+ 0.3
10	+ 8.8	- 1.0	- 1.0	- 0.5	11	+ 5.3	- 5.1	- 2.8	- 1.1
11	+ 7.4	- 1.8	- 0.7	- 0.6	13	+ 10.8	- 0.5	- 2.4	+ 0.3
12	+ 7.3	- 0.2	- 0.9	- 0.9	14	+ 10.4	- 1.3	- 3.9	- 0.9
13	+ 5.1	- 0.7	+ 2.5	+ 2.2	17	+ 8.3	+ 0.2	- 5.2	- 1.1
15	+ 2.2	- 3.7	+ 5.6	+ 4.4	27	+ 8.6	+ 0.2	- 6.8	- 2.1
16	+ 1.4	- 5.0	- 0.8	- 2.5	31	+ 10.3	- 1.2	+ 2.0	- 0.6
March 5	+ 13.8	- 1.7	- 2.6	- 2.1	June 1	+ 8.4	- 3.6	+ 6.3	+ 2.5
6	+ 8.9	- 4.0	- 0.5	- 1.7	2	+ 10.5	- 0.8	+ 3.7	- 0.6
7	+ 6.6	- 3.2	- 0.2	- 2.1	4	+ 3.4	- 3.3	+ 3.0	- 0.1
8	+ 6.8	- 1.4	+ 2.0	- 0.5	5	- 1.3	- 5.8	+ 1.7	- 0.5
12	+ 8.0	+ 0.2	+ 2.3	+ 0.5	8	+ 2.1	- 4.8	+ 0.3	+ 0.9
15	+ 2.9	- 2.7	+ 1.9	+ 0.9	9	+ 8.3	- 1.0	- 1.7	- 0.2
16	+ 1.1	- 5.0	- 2.7	- 3.9	10	+ 10.6	- 1.0	- 1.7	+ 0.1
17	+ 3.2	- 3.1	- 0.1	- 1.6	12	+ 14.1	- 0.9	- 3.6	- 0.2
31	+ 6.2	- 4.1	- 2.1	+ 1.1	13	+ 20.3	+ 4.4	- 5.4	- 0.8
April 2	+ 7.9	- 3.9	- 1.3	- 1.2	14	+ 19.8	+ 4.8	- 7.7	- 1.7
3	+ 10.9	- 1.7	- 0.1	- 1.7	15	+ 14.8	+ 3.0	- 9.0	- 1.8
6	+ 4.2	- 5.2	+ 4.9	+ 0.9	25	+ 19.5	+ 2.7	- 3.7	+ 0.3
8	+ 2.8	- 5.1	+ 2.4	- 0.5	26	+ 14.0	- 1.0	- 2.4	+ 0.3
					27	+ 9.0	- 3.7	- 1.0	+ 0.4

ERRORS OF THE MOON'S TABULAR PLACES IN LONGITUDE AND ECLIPTIC NORTH POLAR DISTANCE, AS DEDUCED FROM
THE TABLES OF BURCKHARDT AND HANSEN—*continued.*

1857. MERIDIONAL OBSERVATIONS—*concluded.*

Day.	Longitude.		E. N. P. D.		Day.	Longitude.		E. N. P. D.	
	B-O.	H-O.	B-O.	H-O.		B-O.	H-O.	B-O.	H-O.
	"	"	"	"		"	"	"	"
June 28	+ 6.1	- 5.0	+ 0.4	+ 0.4	October 8	+ 18.6	+ 3.1	- 1.2	+ 0.7
29	+ 7.3	- 2.7	+ 0.4	- 0.7	9	+ 20.8	+ 4.2	+ 1.2	+ 1.9
July 6	+ 4.6	- 2.2	- 2.0	- 3.0	25	+ 4.6	- 4.6	- 6.3	- 1.9
7	+ 7.4	- 1.4	- 0.4	- 1.0	26	+ 5.2	- 4.6	- 5.1	- 0.9
9	+ 14.9	+ 2.6	+ 0.9	+ 0.8	27	+ 5.5	- 4.7	- 4.3	+ 0.1
11	+ 18.4	+ 4.1	- 1.7	+ 0.4	29	+ 3.2	- 4.3	- 7.2	- 2.2
12	+ 19.1	+ 3.6	- 3.1	+ 0.5	30	+ 2.9	- 3.4	- 4.6	0.0
31	+ 3.1	- 4.9	- 1.0	+ 0.3	31	+ 6.1	- 1.4	- 5.3	- 1.1
August 2	+ 6.0	- 3.2	+ 0.2	+ 0.8	November 1	+ 10.0	- 0.1	- 5.3	- 1.3
3	+ 4.4	- 6.0	- 1.0	+ 1.1	5	+ 16.9	+ 3.8	+ 0.4	+ 0.5
4	+ 9.2	- 3.2	- 2.4	+ 2.9	22	+ 9.5	- 5.8	- 4.2	- 2.1
9	+ 14.0	+ 3.5	- 1.7	+ 0.5	24	+ 9.7	- 5.5	- 1.8	+ 0.9
25	+ 0.7	- 6.0	+ 2.0	+ 3.5	27	+ 14.9	- 1.5	- 2.8	+ 1.9
29	- 0.5	- 7.5	- 4.0	- 1.2	28	+ 12.8	- 2.4	- 5.0	- 0.3
30	+ 1.9	- 6.3	- 3.2	- 1.1	29	+ 10.4	- 3.9	- 6.9	- 2.7
31	+ 6.5	- 3.1	- 3.1	- 1.5	30	+ 10.9	- 3.0	- 5.3	- 2.2
September 1	+ 7.1	- 3.9	- 1.8	- 0.5	December 1	+ 12.9	- 0.9	- 3.7	- 1.4
4	+ 16.1	+ 3.7	- 0.3	+ 0.6	2	+ 12.9	+ 0.4	- 1.6	- 0.1
5	+ 16.9	+ 5.4	- 1.8	- 0.2	3	+ 12.5	+ 1.8	0.0	+ 0.9
6	+ 15.1	+ 4.4	- 2.8	- 0.4	4	+ 10.8	+ 1.8	+ 1.3	+ 0.9
11	+ 19.7	+ 3.9	+ 1.4	+ 3.0	7	+ 11.1	+ 2.6	+ 5.1	+ 0.2
28	+ 1.1	- 5.9	- 4.5	- 1.1	10	+ 7.5	+ 0.1	+ 7.1	+ 1.3
29	+ 3.5	- 3.7	- 2.4	+ 0.7	25	+ 14.9	- 4.8	- 1.6	+ 0.3
30	+ 1.6	- 5.3	- 2.9	0.0	27	+ 15.8	- 5.1	- 3.2	- 0.9
October 1	+ 2.5	- 4.6	- 3.6	- 0.8	28	+ 15.1	- 4.4	- 3.3	- 1.6
2	+ 3.4	- 4.5	- 3.3	- 0.3	29	+ 18.8	+ 1.0	- 6.5	- 5.3
6	+ 18.5	+ 3.6	- 6.0	- 2.9	30	+ 14.1	- 2.8	- 1.4	- 0.7
					31	+ 10.9	- 5.6	- 0.4	+ 0.6

1857. ALTAZIMUTH OBSERVATIONS.

January 2	+ 9.3	- 2.9	- 1.4	- 1.1	February 9	+ 7.3	- 1.8	- 1.0	- 0.3
3	+ 10.5	- 2.0	- 5.7	- 3.7	10	+ 7.3	- 2.5	+ 0.2	+ 0.7
5	+ 6.4	- 7.3	- 4.6	- 0.1	11	+ 5.0	- 4.2	+ 0.9	+ 1.0
9	+ 9.9	- 0.3	- 4.7	- 0.6	12	+ 3.0	- 4.5	- 3.3	- 3.3
10	+ 5.7	- 4.0	- 5.5	- 1.9	13	- 0.8	- 6.6	+ 4.7	+ 4.4
11	+ 8.7	- 1.5	- 4.3	- 1.1	15	- 4.1	- 10.0	+ 3.3	+ 2.1
12	+ 8.1	- 2.9	- 5.8	- 3.1	16	+ 2.3	- 4.1	+ 2.8	+ 1.1
13	+ 7.5	- 3.3	- 1.8	+ 0.3	26	+ 19.1	- 8.8	- 5.0	- 1.0
14	+ 4.5	- 5.1	- 4.7	- 3.4	27	+ 18.7	- 6.1	- 5.0	0.0
15	+ 1.1	- 7.2	- 0.2	+ 0.1	28	+ 11.9	- 7.9	- 6.3	- 0.7
16	+ 1.9	- 5.3	- 0.1	- 0.7					
19	+ 4.3	- 1.5	+ 6.2	+ 3.6	March 1	+ 13.7	- 2.4	- 3.0	+ 2.8
29	+ 15.4	- 6.0	- 3.9	- 2.1	2	+ 9.3	- 5.7	- 3.6	+ 1.7
30	+ 11.9	- 5.2	- 3.3	- 0.2	3	+ 11.6	- 4.4	- 1.4	+ 2.5
31	+ 10.6	- 3.8	- 6.2	- 1.8	4	+ 15.2	- 1.2	- 8.2	- 6.0
February 1	+ 7.9	- 6.3	- 4.0	+ 1.0	5	+ 12.2	- 3.3	- 2.6	- 2.1
2	+ 9.6	- 6.0	- 8.4	- 3.1	6	+ 11.2	- 1.7	- 0.6	- 1.8
4	+ 13.0	- 3.4	- 5.0	- 1.7	7	+ 7.0	- 2.8	- 1.1	- 3.0
6	+ 9.6	- 0.9	- 3.9	- 2.6	8	+ 2.5	- 5.7	+ 4.2	+ 1.7
7	+ 8.8	+ 0.5	+ 1.1	+ 2.0	9	+ 5.0	- 2.8	+ 2.0	- 0.5
8	+ 4.3	- 3.7	+ 1.2	+ 2.1	11	+ 3.5	- 4.8	+ 3.3	+ 1.3
					12	+ 3.1	- 4.7	+ 3.3	+ 1.5

ERRORS OF THE MOON'S TABULAR PLACES IN LONGITUDE AND ECLIPTIC NORTH POLAR DISTANCE, AS DEDUCED FROM
THE TABLES OF BURCKHARDT AND HANSEN—*continued*.

1857. ALTAZIMUTH OBSERVATIONS—*continued*.

Day.		Longitude.		E. N. P. D.		Day.		Longitude.		E. N. P. D.	
		B-O.	H-O.	B-O.	H-O.			B-O.	H-O.	B-O.	H-O.
		"	"	"	"			"	"	"	"
March	13	+ 2.5	— 4.2	+ 2.1	+ 0.7	June	11	+ 10.5	— 2.9	— 2.1	+ 0.5
	15	+ 3.6	— 2.0	— 0.9	— 1.9		12	+ 9.7	— 5.3	— 7.8	— 4.4
	16	+ 1.6	— 4.5	— 0.1	— 1.3		13	+ 10.8	— 5.1	— 9.7	— 5.1
	17	+ 1.5	— 4.8	+ 2.2	+ 0.7		14	+ 11.3	— 3.7	— 12.2	— 6.2
	20	— 4.6	— 5.8	+ 2.5	— 0.2		15	+ 9.4	— 2.4	— 10.3	— 3.1
	28	+ 10.0	— 10.7	— 3.4	+ 1.5		23	+ 12.8	— 3.2	— 5.2	+ 1.1
	30	+ 11.1	— 1.1	— 4.1	+ 0.3		24	+ 13.4	— 4.5	— 2.2	+ 3.1
	31	+ 9.0	— 1.3	— 6.7	— 3.5		25	+ 11.5	— 5.3	— 2.8	+ 1.2
April	2	+ 4.7	— 7.1	— 2.0	— 1.9	July	26	+ 13.4	— 1.6	— 2.7	0.0
	3	+ 11.9	— 0.7	+ 3.3	+ 1.7		27	+ 8.9	— 3.8	+ 0.3	+ 1.7
	5	+ 7.5	— 3.5	+ 3.6	— 0.2		28	+ 7.3	— 3.8	— 0.6	— 0.6
	6	+ 6.6	— 2.8	+ 3.0	— 1.0		29	+ 3.9	— 6.1	+ 3.8	+ 2.7
	7	+ 5.6	— 2.8	+ 0.8	— 2.8		30	+ 6.5	— 3.7	— 0.3	— 2.1
	8	+ 4.5	— 3.4	+ 5.5	+ 2.6		2	+ 5.8	— 3.2	+ 0.8	— 1.2
	9	+ 3.9	— 4.5	+ 4.7	+ 2.5		5	+ 3.4	— 2.2	— 2.7	— 3.7
	10	+ 3.6	— 5.4	+ 1.7	+ 0.4		6	+ 4.5	— 2.3	0.0	— 1.0
	11	+ 4.4	— 4.7	+ 1.4	+ 0.7		7	+ 7.1	— 1.7	— 1.4	— 2.0
	12	+ 9.2	— 0.1	+ 1.2	+ 1.4		8	+ 6.1	— 4.6	— 1.7	— 2.2
	13	+ 3.3	— 5.8	— 0.6	0.0		9	+ 8.5	— 3.8	— 1.9	— 2.0
	14	+ 6.4	— 2.4	— 3.2	— 2.6		10	+ 11.2	— 2.3	— 2.8	— 2.0
	15	+ 2.7	— 5.6	— 3.1	— 2.8		11	+ 13.5	— 0.8	— 8.1	— 6.0
	16	+ 3.9	— 3.6	— 3.2	— 3.2		12	+ 13.5	— 2.0	— 6.3	— 2.7
	17	— 2.6	— 8.4	— 4.2	— 4.2		13	+ 5.9	— 9.5	— 5.9	— 0.8
	18	— 2.0	— 5.3	— 3.4	— 3.8		14	+ 11.5	— 2.5	— 11.9	— 5.8
	19	— 5.4	— 4.7	— 1.8	— 2.3		15	+ 7.3	— 3.6	— 8.9	— 2.9
20	— 8.5	— 4.4	— 2.2	— 2.2	16	+ 2.6	— 4.2	— 10.7	— 5.4		
28	+ 5.4	— 1.0	— 5.5	+ 1.6	18	+ 8.5	+ 3.3	— 6.5	— 3.5		
30	+ 4.5	— 1.4	— 0.4	+ 0.6	23	+ 21.5	— 2.8	— 0.7	— 0.4		
May	1	+ 2.9	— 5.7	— 0.5	— 1.4	24	+ 14.0	— 7.8	— 2.9	— 2.6	
	2	+ 10.4	— 0.8	+ 0.2	— 2.2	25	+ 14.3	— 2.9	— 3.5	— 3.2	
	3	+ 7.7	— 4.6	+ 2.2	— 1.4	26	+ 7.2	— 4.3	— 2.9	— 2.2	
	4	+ 8.0	— 3.8	+ 3.3	— 1.0	27	+ 4.6	— 4.4	— 0.3	+ 0.6	
	5	+ 4.9	— 4.8	+ 8.7	+ 4.6	28	— 1.8	— 9.0	— 1.1	— 0.3	
	6	+ 3.7	— 4.4	+ 7.9	+ 4.4	29	— 1.9	— 9.3	— 1.8	— 0.8	
	7	+ 0.5	— 6.2	+ 3.8	+ 1.3	30	— 1.0	— 8.8	+ 0.4	+ 1.8	
	8	+ 2.7	— 4.2	+ 0.1	— 1.4	31	+ 5.3	— 2.7	— 1.1	+ 0.2	
	9	+ 5.2	— 2.4	+ 1.1	+ 0.9	August	1	+ 1.5	— 7.1	+ 0.8	+ 1.8
	11	+ 6.3	— 4.1	— 0.6	+ 1.1		2	+ 5.4	— 3.8	— 1.1	— 0.5
	14	+ 9.0	— 2.7	— 6.3	— 3.3		3	+ 8.9	— 1.5	— 1.5	— 1.6
	16	+ 5.8	— 5.0	— 5.6	— 2.1		4	+ 12.7	+ 0.3	+ 0.8	+ 0.3
	17	+ 9.7	+ 1.6	— 8.0	— 3.9		5	+ 7.2	— 6.5	+ 1.7	+ 0.9
	18	+ 0.1	— 2.6	— 8.5	— 3.1		9	+ 9.8	— 0.7	— 6.8	— 4.6
	24	+ 2.8	— 4.2	— 6.5	+ 1.7		11	+ 12.2	— 0.7	— 8.3	— 4.3
	26	+ 4.2	— 5.6	— 6.3	— 0.1		12	+ 13.5	— 0.4	— 10.7	— 6.8
	27	+ 8.2	— 0.2	— 2.3	+ 2.4		14	+ 14.2	+ 0.4	— 6.0	— 4.7
28	+ 4.9	— 2.8	— 2.8	+ 0.3	23		+ 10.9	— 4.8	+ 1.1	— 0.1	
30	+ 9.1	— 0.8	+ 0.9	+ 0.1	24		+ 8.8	— 1.7	— 3.8	— 3.3	
31	+ 13.0	+ 1.5	+ 3.6	+ 1.0	25	+ 2.0	— 4.7	+ 0.3	+ 1.8		
June	1	+ 8.7	— 3.3	+ 5.4	+ 1.6	27	— 2.2	— 7.3	— 4.8	— 2.1	
	2	+ 4.3	— 7.0	+ 5.4	+ 1.1	29	— 3.5	— 10.5	— 5.3	— 2.5	
	3	+ 2.8	— 6.4	+ 0.5	— 3.5	30	+ 0.1	— 8.1	— 2.8	— 0.7	
	4	+ 1.5	— 5.2	+ 3.1	0.0	31	+ 3.6	— 6.0	— 3.0	— 1.4	
	5	+ 1.3	— 3.2	+ 3.3	+ 1.1	September	1	+ 7.4	— 3.6	— 3.0	— 1.7
	8	+ 3.2	— 3.7	— 0.2	+ 0.4		3	+ 12.1	— 1.2	— 5.2	— 4.5
	9	+ 9.7	+ 0.4	— 0.2	+ 1.3		4	+ 12.1	— 0.3	— 3.9	— 3.0
	10	+ 10.9	— 0.7	— 4.0	— 2.2		5	+ 8.6	— 2.9	— 5.2	— 3.6

ERRORS OF THE MOON'S TABULAR PLACES IN LONGITUDE AND ECLIPTIC NORTH POLAR DISTANCE, AS DEDUCED FROM
THE TABLES OF BURCKHARDT AND HANSEN—*continued*.

1857. ALTAZIMUTH OBSERVATIONS—*concluded*.

Day.	Longitude.		E. N. P. D.		Day.	Longitude.		E. N. P. D.	
	B-O.	H-O.	B-O.	H-O.		B-O.	H-O.	B-O.	H-O.
September 6	"	"	"	"	November 5	"	"	"	"
7	+ 10.8	+ 0.1	- 7.5	- 5.1	7	+ 11.8	- 1.3	- 0.7	- 0.6
8	+ 10.0	- 0.6	- 8.3	- 5.0	10	+ 13.4	- 0.5	+ 3.1	0.0
9	+ 12.8	+ 1.4	- 8.1	- 4.3	11	+ 7.2	- 2.9	+ 5.4	- 0.8
11	+ 15.8	+ 3.1	- 6.1	- 2.3	21	+ 1.1	- 6.4	+ 5.2	- 0.7
12	+ 18.2	+ 2.4	- 1.5	+ 0.1	22	+ 15.0	- 2.7	- 5.1	- 2.6
23	+ 17.6	+ 1.5	- 1.2	- 1.4	24	+ 10.5	- 4.8	- 2.7	- 0.6
24	+ 8.2	- 0.6	- 4.1	- 0.7	26	+ 4.1	- 11.1	- 2.5	+ 0.2
26	+ 1.8	- 4.7	- 0.6	+ 3.0	27	+ 10.6	- 6.2	- 2.8	+ 1.5
28	+ 2.9	- 2.9	- 6.6	- 2.7	28	+ 18.5	+ 2.1	- 4.6	+ 0.1
29	- 2.6	- 9.6	- 6.7	- 3.3	29	+ 12.1	- 3.1	- 6.0	- 1.3
30	+ 3.4	- 3.8	- 6.8	- 3.7	30	+ 13.4	- 0.9	- 7.7	- 3.5
	- 1.4	- 8.3	- 4.9	- 2.0		+ 10.3	- 3.6	- 8.1	- 5.0
October 1	+ 6.0	- 1.1	- 5.2	- 2.4	December 1	+ 10.3	- 3.5	- 3.9	- 1.6
2	+ 5.5	- 2.4	- 5.8	- 2.8	2	+ 14.1	+ 1.6	- 2.0	- 0.5
4	+ 10.5	- 2.0	+ 2.9	+ 6.0	3	+ 8.4	- 2.3	- 2.0	- 1.1
5	+ 11.5	- 2.4	- 7.7	- 4.4	4	+ 6.2	- 2.8	- 2.0	- 2.4
6	+ 15.4	+ 0.5	- 7.9	- 4.8	5	+ 3.9	- 4.2	- 2.8	- 4.3
7	+ 19.8	+ 4.8	- 6.4	- 3.9	6	+ 10.4	+ 2.4	+ 2.4	- 0.4
8	+ 18.7	+ 3.2	- 5.8	- 3.9	7	+ 4.6	- 3.9	+ 3.6	- 1.3
9	+ 14.8	- 1.8	- 4.1	- 3.4	8	+ 6.9	- 1.3	+ 5.0	- 0.3
13	+ 13.3	+ 1.9	+ 0.9	- 3.0	10	+ 1.8	- 5.6	+ 7.2	+ 1.4
25	+ 7.8	- 1.4	- 7.5	- 3.1	19	+ 15.9	- 6.2	+ 2.0	+ 0.8
26	+ 4.6	- 5.2	- 7.4	- 3.2	20	+ 12.5	- 6.9	0.0	- 1.5
27	+ 6.4	- 3.8	- 4.6	- 0.2	22	+ 11.8	- 2.4	+ 3.3	+ 1.8
28	+ 5.4	- 3.9	- 5.0	- 0.5	23	+ 8.8	- 5.7	+ 3.7	+ 3.4
29	+ 5.4	- 2.1	- 5.7	- 0.7	25	+ 15.1	- 4.6	- 2.7	- 0.8
30	+ 4.7	- 1.6	- 8.6	- 4.0	27	+ 15.6	- 5.3	- 4.0	- 1.7
31	+ 7.9	+ 0.4	- 6.0	- 1.8	28	+ 12.9	- 6.6	- 4.2	- 2.5
November 1	+ 7.6	- 2.5	- 7.9	- 3.9	29	+ 12.8	- 5.0	- 5.6	- 4.4
2	+ 12.8	0.0	- 6.6	- 3.4	30	+ 10.5	- 6.4	- 0.8	- 0.1
4	+ 17.3	+ 3.5	- 5.1	- 3.7	31	+ 12.1	- 4.4	+ 0.1	+ 1.1

1858. MERIDIONAL OBSERVATIONS.

January 1	+ 15.2	+ 0.1	+ 4.1	+ 4.5	February 20	+ 8.7	- 4.6	- 5.8	- 3.5
6	+ 9.1	+ 0.6	+ 2.6	+ 1.1	21	+ 10.3	- 6.0	- 2.1	- 0.9
9	+ 2.0	- 5.3	+ 0.6	+ 0.7	22	+ 9.9	- 9.0	- 1.4	- 1.4
19	+ 8.0	- 4.1	+ 1.1	- 0.7	24	+ 16.6	- 4.7	+ 1.3	- 1.6
22	+ 6.9	- 6.0	- 2.9	- 2.4	25	+ 19.0	- 1.5	+ 3.3	0.0
23	+ 8.3	- 7.9	- 1.9	- 1.2	27	+ 13.7	- 2.1	+ 3.2	- 0.2
24	+ 11.1	- 7.4	- 1.0	- 0.5	March 6	+ 6.3	- 4.4	- 3.3	- 0.5
25	+ 12.7	- 6.2	+ 0.2	- 0.1	8	+ 5.9	- 2.5	- 7.8	- 5.0
26	+ 13.0	- 6.3	+ 0.1	- 0.8	21	+ 8.0	- 5.7	- 0.3	+ 1.3
27	+ 16.0	- 3.2	- 0.1	- 1.5	22	+ 13.3	- 2.9	+ 3.8	+ 4.4
28	+ 16.4	- 3.1	+ 0.2	- 1.2	23	+ 18.0	- 1.9	- 1.4	- 2.4
31	+ 14.6	- 2.4	- 0.5	- 1.2	24	+ 19.6	- 2.9	+ 2.0	- 0.9
February 1	+ 14.0	- 1.0	+ 0.5	+ 0.4	25	+ 21.7	0.0	+ 4.3	+ 0.6
3	+ 7.1	- 4.7	+ 1.3	+ 1.9	26	+ 14.6	- 3.8	+ 4.6	+ 0.1
4	+ 9.9	- 1.6	- 1.0	+ 0.4	29	+ 7.3	- 2.3	+ 2.3	- 0.3
6	+ 4.5	- 6.0	- 5.9	- 3.1	April 1	+ 5.5	- 2.5	- 2.3	- 0.3
7	+ 4.5	- 4.3	+ 0.8	+ 3.9	3	+ 4.9	- 2.5	- 2.1	+ 1.5
18	+ 5.4	- 5.5	- 2.7	- 1.0	18	+ 7.6	- 3.3	+ 1.1	+ 0.9
19	+ 6.1	- 5.3	- 2.7	- 0.6					

ERRORS OF THE MOON'S TABULAR PLACES IN LONGITUDE AND ECLIPTIC NORTH POLAR DISTANCE, AS DEDUCED FROM THE TABLES OF BURCKHARDT AND HANSEN—continued.									
1858. MERIDIONAL OBSERVATIONS—concluded.									
Day.	Longitude.		E. N. P. D.		Day.	Longitude.		E. N. P. D.	
	B-O.	H-O.	B-O.	H-O.		B-O.	H-O.	B-O.	H-O.
April	19	+ 8.5	— 1.7	— 1.3	August	24	+ 7.7	+ 0.6	— 2.8
	20	+ 10.5	— 1.4	0.0		25	+ 9.8	+ 2.7	— 3.5
	21	+ 12.2	— 2.6	+ 1.0		27	+ 10.6	+ 4.0	— 2.2
	22	+ 14.3	— 1.8	+ 4.7		28	+ 12.9	+ 4.8	— 2.0
	23	+ 13.4	— 1.7	+ 4.7		30	+ 14.4	0.0	— 4.3
	24	+ 11.7	— 1.0	+ 4.0		31	+ 18.6	+ 2.1	— 3.4
	25	+ 6.0	— 4.3	+ 5.0					
	26	+ 6.4	— 2.7	+ 6.1	September	1	+ 16.5	+ 0.9	+ 3.1
	28	+ 4.7	— 4.3	+ 2.4		12	+ 13.3	— 1.3	+ 0.8
May	5	+ 8.3	+ 0.1	— 4.4		13	+ 8.0	— 1.6	+ 0.2
	6	+ 5.4	— 1.1	— 6.2		15	+ 0.6	— 3.5	— 2.1
	7	+ 1.1	— 1.6	— 6.9		16	— 3.9	— 7.8	— 6.2
	18	+ 5.6	— 3.6	— 1.6		18	— 1.0	— 5.4	— 6.2
	19	+ 5.8	— 2.4	+ 1.2		21	+ 1.8	— 5.3	— 8.1
	22	+ 6.7	— 1.9	+ 2.7		22	+ 7.7	— 0.7	— 4.9
	23	+ 1.6	— 6.6	+ 7.4		23	+ 9.5	+ 0.1	— 4.4
	25	+ 4.9	— 3.0	+ 1.8		24	+ 12.0	+ 2.5	— 3.6
	30	+ 3.8	— 4.2	— 3.4		25	+ 13.7	+ 4.0	— 2.7
						30	+ 19.3	+ 4.1	+ 4.3
June	1	+ 9.9	+ 1.1	— 13.3	October	2	+ 18.5	+ 4.3	+ 5.2
	3	+ 10.2	+ 0.7	— 7.6		15	— 1.9	— 5.2	— 6.0
	15	+ 12.8	— 5.1	— 2.7		16	— 1.3	— 4.4	— 8.7
	17	+ 3.4	— 6.0	+ 0.7		17	— 0.9	— 3.7	— 5.7
	18	+ 5.8	— 2.6	+ 0.1		20	+ 2.3	— 4.6	— 7.6
	21	+ 6.9	— 1.2	+ 1.0		22	+ 15.1	+ 1.9	— 2.7
	22	+ 6.5	— 0.9	— 2.5		28	+ 18.3	+ 3.3	+ 3.0
	24	— 1.9	— 6.9	— 2.0		29	+ 21.0	+ 5.1	+ 7.8
	25	— 0.7	— 5.7	— 5.2	November	11	+ 8.6	— 2.0	— 7.1
	27	+ 5.3	— 1.6	— 6.2		12	+ 4.1	— 4.2	— 5.5
	28	+ 10.5	+ 2.3	— 0.1		13	+ 1.5	— 6.0	— 7.3
July	1	+ 15.4	+ 3.9	— 3.5		15	+ 3.2	— 4.8	— 8.0
	15	+ 12.5	— 3.9	+ 1.6		17	+ 2.2	— 7.9	— 8.5
	18	+ 4.3	— 5.7	— 2.5		18	+ 9.6	— 2.3	— 6.3
	19	+ 6.8	— 3.2	— 3.7		20	+ 14.4	— 2.0	— 5.2
	21	+ 4.6	— 3.0	— 5.7		21	+ 16.1	— 1.1	— 1.8
	25	+ 3.9	— 0.7	— 4.3		22	+ 16.9	0.0	— 1.1
	26	+ 6.9	+ 0.7	— 2.3		23	+ 16.2	+ 0.6	+ 4.0
	28	+ 11.2	+ 2.6	+ 0.1		26	+ 16.6	+ 2.4	+ 8.1
	30	+ 11.5	+ 0.6	— 3.7	December	17	+ 15.4	— 5.6	— 4.6
	31	+ 16.5	+ 2.9	— 4.0		18	+ 16.8	— 4.0	— 4.6
August	1	+ 18.8	+ 2.6	— 4.2		19	+ 20.2	— 0.8	— 3.6
	2	+ 20.2	+ 2.7	— 3.9		21	+ 19.7	+ 1.0	+ 1.9
	4	+ 13.4	+ 1.3	— 8.5		23	+ 15.4	+ 2.9	+ 5.3
	13	+ 17.3	— 1.0	+ 3.3		24	+ 12.3	+ 1.4	+ 4.8
	19	+ 6.0	— 0.6	— 6.2		26	+ 15.1	+ 2.7	+ 7.8
	20	+ 2.9	— 3.3	— 9.5		27	+ 13.4	+ 0.1	+ 7.2
	22	+ 2.1	— 3.4	— 6.1		28	+ 13.4	+ 1.1	+ 4.9
	23	+ 2.5	— 3.8	— 4.4					
1858. ALTAZIMUTH OBSERVATIONS.									
January	1	+ 14.5	— 0.6	+ 0.9	January	5	(+ 8.0)	(— 0.1)	(+ 10.2)
	3	+ 9.2	— 1.3	+ 2.8		6	+ 2.7	— 5.8	+ 1.0
	4	+ 4.1	— 4.6	— 2.2		9	+ 7.0	— 0.3	— 1.0

ERRORS OF THE MOON'S TABULAR PLACES IN LONGITUDE AND ECLIPTIC NORTH POLAR DISTANCE, AS DEDUCED FROM
THE TABLES OF BURCKHARDT AND HANSEN—*continued*.

1858. ALTAZIMUTH OBSERVATIONS—*continued*.

Day.		Longitude.		E. N. P. D.		Day.		Longitude.		E. N. P. D.		
		B-O.	H-O.	B-O.	H-O.			B-O.	H-O.	B-O.	H-O.	
		"	"	"	"			"	"	"	"	
January	11	— 1'1	— 4'3	— 1'3	+ 0'1	April	21	+ 9'4	— 5'4	+ 1'5	— 1'2	
	18	+ 10'7	— 5'2	— 0'2	— 1'9		22	+ 12'8	— 3'3	+ 3'0	— 1'2	
	19	+ 7'1	— 5'0	+ 3'6	+ 1'8		23	+ 10'6	— 4'5	+ 7'7	+ 3'1	
	20	+ 6'1	— 4'0	+ 0'3	— 0'8		24	+ 12'1	— 0'6	+ 5'3	+ 0'7	
	21	+ 2'9	— 7'6	— 2'6	— 3'0		25	+ 10'5	+ 0'2	— 2'5	+ 6'1	
	22	+ 7'5	— 5'4	— 0'1	+ 0'4		26	+ 4'6	— 4'5	+ 0'7	— 1'5	
	23	+ 9'3	— 6'9	— 4'6	— 3'9		28	+ 2'5	— 6'5	— 2'9	— 1'3	
	24	+ 12'6	— 5'9	— 2'5	— 2'0		30	+ 2'1	— 5'5	— 4'2	— 0'1	
	25	+ 12'2	— 6'7	— 2'0	— 2'3							
	26	+ 17'5	— 1'8	— 4'0	— 4'9		May	4	+ 7'1	— 0'9	— 7'5	— 1'9
	27	+ 11'4	— 7'8	+ 1'0	— 0'4			5	— 0'7	— 8'9	— 7'9	— 2'4
	28	+ 17'3	— 2'2	+ 2'6	+ 1'2			6	+ 1'2	— 5'3	— 12'2	— 6'7
	29	+ 14'1	— 5'6	— 1'1	— 2'5			7	— 4'1	— 6'8	— 10'5	— 5'1
31	+ 14'3	— 2'7	+ 1'7	+ 1'0	15	+ 12'9		— 5'2	+ 2'7	+ 4'1		
						16		+ 13'9	— 1'9	+ 4'3	+ 5'2	
						18		+ 7'4	— 1'8	— 1'4	— 2'0	
February	1	+ 8'4	— 6'6	— 1'4	— 1'5	June	1	+ 5'5	— 3'3	— 1'9	+ 3'5	
	3	+ 12'4	+ 0'6	— 4'1	— 3'5		3	+ 3'9	— 5'6	— 9'9	— 3'0	
	4	+ 7'9	— 3'6	— 1'7	— 0'3		7	— 10'8	— 10'6	— 15'9	— 6'9	
	6	+ 3'1	— 7'4	— 4'4	— 1'6		8	+ 2'0	+ 3'7	— 13'8	— 5'4	
	7	— 1'4	— 10'2	— 3'1	0'0		12	+ 13'5	— 8'7	— 6'4	— 2'4	
	16	+ 6'2	— 7'8	— 5'6	— 4'9		13	+ 23'8	— 0'9	— 1'2	+ 1'7	
	17	+ 5'2	— 7'1	+ 1'9	— 3'5		14	+ 19'7	— 3'1	— 0'3	+ 1'7	
	18	+ 12'0	+ 1'1	— 2'3	— 0'6		15	+ 12'6	— 5'3	— 1'3	— 0'4	
	19	+ 6'8	— 4'6	+ 4'6	+ 6'7		16	+ 10'3	— 2'6	+ 1'1	+ 1'0	
	20	+ 6'2	— 7'1	— 6'7	— 4'4		17	+ 7'1	+ 2'3	+ 1'4	+ 0'6	
	21	+ 9'8	— 6'5	— 3'0	— 1'8		18	+ 5'3	— 3'1	+ 2'1	+ 1'2	
	22	+ 14'6	— 4'3	— 2'1	— 2'1		19	+ 4'2	— 4'0	0'0	— 1'1	
	24	+ 16'3	— 5'0	+ 1'8	— 1'1		21	+ 4'5	— 3'6	— 1'8	— 1'1	
25	+ 15'3	— 5'2	+ 3'4	+ 0'1	22	+ 0'6	— 6'8	+ 0'3	+ 2'2			
26	+ 14'2	— 3'8	+ 2'7	— 1'0	23	+ 0'3	— 5'5	— 0'1	+ 2'9			
27	+ 12'6	— 3'2	+ 0'5	— 2'9	24	+ 6'1	+ 1'1	— 4'8	— 1'3			
28	+ 11'9	— 2'9	+ 1'1	— 1'7	25	+ 8'7	+ 3'7	— 7'2	— 3'5			
March	3	+ 11'4	— 0'7	+ 4'3	+ 4'5	July	1	+ 8'6	— 2'9	— 8'7	— 4'0	
	6	+ 6'0	— 4'7	— 1'3	+ 1'5		6	+ 4'5	— 3'2	— 12'1	— 6'2	
	8	+ 2'0	— 6'4	— 3'6	— 0'8		14	+ 21'4	— 0'5	+ 1'5	+ 0'2	
	9	0'0	— 6'1	— 1'9	+ 0'7		16	+ 7'6	— 5'0	+ 0'3	+ 0'4	
	16	+ 5'6	— 6'4	+ 1'6	+ 1'6		17	+ 4'4	— 6'2	— 0'1	+ 0'9	
	18	+ 9'4	— 5'6	— 4'3	— 2'9		18	+ 8'0	— 2'0	— 2'7	— 0'2	
	20	+ 9'6	— 3'5	+ 0'8	+ 2'6		19	+ 4'4	— 5'6	— 6'2	— 2'7	
	21	+ 12'3	— 1'4	— 1'5	+ 0'1		21	+ 4'7	— 2'9	— 7'6	— 2'5	
	22	+ 14'3	— 1'9	— 1'2	— 0'6		25	+ 1'2	— 3'4	— 5'6	— 1'9	
	23	+ 15'6	— 4'3	+ 1'5	+ 0'5		26	+ 7'9	+ 1'7	— 1'4	+ 1'6	
	24	+ 18'3	— 4'2	+ 2'3	— 0'6		28	+ 3'4	— 5'2	— 9'1	— 6'9	
	25	+ 20'5	— 1'2	— 0'8	— 4'5							
	26	+ 15'9	— 2'5	+ 4'0	— 0'5							
27	+ 10'9	— 3'7	+ 5'8	+ 1'3								
28	+ 7'2	— 3'8	+ 4'0	+ 0'1								
29	+ 3'7	— 5'9	+ 1'0	— 1'6								
30	+ 6'1	— 3'0	+ 3'2	+ 2'3								
April	1	+ 6'7	— 1'3	— 6'0	— 4'0							
	3	+ 5'9	— 1'5	— 6'5	— 2'9							
	15	+ 8'3	— 6'2	— 1'3	— 1'5							
	16	+ 12'4	— 3'4	+ 2'2	+ 2'1							
	17	+ 12'2	— 1'4	+ 3'6	+ 3'5							
	18	+ 12'2	+ 1'3	+ 0'2	0'0							
	19	+ 10'3	+ 0'1	+ 3'3	+ 3'2							
	20	+ 13'9	+ 2'0	+ 1'0	— 0'4							

ERRORS OF THE MOON'S TABULAR PLACES IN LONGITUDE AND ECLIPTIC NORTH POLAR DISTANCE, AS DEDUCED FROM THE TABLES OF BURCKHARDT AND HANSEN—concluded.											
1858. ALTAZIMUTH OBSERVATIONS—concluded.											
Day.		Longitude.		E. N. P. D.		Day.		Longitude.		E. N. P. D.	
		B-O.	H-O.	B-O.	H-O.			B-O.	H-O.	B-O.	H-O.
		"	"	"	"			"	"	"	"
July	29	+ 7'1	— 2'6	— 6'9	— 4'4	October	16	+ 0'7	— 2'2	— 6'9	— 1'8
	30	+ 11'1	+ 0'2	— 4'9	— 2'1		17	— 3'6	— 6'4	— 9'4	— 3'7
	31	+ 11'3	— 2'3	— 9'0	— 5'8		20	+ 0'5	— 6'4	— 6'1	— 0'1
August	1	+ 15'3	— 0'9	— 8'6	— 5'4	21	+ 3'6	— 6'6	— 5'2	— 0'1	
	2	+ 17'7	+ 0'2	— 6'6	— 3'4	22	+ 8'1	— 5'1	— 4'6	— 0'8	
	3	+ 12'6	— 3'3	— 6'7	— 4'7	25	+ 10'2	— 4'4	— 3'6	— 3'3	
	5	+ 6'9	— 1'3	— 3'7	— 4'7	26	+ 14'6	+ 0'9	— 1'2	— 1'9	
	6	+ 7'4	— 1'0	— 4'1	— 6'6	27	+ 14'4	+ 0'2	+ 1'5	— 0'4	
	13	+ 18'2	— 0'1	+ 2'0	— 0'7	28	+ 16'3	+ 1'3	+ 3'8	+ 0'4	
	16	+ 6'1	— 2'7	— 3'1	— 6'2	29	+ 16'6	+ 0'7	+ 2'6	— 2'4	
	20	— 3'0	— 9'2	— 3'6	+ 2'2	30	+ 17'1	+ 1'5	+ 3'8	— 2'6	
	22	— 1'2	— 6'7	— 5'2	— 0'5	31	+ 11'4	— 3'1	+ 5'5	— 1'8	
	23	+ 2'1	— 4'2	— 5'1	— 1'3	November	1	+ 13'1	+ 0'3	+ 5'6	— 1'9
	24	+ 5'2	— 1'9	— 4'3	— 1'3		2	+ 6'8	— 5'1	+ 6'8	— 0'5
	25	+ 3'9	— 3'2	— 9'9	— 7'4		9	+ 15'1	— 4'6	— 6'1	— 2'7
	26	+ 4'9	— 1'9	— 9'0	— 7'0		11	+ 7'5	— 3'1	— 5'7	— 1'5
	27	+ 3'6	— 3'0	— 5'3	— 3'2		12	+ 4'8	— 3'5	— 5'9	— 1'3
	28	+ 8'4	+ 0'3	— 8'2	— 5'7		14	+ 5'6	— 1'9	— 7'1	— 0'9
29	+ 12'4	+ 1'3	— 6'2	— 4'0	15		+ 3'4	— 4'6	— 6'3	+ 0'8	
30	+ 13'5	— 0'9	— 7'0	— 4'9	17		+ 8'9	— 1'2	— 8'0	— 0'5	
31	+ 15'6	— 0'9	— 4'3	— 2'7	18	+ 9'6	— 2'3	— 6'0	+ 0'7		
September	1	+ 16'5	+ 0'9	— 3'8	— 3'7	19	+ 7'3	— 6'7	— 3'4	+ 2'1	
	12	+ 15'7	+ 1'1	+ 2'3	+ 1'6	20	+ 13'9	— 2'5	— 7'2	— 3'4	
	13	+ 7'5	— 2'1	— 1'8	— 0'8	21	+ 14'8	— 2'4	— 5'1	— 3'0	
	15	— 0'2	— 4'3	— 5'8	— 2'6	22	+ 14'3	— 2'6	— 3'1	— 2'9	
	16	+ 0'5	— 3'4	— 5'7	— 1'8	23	+ 13'0	— 2'6	— 0'5	— 1'7	
	17	— 0'9	— 5'2	— 5'2	— 0'7	26	+ 14'0	— 0'2	+ 4'6	— 2'7	
	18	— 2'3	— 6'7	— 6'8	— 2'2	28	+ 17'0	+ 2'1	+ 7'2	— 2'1	
	20	+ 0'1	— 5'2	— 7'3	— 2'7	December	1	+ 9'8	+ 0'4	+ 7'8	+ 2'2
	21	+ 3'3	— 3'8	— 8'0	— 3'7		2	+ 2'7	— 6'6	+ 7'0	+ 3'8
	22	+ 5'7	— 2'7	— 7'4	— 3'8		15	+ 13'7	— 5'2	— 5'9	— 1'0
	23	+ 7'7	— 1'7	— 7'0	— 4'2		17	+ 16'7	— 4'3	— 4'4	— 0'8
	24	+ 10'1	+ 0'6	— 9'2	— 6'8		18	+ 17'4	— 3'4	— 1'1	+ 1'4
	25	+ 7'2	— 2'5	— 7'7	— 5'6		19	+ 14'4	— 6'6	+ 4'8	+ 6'0
	27	+ 9'7	— 1'3	— 6'4	— 4'8		20	+ 15'7	— 4'5	+ 0'5	+ 0'3
	28	+ 14'1	+ 1'6	— 2'2	— 0'8		21	+ 17'4	— 1'3	— 2'3	— 3'4
29	+ 17'4	+ 3'2	— 2'8	— 1'9	22	+ 10'9	— 4'8	— 0'0	— 2'3		
30	+ 14'6	— 0'6	+ 0'3	— 0'2	23	+ 6'6	— 5'9	— 0'8	— 4'3		
October	2	+ 10'3	— 3'9	+ 2'2	— 1'5	24	+ 7'8	— 3'1	— 3'2	— 7'8	
	4	+ 11'8	— 2'8	+ 4'0	— 2'1	25	+ 7'1	— 3'9	+ 2'6	— 2'9	
	15	— 3'5	— 6'8	— 5'0	— 0'5	26	+ 8'6	— 3'8	+ 6'0	+ 0'3	
					28	+ 11'6	— 0'7	+ 5'8	+ 2'5		