

APPENDIX
TO
CAPTAIN PARRY'S JOURNAL
OF A
SECOND VOYAGE
FOR
THE DISCOVERY OF A NORTH-WEST PASSAGE FROM
THE ATLANTIC TO THE PACIFIC,
PERFORMED IN
HIS MAJESTY'S SHIPS FURY AND HECLA
IN
THE YEARS 1821-22-23.

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I.

ACCOUNT

OF

THE CHRONOMETERS.

N^o. I

ACCOUNT OF THE CHRONOMETERS.

THIRTEEN chronometers were embarked on board the *Fury*, *viz.*

Messrs. Parkinson and Frodsham's	No. 259	
"	"	" 228
"	"	" 253
"	"	" 254
"	"	" 460
"	"	" 458, an eight-day chronometer.
Mr. Arnold's	"	" 369
"	"	" 326
"	"	" 2109
"	"	" 14
"	"	" 1897
Messrs. Molyneux and Cope's	"	" 405
Messrs. Finer and Nowland's	"	" 281, an eight-day chronometer.

Of these, Nos. 228, 253, 254, 369, and 2109, were supplied by government: Nos. 326, 14, and 1897, were the property of Mr. Fisher; No. 259 belonged to Captain Parry, and the rest, *viz.* Nos. 460, 458, 405, and 281, were sent out on trial by their respective makers, and placed in the charge of Captain Parry.

The whole of the chronometers, (with the exception of 2109 and 14), were kept, during the summer, in separate cots of canvas, lined with green baize, and suspended to the beams of the after cabin; this method being considered the most effectual in affording to the watches an easy motion at sea, and also in preventing, in some measure, the effect to be apprehended from the frequent shocks received by the ship, when navigating among the ice. No. 2109

(except in the instances hereafter specified, where it was worn in the pocket), was placed in a vertical position against the ship's side, for the sake of convenient comparison to the officers in making their observations, and to prevent the necessity of taking down any of the watches except for the noon-comparison, an account of which was daily hung up for reference. No. 14 was worn by Mr. Fisher, and constantly used in noting the time of observations.

Soon after the ships were secured in winter-quarters, the chronometers were removed from the cots, and placed on the shelves of a book-case, on each side of the cabin fire-place, in which situation, as will be seen by the register annexed to the proper table, they were subject to no such severe trial, as, from the limited supply of fuel, had been experienced on the former voyage.

The winding-up and comparison of the chronometers was performed daily, at noon, throughout the voyage; by Messrs. Fisher and Hooper in the summer, and during the winter months, (when Mr. Fisher's various avocations required his frequent absence from the ship), by Captain Parry and Mr. Hooper.

The chronometers were embarked on board the *Fury*, at Deptford, on the 27th of April, 1821, the following errors and rates, (brought up, for the sake of convenience to one day, the 4th of May), accompanying them from their respective makers.

CHRONOMETERS.		DATE.	Errors on Mean Greenwich Time.	RATE.	REMARKS.
Makers.	Nos.				
Parkinson & Frodsham	259	May 4, 1821	H. M. S. Sl. 0 0 02.86	G 0.43	Gained 13 ^s 7 in 31 days.
" "	228	" "	F. 0 1 19.	G 4.	Rate about 4 ^s per day
" "	253	" "	Sl. 0 0 19.76	G 0 03	Gained 1 ^s in 37 days—fluctuating about 1-10th of a second, fast and slow
" "	254	" "	Sl. 0 0 47	L 2.	Lost 10 ^s in 5 days, having been altered just previous to that time.
" "	460	" "	Sl. 0 0 23.3	L 1	Had been going only 8 days on trial.
" "	456	" "	Sl. 0 0 03.5	G 1.5	Had been only 7 days on trial since the final correction
Arnold	369	" "	Sl. 0 9 41.4	L 4.5	
" S.	226	" "	F. 0 0 08	G 8.	
"	2109	" "	Sl. 1 53 18.	G 1.	
"	14	" "	Sl. 0 0 03.	L 3.	
"	1897	" "	F. 0 0 01.	G 1.	
Molyneux and Cope....	405	" "	F. 0 1 56.84	G. 2.98	From Mr. Taylor's Mem. Rl. Observatory.
Finer and Nowland	281	" "	Sl. 0 0 07.8	L 2.5	

A note from Messrs. Parkinson and Frodsham of the 3d of May, 1821, states that "No. 254 having been taken to pieces within ten days, to make some alterations, in consequence of its losing on its rate, it had not been long enough in their possession since, to be positive that they had corrected it." By the same communication, it appeared, that No. 228 was not calculated to resist extreme cold so well as 263, 254, and 460; and the makers, therefore, recommended that it should not be used under circumstances where a very low temperature was to be apprehended.

As the general method of keeping the account of the chronometers has been nearly the same throughout the voyage, and as the accuracy of the longitudes of all the land discovered or surveyed by this Expedition, as laid down in the charts is, in great measure, dependent on this method, it will be proper here, once for all, to explain it. The more detailed account of the watches employed during each particular interval, and of the occasional correction of their rates, will follow in its proper place.

To simplify, as much as possible, the operation of deducing a final result from so many chronometers, some one watch known to have a steady, and what is scarcely less convenient, a small rate, was selected as the standard one; of which a comparison with all the rest was registered daily at noon, and from which the longitudes, for the time being, were deduced, subject, of course, to subsequent correction, both for its own rate, and for a reduction to the mean of the chronometers employed.

By looking down the columns of a table containing these daily comparisons, it was easy to see, at one glance, any sudden irregularities, or other material alteration in the going of the watches; because when such irregularities appeared in any of the columns, there was almost always the evidence of many against one, in detecting that which had erred. If, during any required interval, such irregularities frequently occurred, the watches in which they were noticed were omitted during that period, in the determination of the longitudes.

Having thus selected the chronometers to be employed during any interval, a table (as No. I.) was made out, shewing the actual going of those watches upon each other weekly during that time. A table of this kind must always prove extremely useful in pointing out the time nearly at which any alteration may have taken place in the going of the watches; and then by referring to the table of daily comparisons, the day on which it has commenced may frequently be discovered. In such cases, either a special correction has been applied for the time during which the alteration of rate seems to have continued; or, if the alteration appear to have been permanent, a new rate commenced from that day.

The rates of the chronometers received, from time to time, their necessary corrections, while at sea, by obtaining at certain intervals (never exceeding twelve weeks), a considerable number of lunar observations. These being collected into a table, (as Appendix No. III) shewing the error of the standard watch upon Mean Greenwich Time, as deduced from each observation, its mean error was found, by the rules of alligation, for a certain corresponding day, on the supposition that the value of such determination is directly as the number of observations.

Hence, also, the errors of all the other watches on that day; which, as respected the rates of the chronometers, was considered as constituting the end of one interval and the commencement of another: and so on to the next series of observations.

The most favourable opportunities, however, of fixing the meridian of the ships, and thence determining the errors of the chronometers on Mean Greenwich Time, occurred during the continuance of the Expedition in winter quarters, the observations being there made in greater number and variety, and under circumstances as favourable as the rigour of the climate would admit. An opportunity was, also, thus afforded of obtaining the actual daily rates of the chronometers, for a considerable period previous to the sailing of the Expedition. When at the end of any interval, a considerable difference has appeared between the error of a watch upon Mean Greenwich Time, thus found by observation, and that which would have resulted from the rate assigned to it at the beginning of the interval, particular regard has been had to the changes shewn in the weekly table, and pains have been taken to assign such rates as those changes appeared to require. By this means a progressive alteration of rate has usually been detected and allowed, instead of altogether rejecting the former one in favour of that last found. A partial exception to this rule occurs at the first embarkation of some of the chronometers, which evidently took up very different rates almost immediately after their being put on board.

The rates of the chronometers employed being thus fixed, two corrections were applied to the longitudes originally found; *viz.* 1st, for the corrected rate of the standard-watch; and 2dly, for a reduction to the mean of the chronometers with their rates also corrected.

The elements of the observations, together with the longitudes thus finally corrected, are collected into tables. according to the order of time in which they were made.

An account of the going of the chronometers *not* employed in the determination of the longitudes, is given in separate tables. The rates there assigned to them are deduced, while at sea, from the Greenwich Time shewn by the means of the chronometers employed; and, while in harbour, from observations obtained, on the days therein mentioned.

The temperatures noted in the tables, were obtained by a Six's thermometer, placed as near the chronometers as circumstances would permit, and registered daily at noon.

On leaving England in May¹⁸²¹, No. 259, was selected as the standard or comparing watch.

The lunar observations obtained during that summer, for determining the errors of the chronometers on Mean Greenwich Time, will be found in Appendix No. III, and the following is an abstract of their results :

1821, June 20th,	
By 27 sets, comprehending 258 distances, ☉ east of ♀, No. 259 slow of M.G.T.	^m 08.89
July 5th and 7th,	
By 63 sets, comprehending 626 distances, ☉ west of ♀, No. 259 slow of M.G.T.	6.16
July 20th, 21st, and 24th,	
By 54 sets, comprehending 551 distances, ☉ east of ♀, No. 259 fast of M.G.T.	53.73
Aug. 1st, 3d, and 4th,	
By 74 sets, comprehending 750 distances, ☉ west of ♀, No. 259 fast of M.G.T.	1 23.20
Total 218	2187 distances.

Mean error of 259 fast of Mean Greenwich Time ^m 38.67. Corresponding day, July 18, 1821.

The errors of the other chronometers on that day, by comparison with 259, were as follows. The mean rates per lunars, and those given by the makers are inserted, in order to shew at one view the alterations that had taken place in that interval.

		Error on Greenwich Time, July 18th.		Mean Rate per Lunars*.		Maker's Rate.	
No.		h	m	s			
228	- - Fast	0	3	34.67	- -	+ 1.81	- - +4
253	- - Slow	0	2	02.83	- -	- 1.37	- - +0.03
254	- - Slow	0	58	59.33	- -	- 46.56	- - -2
460	- - Slow	0	16	45.83	- -	- 13.1	- - -1
458	- - Slow	0	0	11.33	- -	- 0.08	- - +1.5
369	- - Slow	0	18	58.33	- -	- 7.43	- - -4.5
326	- - Fast	0	3	53.17	- -	+ 3.00	- - +9
2109	- - Slow	2	2	02.41	- -	- 5.39	- - +1
14	- - Fast	0	2	45.67	- -	+ 2.21	- - -3
1897	- - Slow	0	6	06.33	- -	- 4.89	- - +1
405	- - Fast	0	52	20.5	- -	+ 8.21	- - +2.93
281	- - Slow	0	6	09.83	- -	- 4.03	- - -2.5

* Deduced simply by dividing the whole gain or loss, since the 4th of May, by 75, the number of days contained in the interval.

The chronometers selected for the determination of the longitudes up to the 18th of July, were Nos. 259, 228, 253, 405, 326, and 2109. The following corrections were applied to their rates:

No. 259 appears to have increased its rate progressively; but as this is extremely small, the whole interval has been subdivided into three, of 25 days each, and the following rates allowed:

4th to 29th May	- - -	+0.5
30th May to 23d June	- -	+0.6
24th June to 18th July	- -	+0.7

No. 228 certainly took up a much smaller gaining rate immediately after its being put on board: about the 15th of May it began to gain still less, by the mean of the other five watches, by about 1'.3 per day. From the 29th June, it again gained more, by nearly the same quantity. The rates allowed are:

26th April till 18th May	- -	+2.7
19th May „ 29th of June	-	+1.4
30th June „ 18th July	- -	+2.62

No. 253 on the 23d of June, began to lose upon the other five watches at the rate of above 4'. per day, and continued thus with tolerable regularity, to the end of the interval. There is reason to believe, therefore, that its rate changed on the 23d of June, though from what cause is not apparent; so that the maker's rate of +0'.03 is allowed till that day, and then -4'.17 to the 18th of July.

No. 405 evidently gained at a rate much greater than that allowed by the makers, soon after it came on board. On the 5th of June it was accidentally let down. Allowance being made for this, its mean rate of going from the 4th of May to the 18th of July was +8'.21 per day; but, by attending to the changes shewn in the weekly table, and also by assigning it an error on mean Greenwich time, by the other five watches, after it was set agoing on the 6th of June. the following rates were allowed:

From 26th April to 3d of June - - +7'.52
(On the 4th and 5th June, it was omitted in determining the mean longitude.)

6th June to 13th	- - -	+8.1
13th June to 18th July	- -	+9.65

The rates applied were as follows, the changes in the mean rates, as shewn in the above table, and the alterations shewn in the weekly one, being carefully attended to, in the manner before explained.

No. 259 from July 18th to Aug. 16th	- - + 1.2
„ Aug. 17th to Sept. 14th	- - + 1.6
„ Sept. 15th to Oct. 5th	- - + 2.8
„ Oct. 5th to Oct. 10th	- - + 4.
No. 228, one rate of	- - - - + 2.05
No. 253, from July 18th to Aug. 15th	- - - 5.
„ Aug. 16th to Sept. 12th	- - - 6.
„ Sept. 13th to Oct. 10th	- - - 7.32
No. 458, „ July 18th to Sept. 28th	- - - 1.4
„ Sept. 29th to Oct. 10th	- - - 4.55
No. 369, „ July 18th to Sept. 21st	- - - 5.4
„ Sept. 22d to Oct. 10th	- - - 3.5
No. 326, „ July 18th to Aug. 10th	- + 7.
„ Aug 11th to Sept. 9th	- + 10.
„ Sept. 10th to Oct. 10th	- + 11.85
No. 405, „ July 18th to Aug. 12th	- + 10.5
„ Aug. 13th to Sept. 7th	- + 12.5
„ Sept. 8th to Oct. 10th	- + 14.45

TABLE shewing the going of the Chronometers not used in the determination of the Longitudes, upon Mean Greenwich Time, (deduced from the mean of the others) during the under-mentioned period.

1827.	254		460		2109		1897		281	
Week ending.	Slow.	Rate.	Slow.	Rate.	Slow.	Rate.	Slow.	Rate.	Slow.	Rate.
July 20	H. M. S. 1 01 28.3	s. 175.6	H. M. S. 0 16 45.5	s. 127.20	H. M. S. 2 02 52.3	s. L 6.41	H. M. S. 0 6 16.3	s. L 7.61	H. M. S. 0 6 26.8	s. L 9.37
" 27	1 10 17.5	77.37	0 19 56.5	15.94	2 3 37.2	6.19	0 6 51.4	2.03	0 7 32.4	8.58
Aug. 3	1 19 19.1	78.99	0 21 48.1	31.84	2 4 30.5	6.79	0 7 05.6	2.03	0 7 57.1	4.10
" 10	1 28 32.	79.16	0 25 31.	25.01	2 5 08.	16.73	0 7 19.8	2.76	0 8 25.8	7.61
" 17	1 37 46.1	79.81	0 28 26.1	25.17	2 7 05.1	25.81	0 7 39.1	1.74	0 9 19.1	7.74
" 24	1 47 04.8	79.84	0 31 22.3	27.91	2 10 05.8	27.06	0 7 51.8	2.20	0 10 13.8	7.41
" 31	1 56 20.2	81.1	0 34 17.2	27.64	2 13 15.2	27.53	0 8 06.7	5.89	0 11 05.2	7.17
Sept. 7	2 05 47.9	81.86	0 37 30.7	26.24	2 16 27.9	24.77	0 8 47.9	0.97	0 11 55.4	4.86
" 14	2 15 20.9	81.71	0 40 34.4	26.14	2 19 21.3	25.09	0 8 54.7	1.47	0 12 29.4	5.21
" 21	2 24 52.9	82.4	0 43 47.4	29.1	2 22 16.9	24.71	0 8 41.4	13.93	0 13 05.9	2.84
" 28	2 34 29.7	87.94	0 47 11.1	31.21	2 25 09.9	25.6	0 10 21.9	14.07	0 13 23.8	3.88
Oct. 5	2 44 45.3		0 50 49.6	34.96	2 28 09.1	22.06	0 12 00.4	12.70	0 13 50.6	2.46
" 10			0 53 44.4		2 29 59.4		0 13 03.9		0 14 02.9	

No. 14 is omitted, having been constantly worn in the pocket for making Observations.

No. 1897 was much used in boats during the second and third weeks in September and No. 2109 during the whole of that month, and the last half of August.

An account of the going of the chronometers on mean time, at Winter Island is contained in Table No. III; whence the rates of the chronometers are deduced previously to going to sea. These are contained in Table No. IV.

1822.

In the correction of the rates of the chronometers, for the season of navigation of 1822, the period is divided into two, at the expiration of each of which an opportunity offered of determining their errors on mean time, at the observatory subsequently established at the island of Igloolik No. 228 was used as the comparing watch.

On the 24th July, by the mean of three observers, 228 was fast of	m.	m.	s.
mean time at the Esquimaux Tents, Igloolik	-	-	5 46 29.5
Observatory at Igloolik, (by subsequent angles), to the westward	+0	0	50.6
228 fast of mean time at the Observatory, Igloolik, 24th July	-	5	47 20.1
Difference of meridians between the Observatory at Igloolik, and			
that at Winter Island	-	-	+0 5 42.1
Error of 228 on mean time at Observatory, Winter Island, July 24, fast	5	53	02.2
Ditto ditto ditto ditto June 29	5	51	29.6
228 gained in the interval, 25 days	-	-	0 1 32.6
Mean rate of 228, gaining	-	-	0 0 3.7

This interval being short, one rate is applied to each watch, and these (computed from the mean time at Winter Island, for the sake of convenience) with the chronometers employed, are as follows.

Chronometer	Error on Mean Time, Winter Island, July 24th, 1822				Mean Rates between 24th June, and 24th July.			Previous Rates
	H.	M.	S.					
No. 228, - - -	5	53	02.2	- -	gaining	3.7	- -	3.535
„ 259, - - -	6	08	50.2	- -	gaining	12.22	- -	11.52
„ 253, - - -	4	46	23.2	- -	losing	1.48	- -	6.184
„ 458, - - -	4	39	42.2	- -	losing	10.02	- -	11.744
„ 369, - - -	1	18	19.9	- -	losing	0.26	- -	1.659
„ 2109, - - -	1	04	41.2	- -	losing	23.46	- -	24.459
„ 281, - - -	5	38	18.2	- -	gaining	6.1	- -	4.687

For the 2d Interval, 1822.

On the 25th September, by the mean of three observers, 228 was				H. M. S.		
fast of mean time upon the beach on the south-side of						
Igloolik	-	-	-	5	48	45.4
Observatory at Igloolik, (by subsequent angles) to the westward	-	+	0	0	38.	
228 fast of mean time at the Observatory, Igloolik, Sept. 25				-	-	5 49 23.4
Difference of meridians of the two Observatories				-	+	0 5 42.1
Error of 228 on mean time, at Observatory, Winter Island, Sept. 25.				5	55	05.5
Ditto	ditto	ditto	ditto	July 24.	5	53 02.2
228 gained in the interval				-	-	0 2 03.3

Mean rate of 228, gaining - - 0 1.957

As by the weekly Table, No. V, there appears to have been no material irregularity in the going of the watches upon each other, one rate has been applied to each during the second interval. These (computed as in the first interval), together with the chronometers employed, are as follows :

Chronometers	Errors on Mean Time of Winter Island, Sept. 25th 1822.				Mean Rates between July 24th, and Sept. 25th.			Previous Rates.	
	H.	M.	S.		S.			S.	
No. 228,	-	5	55.05.5	- - -	gaining	1.957	- -	3.7	
„ 259,	-	6	19 12.	- - -	gaining	9.87	- -	12.22	
„ 458,	-	4	26 46.5	- - -	losing	12.31	- -	10.02	
„ 369,	-	1	18 18.8	to 4th Sept.	losing	0.19	- -	0.26	
„ 2109,	-	0	39 26.	- - -	losing	24.05	- -	23.46	
„ 405,	-	8	42 47.	- - -	gaining	24.14	- -	22.38	
„ 281,	-	5	43 49.8	- - -	gaining	5.26	- -	6.1	

On the 4th September, No. 369, on its being taken down to wind up at noon, was found to have stopped. Mr. Fisher, in Captain Parry's absence, opened the case, and removed a long hair from the balance, after which it was again set going; but its Greenwich time was omitted in the mean, during the remainder of this interval. It again stopped on the 1st October, the temperature of the cabin having been from 61° to 50° during the twenty-four hours preceding. It was considered advisable not to open it, and as it could not be set going, it remained down from that day.

TABLE, No. I.

SHewing the Going of the Chronometers used in the determination of the Longitude, upon each other, during the under-mentioned period.

1821. Week ending	259 with					228 with					253 with					405 with					326 with					2109 with					Temperature.	
	228	253	405	326	2109	259	253	405	326	2109	259	228	405	326	2109	259	228	253	326	2109	259	228	253	405	2109	259	228	253	405	326	Maximum.	Minimum.
May 11	1.3 11	6.0	1.7.71	1.3.43	6.45	3.11	4.11	1.4.6	1.0.32	9.36	1.1.0	1.4.11	1.3.71	1.4.43	5.25	7.71	4.6	6.71	4.28	1.13.96	6.11	6.0.32	4.43	1.4.28	6.65	1.6.25	1.9.36	1.5.25	1.13.96	1.9.68		
15	1.75	1.14	6.93	1.3	6.71	1.75	2.85	5.22	6.45	8.42	1.14	2.85	8.07	2.40	5.57	6.93	5.22	8.07	5.67	1.0.45	1.1	1.0.45	2.40	5.67	7.97	6.71	9.42	5.57	13.64	7.97		
25	2.96	1.0.14	8.19	1.56	5.86	2.96	2.82	5.23	1.40	8.92	6.0.14	2.82	8.05	1.43	6.0	8.19	5.23	8.05	6.62	14.05	1.08	1.40	1.43	6.62	7.14	5.86	8.82	6.0	14.05	7.43		
June 1	3.14	0.79	9.39	3.07	5.14	3.14	2.38	5.25	0.07	8.28	0.79	2.38	7.63	2.29	5.91	8.39	5.25	7.63	5.34	13.54	3.07	0.07	2.29	5.34	8.20	5.14	8.28	5.91	13.54	8.20		
8	1.5	0.71	6.73	6.0.54	7.14	1.5	0.79	5.23	2.04	8.64	0.71	0.79	6.02	6.1.25	7.85	6.73	5.23	6.02	7.27	13.57	1.0.14	2.04	1.1.25	7.27	6.60	7.14	8.64	7.85	13.87	6.60		
15	6.1.0	6.1.29	8.16	0.9	7.93	1.1.0	0.28	9.16	1.0.1	6.93	1.1.29	0.28	9.44	1.0.38	6.65	8.16	9.16	9.44	9.06	16.09	0.9	6.0.1	6.0.38	9.06	7.03	7.93	6.93	6.65	16.09	7.03	61	51
22	0.29	0.36	8.96	1.1.39	7.21	0.29	0.07	9.25	1.68	6.92	0.36	0.07	9.32	1.75	6.85	8.96	9.25	9.32	7.57	16.17	6.1.39	1.68	1.75	7.57	8.60	7.21	6.92	6.85	16.17	8.60	60	52
29	1.1.21	4.21	8.5	3.93	5.93	1.1.21	5.42	7.29	2.72	7.14	4.21	5.42	12.71	8.14	1.72	8.5	7.29	12.71	4.57	14.44	3.93	2.72	8.14	4.57	9.57	5.93	7.14	1.72	14.44	9.57	63	54
July 6	0.93	6.57	8.84	4.64	7.21	0.93	7.5	7.28	3.71	8.14	6.57	7.5	14.78	11.21	0.64	8.21	7.28	14.78	3.57	15.42	4.64	3.71	11.21	3.57	11.55	7.21	9.14	0.64	15.42	11.55		
13	0.71	4.64	8.57	4.29	7.29	0.71	5.35	7.86	3.58	8.0	4.64	5.35	13.21	8.93	2.65	8.57	7.86	13.21	4.28	15.86	4.29	3.58	8.93	4.28	11.58	7.29	8.0	2.65	15.86	11.58	68	55
20	0.0	3.36	7.71	4.14	7.84	0.0	3.36	7.71	4.14	7.84	3.36	3.36	11.07	7.5	4.28	7.71	7.71	11.7	3.57	13.35	4.14	4.14	7.5	3.57	11.78	7.84	7.84	4.28	15.35	11.78	60	53

TABLE, No. II.

SHEWING the ~~G~~oing of the Chronometers used in the determination of the Longitude, upon each other, during the under-mentioned period.

1821.	259 with						228 with						253 with						458 with						405 with						326 with						369 with						Tempera- ture.	
Week ending	228	253	458	405	326	369	259	253	458	405	326	369	259	228	458	405	326	369	259	228	253	458	326	369	259	228	253	458	326	369	259	228	253	458	405	326	259	228	253	458	405	326	Maxim.	Minim.
July 20	L 0.0	G 3.36	G 1.93	L 7.71	L 4.11	G 7.78	L 0.0	G 3.36	G 0.0	L 7.71	L 4.14		L 3.90	L 3.36		L 11.07	L 7.5		L 1.93						G 7.71	G 7.71	G 11.07		G 3.57		G 4.14	G 4.14	G 7.5		L 3.57		L 7.78				60	53		
27	G 0.07	3.93	1.57	7.71	5.36	7.64	0.07	3.86	1.5	7.78	5.43	G 7.57	3.93	3.86	L 2.30	11.64	9.99	G 3.71	1.57	L 1.5	G 2.36	L 9.29	L 7.0	G 6.07	7.71	7.78	11.81	G 9.29	2.35	G 15.36	5.36	5.17	9.29	G 7.0	2.35	G 13.0	7.04	L 7.57	L 3.71	L 6.07	L 16.06	L 13.0	64	54
Aug. 3	L 0.48	4.57	1.36	8.14	5.88	7.14	G 0.43	5.0	1.79	7.71	5.43	7.57	1.57	5.0	8.21	15.71	10.48	2.57	1.36	1.79	3.21	9.5	7.29	5.79	8.14	7.71	12.71	8.5	2.28	15.29	5.86	5.43	10.43	7.29	2.28	13.0	7.14	7.57	2.57	5.79	15.29	13.0	65	51
10	0.93	4.0	1.93	9.36	9.14	7.36	0.93	4.93	2.86	8.43	8.21	8.29	1.0	4.93	2.07	13.36	18.14	3.36	1.93	2.86	2.07	11.29	11.07	5.43	9.36	8.43	19.36	11.29	0.22	16.72	9.14	8.21	13.11	11.07	0.22	16.5	7.36	8.29	3.36	5.43	16.72	16.5	65	52
17	1.43	4.71	2.79	10.5	8.07	6.79	1.43	6.14	4.21	9.07	6.61	8.22	1.71	6.14	1.93	15.21	12.78	2.08	2.79	4.21	1.93	13.28	10.85	4.01	10.5	9.07	15.21	13.28	2.43	17.29	8.07	6.64	12.78	10.85	2.43	14.86	6.79	8.22	2.08	4.01	17.29	14.86	63	52
24	1.36	6.71	2.29	10.21	8.23	6.86	1.36	8.07	3.61	8.86	7.57	8.22	1.71	8.07	4.43	16.93	15.64	0.14	2.29	3.64	4.43	12.49	11.21	4.58	10.21	8.86	16.93	12.49	1.29	17.07	8.93	7.57	15.64	11.21	1.29	15.79	6.86	8.22	0.14	4.58	17.07	15.79	67	50
31	1.07	8.29	2.93	10.64	8.07	6.43	1.07	9.36	4.0	9.57	7.0	7.5	8.29	9.36	5.36	18.93	16.36	L 1.86	2.93	4.0	5.36	13.57	11.0	3.50	10.64	9.57	18.93	13.57	2.57	17.07	8.07	7.0	16.36	11.0	2.57	14.5	6.43	7.5	G 1.86	3.50	17.07	14.5	65	52
Sep. 7	0.86	9.07	2.5	11.57	8.28	7.43	0.86	9.98	3.36	10.71	7.42	8.29	9.07	9.98	6.57	20.64	17.35	1.64	2.5	3.36	6.57	14.07	10.79	4.93	11.57	9.07	20.64	14.07	3.29	19.0	8.28	7.43	17.35	10.79	3.29	15.71	7.43	8.29	1.64	4.93	19.0	15.71		
14	G 0.07	9.93	3.07	12.0	7.29	7.79	L 0.07	9.86	3.0	12.07	7.36	7.72	9.93	9.86	6.86	21.93	17.22	2.14	3.07	3.0	6.86	15.07	10.36	4.72	12.0	12.07	21.93	15.07	4.71	19.79	7.29	7.36	17.22	10.36	4.71	15.08	7.79	7.72	2.14	4.72	19.79	15.08		
21	0.43	10.57	4.07	12.57	7.07	6.21	0.43	10.14	3.64	13.0	7.50	5.79	10.57	10.14	6.5	23.14	17.64	4.36	4.07	3.64	6.5	16.64	11.14	2.14	12.57	13.0	23.14	16.64	5.50	18.79	7.07	7.50	17.64	11.14	5.50	18.48	6.21	5.79	4.36	2.14	18.79	13.28		
28	0.31	11.32	7.04	12.53	8.82	6.04	0.31	11.64	6.76	12.84	9.13	5.73	11.32	11.04	4.99	23.86	20.17	5.29	7.04	6.76	4.99	19.57	15.86	L 1.0	12.53	12.84	23.86	19.57	3.69	18.57	8.82	9.13	20.17	15.86	3.69	14.86	6.04	5.73	5.29	G 1.0	18.57	14.86		
Oct. 5	1.86	12.11	7.36	12.03	8.11	6.96	1.86	10.40	5.54	13.74	9.79	5.29	12.11	10.40	4.88	24.14	20.22	5.13	7.36	5.54	4.88	19.28	15.36	0.29	12.03	13.74	24.14	19.28	3.92	19.00	8.11	9.79	20.22	15.36	3.92	15.07	6.96	5.29	5.13	0.29	19.0	15.07		
12	1.86	13.71	11.43	13.71	11.50	5.36	1.86	11.85	9.57	15.57	13.86	3.56	13.71	11.85	2.28	27.43	25.21	8.99	11.43	9.57	2.28	25.14	22.93	6.01	13.71	16.87	27.43	25.14	3.91	19.13	11.50	13.86	25.21	22.93	3.91	16.92	5.36	3.56	8.99	6.01	19.13	16.92		

Register. Thermometer out of order during this period.

Register Thermometer out of order during this period.

TABLE III.

AN ACCOUNT
OF THE
GOING OF THE CHRONOMETERS ON MEAN TIME,
AT WINTER ISLAND,
FROM OCTOBER 10, 1821, TO JUNE 29, 1822.

AN ACCOUNT of the going of the Chronometers on Mean Time,

N. B. The hours are omitted, as unimportant, except

Day at Noon.	259		228		253		254		460		458		369		326	
	Fast.	Daily Rate.	Fast.	Daily Rate.	Fast.	Daily Rate.	Fast.	Daily Rate.	Fast.	Daily Rate.	Fast.	Daily Rate.	Fast.	Daily Rate.	Fast.	Daily Rate.
1821 Oct. 10	M. S. 36 03.02		M. S. 39 10.4		M. S. 22 07.4		H. M. S. 2 41 19.9		H. M. S. 0 38 58.9		M. S. 29 56.6		H. M. S. 0 6 47.4		H. M. S. 0 50 24.9	
14	36 21.7	G 4.67	39 27.7	G 4.32	21 32.2	L 8.8	0 35 46.7	L 83.3	0 36 50.7	L 32.05	29 24	L 8.15	0 6 42.2	L 1.3	0 51 17.7	G 13.2
20	36 50.9	4.87	39 45.9	3.03	20 39.4	8.0	0 27 25.9	83.47	0 38 35.9	32.47	28 52.9	0.18	0 6 30.9	1.88	0 52 36.9	13.2
Dec. 1	39 28.8	3.75	41 22.8	2.29	18 43.1	9.91	1 28 14.3	84.56	0 5 54.6	39.55	20 04.3	11.87	stopped 1 24 17.3	...	1 3 19.3	15.29
20	41 23.7	6.07	42 35.4	3.85	11 19.2	7.57	0 01 54.7	83.14	0 8 20	44.98	16 57.7	11.4	0 25 05	0.65	0 10 47.7	23.6
30	42 01.6	3.79	43 01.6	2.62	9 43.6	9.56	0 47 45.4	84.93	0 18 56.1	63.61	15 45.4	7.23	0 23 17.6	4.93	0 13 44.6	17.69
1822 Jan. 6	42 37.1	5.07	43 15.7	2.01	8 39.6	9.14	0 37 53.1	84.61	0 24 14.4	45.47	15 00.1	6.47	0 22 43.1	4.93	0 16 25.1	22.93
13	43 20.2	6.16	43 40.2	3.5	7 45.2	7.77	0 28 09	83.44	0 29 25.8	44.49	14 19.2	5.84	0 22 36.7	0.91	0 19 00.7	22.28
Feb. 4	45 27.5	5.79	44 48.5	3.10	4 33	8.74	slow 0 02 53.5	84.66	0 46 11.7	45.72	11 08	8.69	0 21 57.5	1.78	0 25 18.5	17.17
25	47 31.4	5.9	45 34.4	2.19	1 37.2	8.37	0 32 38.1	84.98	1 02 24.8	46.34	7 10.4	11.31	0 21 30.4	1.29	0 29 47.1	12.79
28	47 50.5	6.37	45 41	2.2	1 12.8	8.13	0 37 06.5	89.47	0 04 54	49.73	6 33.5	12.3	0 21 28.5	0.63	0 30 26	22.97
Mar. 26	50 24.6	5.93	46 22.1	1.58	57 43.6	8.05	1 13 21.4	83.65	0 25 11.9	46.84	1 14.6	12.26	0 21 04.4	0.93	0 32 39.6	5.14
April 1	51 06	6.9	46 51	4.82	57 02.8	6.8	1 21 31	81.6	0 28 34	33.68	0 13.5	10.18	0 21 02.8	0.27	0 34 37	19.57
Week ending	H. M. S.		H. M. S.		H. M. S.		H. M. S.		H. M. S.		H. M. S.		H. M. S.		M. S.	
May 4	5 54 12.3	G 6.29	5 48 36.3	G 2.5	5 52 46.5	L 7.74	9 53 06.3	L 62.83	10 06 28.3	L 43.61	4 54 49.6	L 11	1 19 53.3	L 2.86		
11	0 54 56.3	8.3	0 48 53.8	2.51	0 51 52.3	7.03	0 43 26.5	82.51	0 1 23	43.37	0 53 32.3	12.91	0 19 30.3	2.27	38 54.7	G 10.0
18	0 55 54.4	9.57	0 49 11.4	3.14	0 51 03.1	6.04	0 33 48.9	82.07	9 56 19.4	43.14	0 52 01.9	13.5	0 19 14.4	1.64	40 04.7	10.6
25	0 57 01.4	11.29	0 49 33.4	4.71	0 50 16.6	6.17	0 24 14.4	82.36	0 51 17.4	42.86	0 50 28.4	11	0 19 02.9	1.79	41 18.8	4.0
June 1	0 58 20.4	12.47	0 50 01.9	3.97	0 49 33.4	5.67	0 14 37.9	81.74	0 46 17.4	41.51	0 49 11.4	11.93	0 18 50.4	0.1		
8	0 59 47.7	11.31	0 50 29.7	3.4	0 48 53.7	6.57	0 5 05.7	82.3	0 41 26.7	41.64	0 47 47.9	12.57	0 18 49.7	1.14	42 14.9	
15	6 01 06.9	11.27	0 50 47.7	3.92	0 48 07.7	4.91	8 55 29.4	81.74	0 36 35.2	40.5	0 46 19.9	10.01	0 18 41.7	1.66		4.49
22	0 2 25.8	11.26	0 51 15.1	2.07	0 47 33.3	4.74	0 45 57.1	81.79	0 31 51.8	41.36	0 45 09.8	11.03	0 18 30.1	1.81		
29	0 3 44.6		0 51 29.6		0 47 00.1		0 36 24.6		0 27 02.3		0 43 52.6		0 18 17.4		43 49.1	

Imp 35857 dt. 27.07.10



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LIBRARY

ACCOUNT OF THE CHRONOMETERS.

21

No. III.

at Winter Island, from October 10, 1821, to June 29, 1822.

in the watches whose rates are very considerable.

2109		14		1897		405		281		Temperature.			REMARKS.
Fast.	Daily Rate.	Fast.	Daily Rate.	Fast.	Daily Rate.	Fast.	Daily Rate.	Fast.	Daily Rate.	Maxi- mum.	Mini- mum.	Mean	
H. M. S. 3 02 43.9 s. L22.05 0 01 15.7 23.75 2 42 15.8 23.35 0 34 52.2 25.01 0 30 42.1 25.03 0 27 46.9 See Col. of Remarks. 0 21 49.2 23.28 0 13 17 24.91 0 4 33.9 27.97 0 3 10 23.45 0 53 00.6 23.27 0 50 41	No. 14 worn in the pocket. H. M. S. 3 52 55.7 s. L32.61 0 47 29.6 36.21 0 43 16.1 38.41 0 38 47.2 42.33 0 34 16 40.67 0 20 01.9 45.3 0 17 46 38.13 0 1 14.6 28.27 an hour less 0 58 25	M. S. 19 39.4 s. L11.42 18 53.7 12.97 17 35.9 10 10 35.8	No. 1897 worn in the pocket. H. M. S. 0 42 47.9 s. G18.95 0 44 03.7 18.87 0 45 56.9 19.39 0 59 31.3 20.78 1 06 06.9 15.94 1 8 45.6 17.53 1 10 48.3 19.44 1 13 04.4 19.59 1 20 15.5 19.9 1 27 13.4 21.7 1 28 18.5 20.7 1 37 16.8 22.15 1 33 29.7	M. S. 18 40.4 s. L 2.8 18 29.2 3.22 18 09.9 0.35 17 55.3 G 1.50 20.78 18 23.9 15.94 18 33.9 3.39 18 57.6 4.7 19 30.5 5.23 21 25.5 5.73 23 25.9 6.3 23 44.8 5.55 26 09.1 6.9 26 50.5	o o o + + + 64.5 33.5 50.4 60.5 31.5 49.5 62.5 50 56.9 57 48.5 53 61 45 54.4 59 41 50.5 56 42.8 49.1 55.5 44 50.3 62 36 49.5 58.5 39 5 49.7	369 found stopped on the 26th of November— took six turns to wind up—had stopped 3½ hours. December 21st; 460 let down. 2109 lost 3 ^m 4 ^s more than usual between 9th and 10th of January—it was not used in the open air about that time. 2109 used very frequently at a low temperature about this period. * The rate of 326 oscillating considerably about the 26th of March.							
H. M. S. 1 37 07.3 s. L24.69 0 34 14.5 24.44 0 31 28.4 24.63 0 28 30.9 24.14 0 25 41.9 23.79 0 23 05.4 24.96 0 20 10.7 24.66 0 17 18.1 24.38 0 14 27.6	No. 14 worn in the pocket. H. M. S. 29 24.2 s. G 0.6 29 28.7 L 2.2 29 13.3 6.4 27 44.2	M. S. 29 24.2 s. G 0.6 29 28.7 L 2.2 29 13.3 6.4 27 44.2	H. M. S. 7 50 20.9 s. G17.21 0 52 21 17.91 0 54 26.4 18.74 0 56 37.6 17.9 0 58 42.9 19.26 8 00 57.7 18.29 0 3 05.7 21.34 0 5 35.1 21.57 0 8 06.1	H. M. S. 5 30 34.3 s. G 6.21 0 31 17.8 6.44 0 32 02.9 6.14 0 32 45.9 5.79 0 33 26.4 5.83 0 34 07.2 4.86 0 34 41.2 4.7 0 35 14.1 4.5 0 35 45.6	o o o 64 48 54 64 48 57 64 48 56 63 51 57 63 50 56 62 47 55 64 49 58 63 50 57	The errors and rates below the double line are those obtained, during the last nine weeks of the continuance of the Expedition at Winter Island, for the purpose of fixing the rates of the chro- nometers. These, with the respective errors on Mean Greenwich Time at sailing, are given in the following page.							

TABLE, No. IV.

Chronometers.	Errors on Mean Greenwich Time, June 29th, 1872.	Rates assigned.
No. 228	Fast . . . ^{h.} 0 ^{m.} 18 ^{s.} 50.3	Gaining . 3.535
„ 259	„ 0 31 05.3	„ 11.52
„ 253	Slow . . . 0 45 39.2	„ Losing . . 6.184
„ 254	Fast . . . 3 03 45.3	„ 82.167
„ 460	„ 3 54 23	„ 42.249
„ 458	Slow . . . 0 48 46.7	„ 11.744
„ 369	„ 4 14 21.9	„ 1.659
„ 326	Fast . . . 0 11 00.8	Gaining . 7.3
„ 2109	Slow . . . 4 18 11.7 ^a	Losing . . 24.459
„ 14	Rates not obtained, being worn in the pocket.	
„ 1897		
„ 405	Fast . . . 2 35 26.8	Gaining . 19.027
„ 281	„ 0 03 06.3	„ 4.687

TABLE V.

SHewing THE GOING OF THE CHRONOMETERS

USED IN THE

DETERMINATION OF THE LONGITUDE,

1822.

SHEWING the going of the Chronometers used in the determination

FIRST

1822. Week ending	228 with						259 with						253 with					
	259	253	458	369	2109	281	228	253	458	369	2109	281	228	259	458	369	2109	281
July 6	L 8	G 7.5	G 14.9	G 4.9	G 27.9	L 1.2	G 8	G 15.5	G 22.9	G 12.9	G 35.4	G 6.8	L 7.5	L 15.5	G 7.4	L 2.6	G 20.3	L 8.8
13	8.6	6.1	13.9	4.7	28.6	2.2	8.6	14.7	22.5	13.4	37.2	6.5	6.1	14.7	7.8	1.4	22.5	8.5
20	8.5	3.4	12.7	3.2	26	2.9	8.5	11.2	21.8	11.7	34.5	5.6	3.4	11.9	9.9	0.2	22.6	6.9
27	9	2.9	13.1	2.8	26.3	3.4	9	11.9	22.1	11.8	35.3	5.6	2.9	11.9	10.2	0.2	23.4	6.8

SECOND

1822. Week ending	228 with						259 with						458 with					
	259	458	369	2109	405	281	228	458	369	2109	405	281	228	259	369	2109	405	281
July 31	L 8.4	G 13.6	G 3.3	G 27.6	L 20.4	L 3	G 8.4	G 21.9	G 11.7	G 34.9	L 12.1	G 5.4	L 15.6	L 21.9	L 10.3	L 13	L 31	L 16.6
Aug. 7	8.1	13.4	2.9	25.6	21.4	3	8.1	21.5	11	33.7	13.2	5.1	13.4	21.5	10.5	12.2	34.8	16.4
14	8.1	13.2	2.5	25.7	22.3	3.3	8.1	21.4	10.6	33.9	14.1	4.9	13.2	21.4	10.7	12.6	35.5	16.5
21	8.2	13.5	3.1	25.8	22.4	3.1	8.2	21.7	11.3	34.1	14.2	5.1	13.5	21.7	10.4	12.3	35.9	16.6
28	8.4	13.9	2.3	25.4	23	3.0	8.4	22.4	10.7	33.8	14.6	4.5	13.9	22.4	11.7	11.4	36.9	17.2
Sept. 4	8.4	14.2	2.5	25	23.4	4.2	8.4	22.6	10.9	33.4	14.9	4.2	14.2	22.6	11.6	10.8	37.6	18
11	.9	15.1	..	26.8	22.2	2.7	6.9	22	..	33.6	15.4	4.1	15.1	..	..	11.6	37.3	17.8
18	6.7	14.9	..	27.2	21.9	3.0	6.7	21.6	..	33.9	15.1	3.7	14.9	21.6	..	12.3	38.8	17.9
25	7.9	10.4	..	26.1	22.8	3.6	7.9	24.4	..	34	14.9	4.4	16.4	24.4	..	9.6	39.2	20

No. V.

the Longitude, upon each other, during the under-mentioned period.

INTERVAL.

458 with						369 with						2109 with						281 with						Tempera- ture.		
8	259	253	369	2109	281	228	259	253	458	2109	281	228	259	253	458	369	2109	281	228	259	253	458	369	2109	Maxi- mum.	Mini- mum.
L	L	L	G	L	L	L	L	G	G	G	L	L	L	L	L	L	L	L	G	L	G	G	G	G		
s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	°	°
9	22.9	7.4	10	12.9	16.2	4.9	12.9	2.6	10	22.9	6.2	27.9	35	9	20.3	12.9	22.9	20.1	1.2	6.8	8.8	16.2	8.2	29.1	66½	50
9	22.5	7.8	9.2	14.7	16.1	4.7	13.4	1.4	9.2	23.8	6.3	28.6	37	22.5	14.7	23.8	30.8	2.2	6.5	8.3	16.1	6.9	30.8	67	56	
7	21.8	9.2	9.6	13.3	15.7	3.9	11.7	0.2	9.6	22.8	6.1	26	35.5	22.6	13.8	22.8	28.9	2.9	5.6	6.4	15.7	6.1	28.9	66	53	
1	22.1	10.2	10.4	13.1	16.5	2.8	11.8	0.2	10.4	23.5	6.2	26	35.3	23.4	13.1	23.5	29.7	3.4	5.6	6.3	16.5	6.2	29.7	65	53	

INTERVAL.

369 with					2109 with					405 with					281 with					Tempera- ture.				
8259	458	2109	405	281	228	259	458	369	405	281	228	259	458	369	2109	281	228	259	458	369	2109	405	Maxi- mum.	Mini- mum.
L	G	G	L	L	L	L	L	L	L	L	G	G	G	G	G	C	G	L	G	G	G	L		
"	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	°	°
11.7	10.5	23.3	23.7	5.9	26.6	24.9	13	23.3	47	29.6	20.4	12.1	31	23.7	47	17.4	3	5.4	16.6	6.3	29.6	17.4	67	51
11	10.5	22.7	24.3	5.9	25.6	23.7	12.9	22.7	47	28.7	21.4	13.2	34.8	24.3	47	18.4	3	5.1	16.4	5.9	28.7	18.4	65	53
10.8	10.7	22.2	24.8	5.5	25.7	23.9	12.6	23.2	48	29	22.3	14.1	35.5	24.8	48	19	3.3	4.9	16.5	5.8	29	19	65	47
11.5	10.4	22.7	25.5	6.2	25.8	24.1	12.3	22.7	48.2	28.9	22.4	14.2	35.9	25.5	48.2	19.3	3.1	5.1	16.6	6.2	28.9	19.3	67	52
10.7	11.7	23.1	25.9	6.2	25.4	23.8	11.4	23.1	48.4	29.2	23	11.6	36.9	25.3	48.4	19.1	3.9	4.5	17.9	6.2	29.3	19.1	61	50
10.9	11.2	22.3	24.9	6.7	25	23.4	10.8	22.5	48.4	29.2	23.4	14.9	37.6	25.9	48.4	19.2	4.2	4.2	18.4	6.7	29.2	19.2	61	49
..	..	..	..	..	25.5	23.6	11.6	..	49	29.5	22.9	15.4	37.3	..	49	19.5	2.7	4.1	17.9	..	29.5	19.5	65	50
..	..	..	..	..	27.2	23.7	12.3	..	49.1	29.2	21.9	15.1	36.8	..	49.1	18.9	3	3.7	17.9	..	30.2	18.9	65	50
..	..	..	..	..	26.2	24	9.6	..	48.9	29.7	22.8	14.9	39.2	..	48.9	19.2	3.6	4.4	20	..	29.7	19.2	61	44

SHEWING the going of the Chronometers on Mean Time, at Igloolik,

DAY.	228		259		253		254		460	
	Fast.	Daily Rate.	Fast.	Daily Rate.	Fast.	Daily Rate.	Fast.	Daily Rate.	Fast.	Daily Rate.
1822.	H. M. S.		H. M. S.		H. M. S.		H. M. S.		H. M. S.	
Nov. 2	5 52 31.5	s.	6 20 07.5	s.	5 00 07	s.	5 43 51.5	M. S.	7 46 38.5	s.
" 21	5 53 17	G 2.4	6 23 00.5	G 9.1	5 05 21.5	G 16.6	5 18 37	L 19.7	7 31 05	L 49.1
Dec. 1	5 53 52.5	3.5	6 24 47.5	10.7	5 7 31	12.9	5 5 17.5	1 19.9	7 22 57.5	48.7
" 16	5 54 49.2	3.6	6 27 00.7	8.9	5 11 08.2	14.5	4 45 15.2	1 20.2	7 11 04.2	47.6
" 30	5 55 45.6	4.2	6 29 09.6	9.2	5 14 34.1	14.7	4 26 43.6	1 19.4	6 59 31.6	49.5
1823.		6.5		9.5		14.8		1 19.6		42.2
Jan. 20	5 58 03		6 32 29	8.8	5 19 45.5	13.8	3 58 52.5	1 20.3	6 44 45	44.5
" 29	5 37 39.8	4.8	6 33 48	8.1	5 21 49.8	13.4	3 46 49.8	1 20.8	6 38 04.8	44.9
Feb. 19	5 39 20.1	10	6 36 38.6	12.2	5 26 32.1	18.9	3 18 32.1	1 16.2	6 22 21.6	41.2
" 24	5 40 10.1	7.6	6 37 47.6	11.0	5 28 06.6	14.6	3 12 11.1	1 20	6 18 55.6	47.4
March 7	5 41 34.2	7.8	6 39 48.7	9.8	5 30 47.2	14.4	2 57 30.7	1 20.9	6 10 14.2	46.6
" 13	5 42 21.2	6.5	6 40 47.7	9.8	5 32 13.9	15.3	2 49 25.2	1 19.5	6 5 34.4	51.8
April 13	5 45 41.8	6.84	6 45 52.8	9.3	5 40 07.8	15.7	2 08 20.3	1 18.8	5 38 48.8	36.4
May 13	5 49 06.9	8.33	6 50 32.9	8.3	5 48 00.4	15.3	1 28 50.4	1 18.9	5 20 37.9	46.2
" 20	5 50 05.2	9.33	6 51 31.2	10.0	5 49 47.7	15.8	1 19 44.2	1 18.3	5 15 14.2	45.5
" 27	5 51 10.5	9.07	6 52 41	9.3	5 51 38.5	14.9	1 10 36	1 18.5	5 9 56	45.6
June 3	5 52 14	10.01	6 53 46	10.2	5 53 22.5	15.9	1 1 26.5	1 17.5	5 4 36.5	44.7
" 10	5 53 24.1	10.01	6 54 57.6	10.1	5 55 14.1	16.4	0 52 24.1	1 16.6	4 59 23.4	42.6
" 17	5 54 34.2	8.21	6 56 08.2	9.4	5 57 00.2	15.9	0 43 28.2	1 18.7	4 54 25.2	44.8
" 24	5 55 31.7	8.63	6 57 14.2	11.1	5 59 00.7	17.1	0 34 17.2	1 17.9	4 49 11.7	43.9
July 1	5 56 32.1	8.13	6 58 32.1	10.3	6 01 00.1	18.1	0 25 11.6	1 16.2	4 44 04.6	41.9
" 8	5 57 29	7.81	6 59 44.5	10.1	6 03 07	18	0 16 18.5	1 15.8	4 39 11	43.6
" 15	5 58 23.7	7.79	7 00 55.2	11	6 5 13.2	18.9	0 7 27.7	1 14.6	4 34 05.7	43.1
" 22	5 59 18.2	7.80	7 2 02.2	10.9	6 7 25.7	21.1	0 1 14.3	1 13.3	4 29 04.2	44.1
" 29	6 00 12.8	6.80	7 3 18.8	11	6 9 53.8	21.5	0 9 47.7	1 14.5	4 23 55.8	45.5
Aug. 5	6 1 00.4	8.49	7 4 25.9	10.14	6 12 24.4	17.41	0 18 29.1	1 16.73	4 18 37.4	44.3

ACCOUNT OF THE CHRONOMETERS.

27

No. VI.

from November 2, 1822, to the 5th of August, 1823.

458		405		281		Temperature.			REMARKS.
Fast.	Daily Rate.	Fast.	Daily Rate.	Fast.	Daily Rate.	Maximum.	Minimum.	Mean.	
H. M. S.		H. M. S.		H. M. S.					The Chronometers removed into the Bookcase on the 4th of October.
4 14 02.5	L14.3	8 53 39.5	G26.0	5 42 35.5	G26.2	65	37	59	
4 9 31	14.8	9 01 54.5	28.6	5 44 33	6.8	55	39	47	
4 7 03	15.1	9 6 40.7	27.2	5 45 41.5	7.5	62	45	54	
4 3 16.7	14.4	9 13 28.2	28.0	5 47 34.2	8.0	62	47	55	
3 59 54.6	14.6	9 19 59.6	28.9	5 49 25.6	8.6	70	42	57	
3 54 47	14.6	9 30 07.	27.4	5 52 26	8.2	66	52	59	
3 52 35.3	15.1	9 34 13.8	25.9	5 53 39.8	7.5	67	44	60	
3 47 18.1	11	9 43 38.1	32.8	5 56 17.6	13.5	56	46	53	
3 46 23.1	15.5	9 46 22.1	30.6	5 57 25.1	9.7	54	36	46	
3 43 32.2	16	9 51 59.2	29.6	5 59 12.2	8.9	55	45	51	
3 41 56.2	15.3	9 54 56.9	29.2	6 00 05.7	9.8	65	53	58	
3 34 03.3	14.6	10 10 00.8	29.1	6 5 10.8	10.1	68	35	59	
3 25 43.9	15.4	10 24 32.9	32.2	6 10 14.9	8.4	65	45	54	The Errors and Rates below the line are those obtained during the last 12 weeks of the Ships' stay at Igloodik, for the purpose of fixing the Rates of the Chronometers; these, with the respective errors on Mean Greenwich Time at sailing, are given in the following page.
3 24 56.2	14.9	10 28 18.2	30.3	6 11 13.7	9.0	64	44	54	
3 23 12	15	10 31 50.5	29.1	6 12 16.5	8.4	64	43	55	
3 21 27	14	10 33 14.5	30.7	6 13 15.5	9.7	64	45	55	
3 19 49.1	13.6	10 38 49.6	30.5	6 14 23.1	9.7	66	50	58	
3 18 14.2	14.1	10 42 23.2	29.4	6 15 31.2	8.7	68	52	59	
3 16 35.7	14.5	10 45 48.7	29.7	6 16 32.2	9.3	66	53	60	
3 14 54.1	13.9	10 49 16.6	30.0	6 17 37.1	9.6	68	51	61	
3 13 17	14.0	10 52 46.2	39.5	6 18 44	8.1	67	50	59	
3 11 39.2	13.5	10 56 12.7	30.4	6 19 40.7	7	70	52	60	
3 10 04.3	13	10 59 45.7	30	6 20 29.7	8.3	68	56	59	
3 8 33.8	14.3	11 03 15.8	30.1	6 21 27.8	7.4	68	50	57	
3 6 53.9		10 6 46.9		6 22 19.9					
	14.18		30.16		8.63				

E

ACCOUNT OF THE CHRONOMETERS.

Chronometers.	Errors of Chronometers on Mean Time at Igloolik, deduced from the foregoing Table.	Errors of Chronometers on Greenwich Mean Time, August 5th, 1823.	Assigned Daily Rate.
228	H. M. S. Fast . . . 6 01 00.4	H. M. S. Fast . . . 0 34 03.2	G 8.42
259	" . . . 7 04 25.9	" . . . 1 37 28.7	G 10.14
252	" . . . 6 12 24.4	" . . . 0 45 27.2	G 17.41
254	Slow . . . 0 18 29.1	Slow . . . 5 45 26.3	L 76.73
460	Fast . . . 4 18 37.4	" . . . 1 08 19.8	L 44.3
458	" . . . 3 06 53.9	" . . . 2 20 03.3	L 14.18
405	" . . . 11 06 46.9	Fast . . . 5 39 49.7	G 30.16
281	" . . . 6 22 19.9	" . . . 0 55 22.7	G 8.63

On the return of the Expedition to Winter Island, on the 31st of August, 1823, observations were obtained at a station whose longitude had previously been determined to be $83^{\circ} 00' 16''.5$ W. of Greenwich, from whence the errors and rates of the respective Chronometers were determined as follows: viz.

228 Fast of Mean Time at station, August 31st, at 5 P.M.	H. M. S. 6 09 30
Proportion for five hours of 228's daily rate	1.7
228 Fast of Mean Time at station, August 31st, at noon	6 09 28.3
Station W. of Greenwich $83^{\circ} 00' 16''.5$ = in time	5 32 01.3
228 Fast of Greenwich Mean Time	0 37 27

	228	259	253	254	460	458	405	281
	H. M. S.	H. M. S.	H. M. S.	H. M. S.	H. M. S.	H. M. S.	H. M. S.	H. M. S.
Errors of Chronometers, on 228 respectively, on the 31st August		F1 04 19	F0 18 32	S6 53 52.5	S2 05 42	S3 03 11.5	F5 16 03	F0 21 07.5
228's error on Greenwich Mean Time	F0 37 27	0 37 27	0 37 27	0 37 27	0 37 27	0 37 27	0 37 27	0 37 27
Chronometers respectively, on Greenwich Mean Time, on the 31st of August, at noon	F0 37 27	F1 41 46	F0 55 59	S6 16 25.5	S1 28 15	S2 25 44.5	F5 53 30	F0 58 34.5
Ditto, on the 5th of August, as above.....	0 34 03.2	1 37 28.7	0 45 27.2	5 45 26.3	1 08 19.8	2 20 03.3	5 39 49.7	0 55 22.7
Lost or gained in interval of 26 days.....	G0 03 23.8	G0 04 17.3	G0 10 31.8	L0 30 59.2	L0 19 55.2	L0 5 41.2	G0 13 40.3	G0 3 11.8
Rate per day.....	+ 7.8	+ 9.9	+ 24.3	- 71.5	- 45.97	- 13.12	+ 31.55	+ 7.38

Shortly after leaving Winter Island, 254 was observed, by comparison with the other Chronometers, to have altered its rate very considerably; and as it continued to go unsteadily for some time afterwards, it has been rejected in the computation of longitudes for the succeeding period.

On the arrival of the ships at the Humber, on the 18th of October, observations were obtained by three observers, by which 228 was found to be fast of Mean Time at that place $42^m 56^s.2$; the position of the Fury's station being ascertained by the trigonometrical survey to be latitude $53^\circ 36' 30''$ N., longitude $00^\circ 03' 45''$ E. of the meridian of Greenwich; from whence the errors of the respective chronometers on Greenwich Mean Time, were by comparison deduced, as follows, viz.

228 fast of Mean Time at Fury's station on the 18th October,	42 56.2
as above - - - - -	-
Station of Fury E. of Greenwich, $0^\circ 03' 45'' =$ - - - - -	+ 15
Actual error of 228 upon Greenwich Mean Time - -	Fast 43 11.2

	228	259	253	254	460	458	405	281
	H. M. S.	H. M. S.	H. M. S.	H. M. S.	H. M. S.	H. M. S.	H. M. S.	H. M. S.
Errors of Chronometers respectively on 228, by comparison, on the 18th October		F1 06 19.5	F0 32 08	S7 47 21.2	S2 48 42	S3 20 30.5	F5 34 56	F0 21 11.75
228's Error on Greenwich Mean Time, deduced above	F0 43 11.2	+0 43 11.2	+0 43 11.2	-0 43 11.2	-0 43 11.2	-0 43 11.2	+0 43 11.2	+0 43 11.2
Actual error of the Chronometers respectively, on Greenwich Mean Time	F0 43 11.2	F1 49 30.7	F1 15 19.2	S7 04 10	S2 05 30.8	S2 37 19.3	F6 18 07.2	F1 04 22.95
Errors of the Chronometers respectively, upon Greenwich Mean Time, according to the rates and errors determined on the 31st August, 1823.....	F0 43 39.2	F1 49 41.2	F1 15 25.4	S7 13 37	S2 05 01.6	S2 37 54.3	F6 18 44.4	F1 04 28.75
Errors upon assigned rates.....	- 28	- 10.5	- 6.2		- 29.2	+ 35	- 37.2	- 5.8

Being a mean error upon seven chronometers (rejecting 254 for the reason above assigned) of -11.7 for which, as none of the lands discovered have their position dependent upon the longitudes computed during this interval, it has not been considered necessary to apply any correction.

TABLE No. VII.

SHEWING the Going of the Chronometers upn each other, during the undermentioned period.

Date	228 with							259 with							253 with							254 with							460 with							458 with							405 with							281 with							Temperature.	
	259	253	254	460	458	405	281	228	253	254	460	458	405	281	228	259	253	460	458	405	281	228	259	253	254	460	405	281	228	259	253	254	460	458	281	228	259	253	254	460	458	281	228	259	253	254	460	458	281	Maximum.	Minimum.							
1893. Sept. 19	L. 3.3	L. 15.8	G. 79.3	G. 51.35	G. 81.64	L. 22.93	G. 0.21	G. 3.8	L. 12	G. 82.5	G. 54.61	G. 54.94	L. 19.63	G. 5.51	G. 15.2	L. 12	G. 94.3	G. 55.63	G. 56.94	L. 7.63	G. 35.51	G. 70.3	L. 82.5	G. 94.5	G. 57.85	L. 57.56	L. 103.18	L. 78.1	L. 57.55	G. 54.63	G. 56.63	G. 57.85	G. 59.71	L. 74.28	L. 51.14	L. 21.64	L. 24.94	L. 36.94	G. 57.56	G. 59.71	L. 44.57	L. 21.43	G. 22.93	G. 19.63	G. 7.53	G. 102.13	G. 74.28	G. 44.57	G. 23.14	L. 0.21	L. 3.51	L. 15.51	L. 76.99	L. 51.14	L. 21.43	L. 23.14	69	53
19	L. 5.14	L. 12	L. 79.36	L. 55.6	L. 51.3	L. 24.3	L. 0.16	L. 2.14	L. 14.88	L. 81.5	L. 57.74	L. 25.44	L. 29.16	L. 2.38	L. 17	L. 14.88	L. 96.36	L. 72.6	L. 58.3	L. 7.3	L. 17.14	L. 79.36	L. 81.5	L. 56.36	L. 23.76	L. 54.06	L. 103.66	L. 79.3	L. 45.6	L. 57.74	L. 72.6	L. 92.76	L. 81.3	L. 70.9	L. 53.46	L. 51.3	L. 28.44	L. 38.3	L. 28.06	L. 34.3	L. 45.6	L. 21.16	L. 24.3	L. 22.16	L. 7.9	L. 103.66	L. 79.9	L. 45.6	L. 24.44	L. 0.14	L. 2.28	L. 17.14	L. 79.22	L. 55.46	L. 21.16	L. 24.44	71	46
20	L. 1.36	L. 17.3	L. 78.4	L. 59.7	L. 19	L. 24.6	L. 1	L. 1.36	L. 15.94	L. 80.78	L. 54.06	L. 50.96	L. 23.94	L. 2.36	L. 17.3	L. 15.94	L. 96.7	L. 79	L. 56.3	L. 7.3	L. 18.3	L. 79.4	L. 80.78	L. 96.7	L. 56.7	L. 60.4	L. 104.0	L. 78.4	L. 59.7	L. 54.06	L. 70	L. 36.7	L. 38.7	L. 77.3	L. 51.7	L. 19	L. 20.96	L. 50.3	L. 60.4	L. 33.7	L. 43.6	L. 18	L. 24.6	L. 23.24	L. 7.3	L. 104	L. 77.3	L. 43.6	L. 25.6	L. 1	L. 2.36	L. 18.3	L. 78.4	L. 51.7	L. 18	L. 25.6	65	46
21	L. 1.71	L. 16.5	L. 79.1	L. 55.5	L. 22.1	L. 23.1	L. 0.31	L. 1.72	L. 14.79	L. 80.81	L. 57.31	L. 53.81	L. 21.39	L. 1.99	L. 16.5	L. 14.79	L. 95.6	L. 72	L. 58.6	L. 6.6	L. 16.71	L. 79.1	L. 80.81	L. 95.6	L. 22.6	L. 57	L. 102.2	L. 78.4	L. 55.5	L. 57.31	L. 72	L. 22.6	L. 33.4	L. 78.6	L. 53.39	L. 22.1	L. 23.87	L. 36.6	L. 57	L. 33.4	L. 45.2	L. 21.89	L. 23.1	L. 21.39	L. 6.6	L. 102.2	L. 78.6	L. 45.2	L. 23.31	L. 0.21	L. 1.99	L. 16.71	L. 78.69	L. 55.28	L. 21.89	L. 23.31	76	45
22	L. 2.64	L. 17.35	L. 78.8	L. 53.6	L. 20.86	L. 24.4	L. 0.5	L. 2.64	L. 15.29	L. 78.44	L. 56.94	L. 23.5	L. 21.76	L. 2.14	L. 17.35	L. 15.29	L. 92.75	L. 71.53	L. 58.79	L. 6.47	L. 17.43	L. 78.8	L. 78.44	L. 92.75	L. 22.2	L. 54.94	L. 100.2	L. 76.8	L. 53.6	L. 56.94	L. 71.53	L. 22.2	L. 34.74	L. 70	L. 54.1	L. 20.86	L. 23.5	L. 34.74	L. 54.94	L. 45.26	L. 21.36	L. 24.4	L. 21.76	L. 6.47	L. 100.2	L. 78	L. 45.26	L. 23.9	L. 0.5	L. 2.14	L. 17.43	L. 76.3	L. 54.1	L. 21.36	L. 23.9	65	52	
23	L. 2.64	L. 17.35	L. 78.8	L. 53.6	L. 20.86	L. 24.4	L. 0.5	L. 2.64	L. 15.29	L. 78.44	L. 56.94	L. 23.5	L. 21.76	L. 2.14	L. 17.35	L. 15.29	L. 92.75	L. 71.53	L. 58.79	L. 6.47	L. 17.43	L. 78.8	L. 78.44	L. 92.75	L. 22.2	L. 54.94	L. 100.2	L. 76.8	L. 53.6	L. 56.94	L. 71.53	L. 22.2	L. 34.74	L. 70	L. 54.1	L. 20.86	L. 23.5	L. 34.74	L. 54.94	L. 45.26	L. 21.36	L. 24.4	L. 21.76	L. 6.47	L. 100.2	L. 78	L. 45.26	L. 23.9	L. 0.5	L. 2.14	L. 17.43	L. 76.3	L. 54.1	L. 21.36	L. 23.9	65	52	
24	L. 2.31	L. 16	L. 53.3	L. 22.9	L. 51.1	L. 23.9	L. 0.2	L. 2.31	L. 13.79	L. 57.31	L. 53.11	L. 27.31	L. 21.69	L. 1.91	L. 18	L. 13.79	L. 72.3	L. 70.3	L. 30.1	L. 3.9	L. 17.7	L. 55.8	L. 57.51	L. 12.3	L. 3.4	L. 34.3	L. 79.3	L. 55	L. 52.9	L. 53.11	L. 70.9	L. 2.4	L. 21.6	L. 76.8	L. 52.9	L. 51.1	L. 33.31	L. 39.1	L. 34.2	L. 31.8	L. 45.0	L. 21.4	L. 23.9	L. 21.69	L. 5.9	L. 79.3	L. 76.8	L. 45	L. 23.6	L. 0.2	L. 1.91	L. 17.7	L. 55.6	L. 53.2	L. 21.4	L. 23.6	67	51
25	L. 1.0	L. 16.36	L. 59.1	L. 55.5	L. 52.36	L. 22.4	L. 1	L. 1	L. 15.36	L. 70.1	L. 56.5	L. 22.36	L. 22.4	L. 2	L. 16.36	L. 15.36	L. 85.46	L. 71.56	L. 38.72	L. 7.94	L. 17.36	L. 69.1	L. 70.1	L. 83.46	L. 12.6	L. 46.74	L. 97.5	L. 66	L. 55.3	L. 56.5	L. 71.86	L. 13.6	L. 23.14	L. 78.9	L. 54.5	L. 23.36	L. 23.36	L. 38.72	L. 46.74	L. 38.14	L. 45.76	L. 21.36	L. 22.4	L. 22.4	L. 7.04	L. 92.5	L. 78.9	L. 45.76	L. 24.4	L. 1	L. 2	L. 17.36	L. 68.1	L. 54.5	L. 21.36	L. 24.4	68	48
26	L. 1.0	L. 16.36	L. 59.1	L. 55.5	L. 52.36	L. 22.4	L. 1	L. 1	L. 15.36	L. 70.1	L. 56.5	L. 22.36	L. 22.4	L. 2	L. 16.36	L. 15.36	L. 85.46	L. 71.56	L. 38.72	L. 7.94	L. 17.36	L. 69.1	L. 70.1	L. 83.46	L. 12.6	L. 46.74	L. 97.5	L. 66	L. 55.3	L. 56.5	L. 71.86	L. 13.6	L. 23.14	L. 78.9	L. 54.5	L. 23.36	L. 23.36	L. 38.72	L. 46.74	L. 38.14	L. 45.76	L. 21.36	L. 22.4	L. 22.4	L. 7.04	L. 92.5	L. 78.9	L. 45.76	L. 24.4	L. 1	L. 2	L. 17.36	L. 68.1	L. 54.5	L. 21.36	L. 24.4	68	48
27	L. 1.0	L. 16.36	L. 59.1	L. 55.5	L. 52.36	L. 22.4	L. 1	L. 1	L. 15.36	L. 70.1	L. 56.5	L. 22.36	L. 22.4	L. 2	L. 16.36	L. 15.36	L. 85.46	L. 71.56	L. 38.72	L. 7.94	L. 17.36	L. 69.1	L. 70.1	L. 83.46	L. 12.6	L. 46.74	L. 97.5	L. 66	L. 55.3	L. 56.5	L. 71.86	L. 13.6	L. 23.14	L. 78.9	L. 54.5	L. 23.36	L. 23.36	L. 38.72	L. 46.74	L. 38.14	L. 45.76	L. 21.36	L. 22.4	L. 22.4	L. 7.04	L. 92.5	L. 78.9	L. 45.76	L. 24.4	L. 1	L. 2	L. 17.36	L. 68.1	L. 54.5	L. 21.36	L. 24.4	68	48
28	L. 1.0	L. 16.36	L. 59.1	L. 55.5	L. 52.36	L. 22.4	L. 1	L. 1	L. 15.36	L. 70.1	L. 56.5	L. 22.36	L. 22.4	L. 2	L. 16.36	L. 15.36	L. 85.46	L. 71.56	L. 38.72	L. 7.94	L. 17.36	L. 69.1	L. 70.1	L. 83.46	L. 12.6	L. 46.74	L. 97.5	L. 66	L. 55.3	L. 56.5	L. 71.86	L. 13.6	L. 23.14	L. 78.9	L. 54.5	L. 23.36	L. 23.36	L. 38.72	L. 46.74	L. 38.14	L. 45.76	L. 21.36	L. 22.4	L. 22.4	L. 7.04	L. 92.5	L. 78.9	L. 45.76	L. 24.4	L. 1	L. 2	L. 17.36	L. 68.1	L. 54.5	L. 21.36	L. 24.4	68	48
29	L. 1.0	L. 16.36	L. 59.1	L. 55.5	L. 52.36	L. 22.4	L. 1	L. 1	L. 15.36	L. 70.1	L. 56.5	L. 22.36	L. 22.4	L. 2	L. 16.36	L. 15.36	L. 85.46	L. 71.56	L. 38.72	L. 7.94	L. 17.36	L. 69.1	L. 70.1	L. 83.46	L. 12.6	L. 46.74	L. 97.5	L. 66	L. 55.3	L. 56.5	L. 71.86	L. 13.6	L. 23.14	L. 78.9	L. 54.5	L. 23.36	L. 23.36	L. 38.72	L. 46.74	L. 38.14	L. 45.76	L. 21.36	L. 22.4	L. 22.4	L. 7.04	L. 92.5	L. 78.9	L. 45.76	L. 24.4	L. 1	L. 2	L. 17.36	L. 68.1	L. 54.5	L. 21.36	L. 24.4	68	48
30	L. 1.0	L. 16.36	L. 59.1	L. 55.5	L. 52.36	L. 22.4	L. 1	L. 1	L. 15.36	L. 70.1	L. 56.5	L. 22.36	L. 22.4	L. 2	L. 16.36	L. 15.36	L. 85.46	L. 71.56	L. 38.72	L. 7.94	L. 17.36	L. 69.1	L. 70.1	L. 83.46	L. 12.6	L. 46.74	L. 97.5	L. 66	L. 55.3	L. 56.5	L. 71.86	L. 13.6	L. 23.14	L. 78.9	L. 54.5	L. 23.36	L. 23.36	L. 38.72	L. 46.74	L. 38.14	L. 45.76	L. 21.36	L. 22.4	L. 22.4	L. 7.04	L. 92.5	L. 78.9	L. 45.76	L. 24.4	L. 1	L. 2	L. 17.36	L. 68.1	L. 54.5	L. 21.36	L. 24.4	68	48
Oct. 7	L. 3.07	L. 17	L. 51.4	L. 54.83	L. 22.7	L. 23	L. 0.4	L. 3.07	L. 13.33	L. 65.07	L. 58.5	L. 56.37	L. 19.23	L. 3.37	L. 17	L. 13.33	L. 76.4	L. 71.83	L. 39.7	L. 6	L. 16.6	L. 61.4	L. 63.07	L. 76.4	L. 6.37	L. 38.7	L. 84.4	L. 61	L. 54.83	L. 58.5	L. 71.83	L. 6.57	L. 22.13	L. 77.83	L. 55.23	L. 22.7	L. 26.37	L. 22.7	L. 28.7	L. 22.13	L. 45.7	L. 23.1	L. 22.6	L. 19.33	L. 6	L. 84.4	L. 77.83	L. 45.7	L. 22.6	L. 0.4	L. 3.07	L. 16.6	L. 61.4	L. 55.23	L. 22.1	L. 22.6	7	48
14	L. 3.36	L. 16.6	L. 56.2	L. 50.79	L. 20.3	L. 23.57	L. 0.7	L. 3.36	L. 13.34	L. 59.46	L. 53.98	L. 22.76	L. 20.31	L. 2.56	L. 16.6	L. 13.34	L. 79.6	L. 27.23	L. 27.1	L. 6.97	L. 15.9	L. 56.2	L. 59.46	L. 79.6	L. 5.46	L. 55.7	L. 79.77	L. 20	L. 50.79	L. 53.98	L. 27.23	L. 5.46	L. 20.33	L. 74.29	L. 51.49	L. 26.5	L. 23.76	L. 27.1	L. 25.7	L. 20.33	L. 44.07	L. 21.5	L. 23.57	L. 20.31	L. 6.97	L. 79.77	L. 74.29	L. 44.07	L. 22.67	L. 0.7	L. 2.56	L. 15.9	L. 56.2	L. 51.49	L. 21.5	L. 22.67	7	48

Nº. II.

TABLE I.

THIS and the following table contain the observations made for determining the longitude by chronometers during the summers of the years 1821 and 1822, by which the lands surveyed by the Expedition, are laid down in the Chart; those made at sea, while crossing the Atlantic, being omitted as unimportant. One or two of the principal bearings are attached to most of the observations; the whole of those contained in the surveying book being much too bulky to insert in a table of this nature.

The times contained in the second and seventh columns are according to the astronomical day, at the places of observation; those by 259, in the second column, being carried on beyond twenty-four hours, when necessary.

In the columns of altitudes α and $\bar{\alpha}$ denote the lower and upper limbs of the sun by artificial horizon; $\bar{\alpha}$, both limbs having been observed, and the altitude of the centre inserted. The double or observed angle is, in the latter case, always inserted. L and U signify the lower and upper limbs by the natural horizon.

An asterisk in the column of dip implies that the observation has been made by the boats employed in the examination of the coast, or during the various journeys by land or over ice.

In the column of observers, either in this table or any other, the letters denote as follows:

F Mr. Fisher		N Lieut. Nias		H Mr. Hooper		B Mr. Bushnan
P Capt. Parry		Re Lieut. Reid		R Mr. Ross		C Mr. Crozier

OBSERVATIONS FOR DETERMINING THE LONGITUDE BY CHRONOMETERS.

1821	Time by 259	259's Correction to Mean Greenwich Time.	Observed Altitude of Limb.	Obs. ver.	Dip of Hor- izon	Apparent Time.	Latitude.	Longitude.		Mean Longitude by different Observers	REMARKS.
								By 259.	By Mean of the Chronometers.		
July 1	H. M. S. 6 36 16.9	FAST 0 27.1	0 01 38 L	P	4 11	H. M. S. 2 21 28.1	0 11 45	62 44 22.5	62 45 33.5	62 45 33.5	
"	7 31 04.9	0 27.1	38 51 43 L	R	3 50	3 15 33.1	62 07 10	62 55 00	62 56 10.5	62 56 10.5	
2	24 52 59.8	0 28.5	37 42 48 L	R	3 50	20 32 28.5	61 33 00	64 04 27	64 05 25.5		
"	24 59 36	0 28.5	38 26 3 L	F	4 00	20 39 07	61 33 00	64 04 07.5	64 05 06	64 03 10.2	
"	25 08 35.5	0 28.5	39 26 05 L	B	3 56	20 48 30.4	61 33 00	63 58 00.5	63 58 59		
3	7 31 40.1	0 28.5	39 42 33 L	P	4 04	3 09 45.4	61 19 12	64 24 39	64 25 37.5	64 25 37.5	HatCon's Headland, N. by W 4 or 5 leagues.
"	24 30 03	0 29.1	69 46 22 O	H	...	20 07 45.5	61 19 29	64 28 16.5	64 29 10.5		
"	24 42 00.7	0 29.2	72 29 11 O	P	...	20 19 42.8	61 19 29	64 28 25.5	64 29 19.5	64 29 15	Ditto ditto N 80°, W 4 or 5 leagues.
5	6 26 11.4	0 29.9	45 55 10 L	P	4 11	2 02 26.7	61 18 15	64 46 33	64 47 22.5		
"	6 28 10.1	0 30.	45 46 40 L	H	4 15	2 04 25.5	61 18 15	64 46 31.5	64 47 21	64 47 13.1	
"	6 29 55.1	0 29.9	45 38 22 L	R	4 00	2 06 09.6	61 18 15	64 46 45	64 47 34.5		
"	9 12 50.8	0 29.9	28 09 07 L	B	4 11	4 49 10.9	61 19 27	64 45 45	64 46 34.5		
"	9 15 17	0 29.9	27 49 22 L	F	4 16	4 51 39	61 10 52	64 44 46.5	64 45 36	64 45 36	
7	25 24 53	0 32	40 28 05 L	R	3 50	21 01 13.9	61 18 00	64 37 42	64 38 24		
"	25 26 37.5	0 32	40 39 39 L	B	3 41	21 03 19.5	61 18 00	64 32 27	64 33 09	64 35 46.5	Ditto ditto N 80°, W 9 or 10 miles.
8	8 48 17.2	0 32	30 53 32 L	P	4 11	4 23 54.8	61 13 15	64 47 49.5	64 48 31.5	64 51 06.7	Ice horizon
"	8 54 14	0 32.1	30 14 31 L	H	4 11	4 29 30.8	61 13 15	64 53 00	64 53 42		
"	24 37 10.5	0 32.7	34 52 02 L	P	4 11	20 10 30	61 10 20	65 20 42	65 21 24	65 21 22.5	
"	24 39 02.3	0 32.7	35 04 56 L	R	4 0	20 12 22	61 10 30	65 20 39	65 21 21		Ditto ditto N 54°, E 5 or 6 leagues.
"	25 18 04.9	0 32.7	78 44 50 O	B	...	20 51 47.4	61 10 30	65 14 52.5	65 15 34.5	65 15 34.5	
9	25 03 45	0 33.4	75 15 30 O	P	...	20 37 00	61 15 00	65 19 25.5	65 20 06	65 19 51.8	
"	25 11 33	0 33.3	76 57 11 O	H	...	20 44 25.4	61 15 00	65 18 57	65 19 37.5		Ditto ditto N. 65°, E. 4 or 5 leagues.
"	25 24 58.3	0 33.3	70 28 46 O	B	...	20 58 22.8	61 15 00	65 32 01.5	65 32 42	65 32 42	
10	8 29 40.2	0 33.4	66 24 42 O	R	...	4 02 05.9	61 09 05	65 32 34.5	65 33 15	65 32 09	
"	8 28 13	0 33.4	65 35 03 O	B	...	4 05 41.5	61 08 40	65 30 22.5	65 31 03		
"	25 03 30	0 34.1	74 59 58 O	P	...	20 36 18.6	61 04 45	65 23 45	65 24 24	65 25 05.2	No land distinctly seen.
"	25 07 54.5	0 34.1	75 58 03 O	H	...	20 40 37.8	61 04 45	65 25 07.5	65 25 46.5		

LONGITUDES BY CHRONOMETERS.

12	8 54 46.2	0 34.8	60 59 53	P	...	4 25 29	61 04 00	65 52 25.5	65 53 04.5		
"	8 50 50	0 34.8	59 46 35	R	...	4 30 35.6	61 04 00	65 54 01.5	65 54 40.5	65 54 15	
"	9 23 01.6	0 34.8	53 43 06	B	...	4 53 36.7	61 04 00	65 54 21	65 55 00		
"	25 15 11.6	0 35.5	76 46 59	F	...	20 46 28	61 01 51	65 42 37.5	65 43 15		
"	25 20 24.2	0 35.5	78 57 04	P	...	20 51 44.3	61 02 15	65 41 42	65 42 19.5		
"	25 28 29.2	0 35.4	79 35 20	H	...	20 59 47	61 02 15	65 42 18	65 42 55.5	65 42 27.7	The land about Cape Chilly, -S. 25° E., to S. 35° E., distant 10 or 15 leagues
"	25 29 02.1	0 35.4	79 43 30	B	...	21 00 26.2	61 02 00	65 40 43.5	65 41 21		
13	10 35 56	0 35.5	35 48 16	R	...	6 07 09.7	61 03 00	65 42 39	65 43 16.5	65 43 16.5	
"	25 16 24.4	0 36.2	75 31 20	R	...	20 41 42.7	61 00 00	65 40 18	65 40 48		
"	25 14 36.7	0 36.1	76 24 42	H	...	20 45 49.6	61 00 00	65 41 39	65 42 09	65 41 30	
"	25 16 12.6	0 36.2	76 45 39	F	...	20 47 22.5	61 00 20	65 42 28.5	65 42 58.5		
"	25 16 51.1	0 36.2	76 56 03	B	...	20 48 16.2	61 00 00	65 39 34.5	65 40 04.5		
14	7 29 14	0 36.2	79 16 06	P	...	3 00 26.6	61 00 00	65 42 46.5	65 43 16.5	65 43 16.5	
16	25 05 53.3	0 38.3	72 40 32	P	...	20 30 45.8	61 09 00	67 11 46.5	67 11 54		
"	25 11 54	0 38.2	73 59 51	H	...	20 36 47.4	61 09 00	67 11 37.5	67 11 45		
"	25 14 17	0 38.3	74 00 34	R	...	20 39 16.1	61 09 00	67 10 07.5	67 10 15	67 11 08.7	Extremity of Green, or Grass Island, S. 27° W., to S. 29° W., distant about 10 miles, but uncertain, on account of atmospheric refraction
"	25 16 43.1	0 38.3	75 02 11	F	...	20 41 36	61 09 15	67 11 39	67 11 46.5		
"	25 20 18	0 38.3	75 18 14	B	...	20 45 17.8	61 09 00	67 09 55.5	67 10 03		
17	24 25 03.9	0 38.9	31 28 15	L H	4.11	19 51 21	61 16 06	66 49 01.5	66 49 01.5	66 49 01.5	
"	24 27 26.5	0 39	31 42 37	L F	4.4	19 53 24	61 18 00	66 54 07.5	66 54 07.5	66 54 07.5	
18	8 24 35.9	0 39	33 11 53	L P	4.11	3 52 17.2	61 38 58	66 27 51	66 27 51	66 27 51	
"	11 17 56.7	0 39	26 26 14	P	...	6 45 26.5	61 35 40	66 30 36	66 30 36		
"	11 24 15.6	0 39.2	25 33 40	H	...	6 51 45.8	61 35 40	66 30 25.5	66 30 25.5	66 30 30	East Bluff, N. 25° E., 4 leagues. Lower Savage Islands, from S. 25° E. to N. 50° E., 7 to 10 miles
"	11 24 36.7	0 39	24 57 36	R	...	6 52 06.3	61 35 40	66 30 37.5	66 30 37.5		
"	25 06 51.2	0 40.2	71 47 15	F	...	20 33 33	61 35 30	66 41 45	66 41 31.5		
"	25 10 34.2	0 40	73 06 10	P	...	20 37 18.3	61 35 45	66 40 24	66 40 10.5		
"	25 15 00	0 40.2	74 03 19	H	...	20 41 47	61 35 45	66 40 21	66 40 07.5	66 40 44.6	
"	26 08 39.7	0 40.2	84 00 58	B	...	21 35 22.4	61 35 15	66 41 22.5	66 41 09		
19	8 31 45.5	0 40.4	65 05 55	R	...	3 58 28.2	61 35 30	66 41 04.5	66 40 46	66 40 46	East Bluff, N. 50° E., distant 4 or 5 leagues.
"	25 12 39.4	0 41.2	36 18 28	L R	4.00	20 38 33.2	61 35 10	66 52 25.5	66 51 58.5	66 51 58.5	

LONGITUDES BY CHRONOMETERS.

OBSERVATIONS FOR DETERMINING THE LONGITUDE BY CHRONOMETERS, continued.

1821.	Time by 259.	259's Correction to Mean Greenwich Time.	Observed Altitude of Lamb.	Observed.	Dip of Horizon.	Apparent Time.	Latitude.	Longitude.			Mean Longitude by different Observers.	REMARKS.
								By 259	By Mean of the Chronometers.			
July 20	H. M. S.	FAIR.	O. I. "	F	"	H. M. S.	O. I. "	O. I. "	O. I. "	"	"	
"	9 14 03	0 41.4	54 35 50	O	...	4 39 56.5	61 39 50	66 52 09	66 51 32	"	"	
"	9 17 56.3	0 41.6	54 12 36	O	...	4 43 51.4	61 39 00	66 51 45	66 51 18	"	"	
"	9 19 53.2	0 41.7	53 42 48	O	...	4 45 57	61 39 00	66 49 33	66 49 06	"	"	East Head, N. 79° E., distance 5 or 6 leagues.
"	9 22 19.1	0 41.6	52 39 10	O	...	4 48 13.6	61 39 00	66 51 52.5	66 51 25.5	"	"	
"	9 23 35.1	0 41.6	62 22 14	O	...	4 49 24.5	61 39 00	66 53 09	66 52 42	"	"	
"	24 39 10.5	0 42.4	32 18 56	L	3 50	20 04 09.5	61 46 55	67 05 16.5	67 04 55.5	"	"	
"	24 41 00	0 42.6	32 31 29	L	3 30	20 06 13	61 46 47	67 01 36	67 01 15	"	"	Centre of Scurry Head, N. 40°, E. distance from above 10 or 12 miles.
"	24 42 12.4	0 42.4	32 39 47	L	3 50	20 07 15.1	61 46 55	67 04 06	67 03 45	"	"	
"	24 47 20.4	0 42.4	33 14 28	L	4 00	20 12 25.5	61 45 30	67 03 30	67 03 09	"	"	
"	25 38 35.5	0 44.8	35 53 23	L	4 17	21 03 20.5	61 45 43	67 03 30	67 03 09	"	"	
22	25 26 54	0 46.3	23 05 39	L	4 04	18 49 00	62 06 18	69 53 10.5	69 53 09	"	"	
23	23 35 24	0 46.1	28 55 20	L	4 11	19 39 42.5	62 11 33	69 49 18	69 49 16.5	"	"	
"	24 25 21.1	0 46	29 14 01	L	4 00	19 42 28.8	62 11 30	69 48 13.5	69 48 12	"	"	
"	24 28 33	0 46.3	29 14 57	L	4 04	19 42 42.4	62 10 39	69 49 40.5	69 49 39	"	"	
24	9 33 39.5	0 46.6	51 22 07	O	...	4 46 57	62 31 30	69 57 31.5	69 57 30	"	"	
"	9 36 10.2	0 46.2	51 18 27	O	...	4 49 30	62 31 30	69 57 03	69 57 01.5	"	"	On shore, near the S.E. point of the largest and easternmost of the Savage Islands (of Baffin).
"	9 39 43.8	0 46.4	49 58 49	O	...	4 53 00.9	62 31 39	69 57 25.5	69 57 24	"	"	
"	9 45 37.8	0 46.4	48 37 15	O	...	4 58 56	62 32 30	69 57 24	69 57 22.8	"	"	
"	9 49 25.5	0 46.6	47 44 37	O	...	5 02 43.7	62 31 30	69 57 21	69 57 19.5	"	"	
25	24 21 51	0 48.6	27 13 45	L	4 04	19 29 41	62 30 00	71 18 36	71 18 48	"	"	
"	24 42 29.4	0 48.4	29 33 43	L	4 11	19 49 25	62 29 35	71 32 13.5	71 32 25.5	"	"	
"	24 47 24.9	0 48.4	30 06 21	L	4 06	19 54 19.4	62 29 36	71 32 06	71 32 18	"	"	
"	25 23 11.7	0 48.4	33 49 31	L	4 00	20 28 53.7	62 29 05	71 35 37.5	71 35 49.5	"	"	Land, from N. 27°, E. to N. 30° E. distant from 3 to 7 leagues.
"	24 45 05.3	0 48.4	34 07 19	L	4 11	30 31 43.2	62 29 05	71 36 39	71 36 51	"	"	

[illegible]

OBSERVATIONS FOR DETERMINING THE LONGITUDE BY CHRONOMETERS, continued.

1821	Time by 259	259's Correction to Mean Greenwich Time.	Observed Altitude of Limb.	Obs. ver.	Dip of Hor. Ion.	Apparent Time.	Latitude	Longitude.		Mean Longitude by different Observers	REMARKS.
								By 259.	By Mean of the Chronometers.		
Aug. 3	H. M. S. 8 34 23.4	M. S. 0 58.4	O 32 47 02 L	H	3 00	H. M. S. 3 09 25.7	O 65 06 30	O 79 32 37.5	O 79 32 25.5	79 32 25.5	
"	8 36 53.7	0 58.4	32 34 03 L	R	3 00	8 11 30.7	65 09 45	79 38 55.5	79 38 43.5	79 38 43.5	
"	25 26 05.9	0 59.2	27 55 11 L	H	4 00	20 00 07.8	65 04 15	79 48 22.5	79 48 22.5	79 48 22.5	
"	26 05 00.5	0 59.1	31 36 48 L	P	4 00	20 39 00.7	65 03 30	79 48 48	79 48 48	79 48 48	
"	26 08 51.5	0 59.2	31 56 00 L	R	4 00	20 42 32.9	65 04 00	79 58 34.5	79 58 34.5	79 51 11.2	Descent lead, much refracted from S 37° E, to N 30° E.
"	26 28 34.6	0 59.2	33 40 08 L	B	3 07	21 02 30.9	65 02 51	79 49 55.5	79 49 55.5	79 49 55.5	
4	26 16 44.8	1 00.6	63 10 40 Q	F	...	20 43 51.7	65 20 00	81 38 04.5	81 38 16.5	81 38 16.5	
"	26 16 46.8	1 00.3	63 10 37 Q	P	...	20 43 50.9	65 20 00	81 33 57	81 34 06	81 34 06	
"	26 20 32.4	1 00.4	63 50 11 Q	H	...	20 47 35.7	65 20 00	81 34 07.5	81 34 19.5	81 34 19.5	
"	26 21 27.2	1 00.4	65 02 15 Q	R	...	20 48 28.7	65 20 00	81 34 34.5	81 34 46.5	81 34 46.5	
"	26 24 36.5	1 00.4	64 33 34 Q	B	...	20 51 45.3	65 20 00	81 32 46.5	81 32 58.5	81 32 58.5	
5	10 42 07.8	1 00.9	41 26 00 Q	R	...	5 07 42.4	65 27 00	81 56 43.5	81 56 55.5	81 56 55.5	
"	11 06 49.2	1 00.8	36 59 41 Q	H	...	5 32 26.6	65 27 00	81 56 03	81 56 15	81 57 00.4	
"	11 09 15.7	1 00.8	35 27 46 Q	H	...	5 34 46	65 27 00	81 57 49.5	81 58 01.5	81 58 01.5	
"	13 21 14.2	1 00.8	32 57 46 Q	B	...	5 46 49.4	65 27 00	81 56 37.5	81 56 49.5	81 56 49.5	
"	26 23 39.7	1 01.5	64 14 44 Q	P	...	20 58 47.6	65 28 15	82 04 13.5	82 04 37.5	82 04 37.5	
"	26 31 50.4	1 01.6	64 46 48 Q	H	...	20 56 56.9	65 28 15	82 04 34.5	82 04 58.5	82 04 58.5	
"	26 34 28.2	1 01.3	65 13 02 Q	B	...	20 59 39.9	65 28 15	82 02 03	82 02 27	82 02 27	
"	26 34 54.2	1 01.6	65 48 31 Q	R	...	20 59 57.1	65 28 15	82 03 30	82 05 54	82 05 54	
9	9 49 06.2	1 05.7	25 05 47 L	P	3 00	4 12 56.8	65 34 00	82 28 43.6	82 29 46.5	82 29 46.5	
"	9 52 52.6	1 05.6	24 46 15 L	H	4 14	4 16 25.3	65 34 00	82 32 24	82 32 27	82 31 20	
"	9 53 23.5	1 05.6	24 24 38 L	R	4 10	4 20 06	65 34 00	82 30 48.5	82 31 46.5	82 31 46.5	
"	26 39 26	1 06.4	25 30 43 L	H	4 10	19 51 08.1	65 32 00	83 06 16.5	83 07 33	83 07 33	
10	7 30 30.1	1 06.9	72 20 24 Q	P	...	1 51 07.4	65 31 00	83 18 36	83 19 52.5	83 19 52.5	
"	7 35 10.5	1 06.7	72 54 05 Q	H	...	1 54 50.9	65 31 00	83 17 57	83 19 18.5	83 19 18.5	
"	7 37 26.9	1 06.7	73 30 27 Q	R	...	1 58 07.2	65 31 00	83 17 43	83 18 58.5	83 18 58.5	
"	7 43 03.7	1 06.9	72 03 46 Q	F	...	3 01 34.7	65 31 30	83 30 01.5	83 31 18	83 31 18	
10	10 32 50.9	1 07	41 2 40 Q	B	...	4 53 14	65 31 00	83 22 28.5	83 23 45	83 23 45	

Two remarkable hills on Southampton Head, S. 30° 27' W. & S. 60° 45' W.

12	10 48 54.9	1 09.3	18 47 21 L	P	4 00	5 07 36	65 34.45	88 52 15	88 53 37.5	S.E. End of Buller Island, N. 44° E., 1/2 m. S. by E.	84 02 04.2
"	10 44 23.6	1 09.3	18 16 48 L	F	4 00	5 11 56.6	65 34.45	84 09 40.5	84 11 04		
"	10 39 08	1 09.3	17 46 40 L	R	4 00	5 18 26.5	65 34.45	83 58 27	83 59 49.5		
"	11 03 58	1 09.3	17 24 07 L	B	3 16	5 20 56.8	65 34.45	84 02 32.5	84 03 46		
"	25 39 08	1 09.9	24 45 07 L	F	3 00	19 53 45	65 35 00	84 09 32.5	84 10 48	Cape Walsford, S. 85° W., 3 or 4 leagues	84 19 37.5
13	10 30 40.8	1 10.5	26 50 21 Q	F	...	5 07 50.7	65 35 00	84 17 24	84 18 49.5		
"	10 25 53	1 10.5	26 48 56 Q	F	...	5 13 03	65 35 00	84 17 25.5	84 18 51		
"	11 06 18.6	1 10.5	23 37 18 Q	P	...	5 23 27.8	65 34 00	84 17 34.5	84 19 00		
"	11 09 28.7	1 10.4	22 58 14 Q	H	...	5 26 37.8	65 33 30	84 17 37.5	84 19 03	On Shore at Cape Walsford	84 20 06.7
"	11 13 39	1 10.4	23 23 57 Q	B	...	5 29 38.4	65 34 00	84 17 34.5	84 19 00		
"	11 13 06.1	1 10.5	22 44 35 Q	R	...	5 30 17.2	65 33 30	84 15 36	84 17 01.5		
15	24 23 21.8	1 13.5	23 20 54 Q	P	...	18 39 33.2	65 28 13	84 38 24	84 39 58.5		
"	24 27 03.1	1 13.5	24 06 43 Q	R	...	18 43 18.8	65 28 13	84 35 40.5	84 40 15	On Shore West side of Duke of York's Bay	85 15 35.1
"	26 21 40.8	1 13.5	22 16 45 L	F	4 00	19 36 41.7	65 29 30	84 26 18	84 27 52		
16	25 01 29.2	1 15.1	29 41 58 Q	P	...	19 15 56.6	65 27 37	85 14 48	85 16 25.5		
"	25 04 01.8	1 15.2	28 07 09 Q	H	...	19 17 57.6	65 27 30	85 15 10.5	85 16 48	On a Shoal in Duke of York's Bay 6 or 7 leagues, running out of Duke of York's Bay	84 57 04.5
"	25 05 00.3	1 15.4	41 23 26 Q	F	...	19 19 14	65 27 37	85 13 42	85 15 19.5		
"	25 06 11.7	1 15.4	40 33 50 Q	F	...	19 20 19.5	65 27 37	85 12 58.5	85 14 36		
"	25 07 42	1 15.4	40 52 18 Q	B	...	19 21 45.8	65 27 30	85 13 09	85 14 46.5		
18	28 21 39.2	1 18.3	71 09 16 Q	P	...	22 37 19.4	65 20 56	84 55 16.5	84 57 04.5	Cape Frijol, (Madagascar), S. 87° W	84 48 40.5
19	10 45 59.7	1 18.9	17 17 44 L	F	4 00	5 02 55	65 27 00	84 37 16.5	84 39 04.5		
20	11 59 46.6	1 20.5	9 31 42 L	H	4 00	6 16 04.3	66 00 00	84 49 57	84 51 51		
"	12 04 31.8	1 20.5	9 00 45 L	P	4 00	6 21 15	66 00 00	84 43 36	84 45 30		
21	26 40 29.7	1 23.2	53 14 50 Q	F	...	20 50 44	66 31 00	86 26 03	86 28 04.5	On Shore on the north side of Re- pelle Bay	86 30 20.1
"	26 40 22.5	1 23.1	53 16 15 Q	P	...	20 50 43.5	66 31 00	86 26 49.5	86 28 51		
"	26 51 00.8	1 23.3	54 54 31 Q	R	...	21 01 02.9	66 31 00	86 29 00	86 31 01.5		
"	26 56 32.1	1 23.2	56 47 33 Q	B	...	21 06 33.4	66 31 00	86 29 16.5	86 31 18		
"	27 08 57.1	1 23.2	58 05 57 Q	H	...	21 18 59.4	66 31 00	86 29 03	86 31 04.5	On Shore on the north side of Re- pelle Bay	86 30 46
"	27 16 19.9	1 23.3	59 08 06 Q	R	...	21 26 21.4	66 31 00	86 29 13.5	86 31 15		
"	27 28 17.5	1 23.1	60 45 00 Q	P	...	21 38 21.2	66 31 00	86 28 45	86 30 46		
27	9 27 34	1 31.6	43 56 10 Q	H	a...	3 46 03.7	66 12 36	84 41 09	84 43 27		

"	24	58	47	1	53.5	25	02	14	Ω	H	d..	19	23	21.5	66	37	20	84	09	43.5	84	11	24	84	10	50.2	The observations marked a, b, c, d, e, f, were made in First-Liberty Bay.
"	25	02	53.5	1	53.5	25	48	45	Ω	H	e..	19	27	30	66	37	20	84	09	21	84	11	01.5	84	10	50.2	
"	26	06	07.3	1	53.5	26	25	05	Ω	H	f..	19	30	46.4	66	37	20	84	08	45	84	10	25.5	84	10	50.2	On Shore at the western part of Lyons Inlet.
"	25	30	39.6	1	53.5	30	38	51	Ω	R*	...	19	52	03	66	59	06	84	57	37.5	84	59	34.5	84	59	34.5	Near the Esquimaux Inlet.
10	32	04.5	1	54.2	24	00	22	Ω	R**	...	...	4	42	32.2	66	56	00	85	13	13.5	85	14	46.5	85	14	46.5	
13	55	47.5	1	55.8	45	00	00	Ω	H	...	...	2	21	25.3	66	38	39	84	09	45	84	10	39	84	10	45	
"	58	50.2	1	55.8	44	05	10	Ω	P*	...	...	2	24	27.4	66	38	39	84	09	55.5	84	10	49.5	84	10	45	
"	59	53	1	55.8	45	00	50	Ω	F	...	...	2	25	30.4	66	38	39	84	09	52.5	84	10	46.5	84	10	45	
"	59	52.1	1	55.8	44	26	29	Ω	P*	...	...	2	23	17.7	66	56	06	84	42	51	84	43	45	84	43	18.7	On Shore at Tide-guest.
"	03	37.8	1	55.8	43	57	15	Ω	R*	...	...	2	27	08	66	51	06	84	41	58.5	84	42	52.5	84	43	18.7	
14	55	55.3	2	00.5	44	02	44	Ω	P*	...	...	2	20	33.5	66	50	40	84	29	30	84	30	09	84	29	24	On Shore, north side of Newman's Cove.
"	00	54.8	2	00.5	43	24	58	Ω	R*	...	...	2	25	40	66	50	40	84	28	00	84	28	39	84	29	24	
17	58	40.1	2	08.9	40	56	50	Ω	H	a..	...	2	23	06.2	66	41	40	84	16	16.5	84	16	55.5	84	16	55.5	
"	32	49.2	2	08.9	37	07	46	Ω	P*	...	...	2	59	46.2	66	24	30	84	08	39	84	09	18	84	08	47.2	On Shore in a small bay, West side of the entrance to Lyons Inlet.
"	36	44.6	2	08.9	36	31	25	Ω	R*	...	...	3	03	45.9	66	24	30	84	07	37.5	84	08	16.5	84	08	47.2	
"	37	43.9	2	11.2	37	42	53	Ω	P	...	...	2	05	45.4	66	09	50	83	56	01.5	83	56	42	83	57	40.5	On Shore at Cape Marlignan.
"	43	40	2	14.2	38	33	30	Ω	R*	...	...	2	11	33.5	66	09	50	83	57	58.5	83	58	39	83	57	40.5	
"	49	53.5	2	11.1	37	56	12	Ω	H	b..	...	2	16	22.6	66	41	34	84	19	09	84	19	49.5	84	19	49.5	
18	29	00.4	2	11.9	15	29	40	Ω	H	c..	...	4	55	41.4	66	41	34	84	17	37.5	84	18	18	84	18	22.2	Mess of observations marked a, b, c, d, in Dip columns, on shore at the Anchorage.
"	33	18.2	2	12	14	41	21	Ω	B	d..	...	4	59	58	66	41	17	84	17	55.5	84	18	26	84	18	22.2	
"	31	05	2	14.2	12	35	29	Ω	R*	4	04	19	56	52.4	66	16	30	84	33	43.5	84	34	22.5	84	34	29.2	Same horizon indifferent—On Fathill Point.
"	33	16.7	2	14.2	12	47	10	Ω	P*	4	06	19	59	03	66	16	30	84	33	57	84	34	36	84	34	29.2	
19	42	41.7	2	15	20	59	37	Ω	R*	2	00	2	08	12.5	66	24	33	84	39	01.5	84	39	40.5	84	39	50.2	On the beach, at the head of Gore Bay.
"	45	00.5	2	15	20	51	43	Ω	P*	2	00	2	10	30.2	66	24	33	84	39	21	84	40	00	84	40	00	
28	19	39.5	2	39.6	30	02	42	Ω	R	...	...	2	51	10	66	31	59	83	48	54	83	48	54	83	48	54	South shore of Safety Cove.
Oct. 4	27	04	19.5	2	59.3	28	54	53	Ω	R	a..	2	37	39.1	66	23	05	83	48	36	83	47	15	83	47	16.7	On shore near the Anchorage on the east side of the entrance to Lyons Inlet.
"	26	28.7	2	59.3	31	22	04	Ω	R	b..	...	2	59	49.2	66	23	05	83	48	43.5	83	47	22.5	83	47	16.7	
5	42	39.3	2	59.3	28	58	20	Ω	P	...	...	2	16	05.7	66	22	49	83	47	52.5	83	46	31.5	83	45	49	
"	51	45.2	2	59.4	27	52	42	Ω	H	...	...	2	25	17.6	66	22	49	83	46	25.5	83	45	04.5	83	45	49	
"	18	17.2	2	59.5	24	25	38	Ω	B	c..	...	2	51	42.9	66	23	05	83	48	06	83	46	45	83	46	40.5	
"	23	35.8	2	59.5	24	12	58	Ω	R	d..	...	2	57	02.2	66	23	05	83	47	57	83	46	36	83	46	40.5	

TABLE II.

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OBSERVATIONS FOR DETERMINING THE LONGITUDE BY CHRONOMETERS, A. D. 1822.

1822	Time by 228.	228's Correction to Mean Greenwich Time.	Observed Altitude of Lamb	Observer	Dip of Horizon.	Apparent Time	Latitude	Longitude.		Mean Longitude by different Observers.	REMARKS.
								By 228.	By Mean of the Chronometers.		
July 2	H. M. S.	FAST	O' ' " "	P	...	H. M. S.	O' ' " "	O' ' " "	O' ' " "	82 18 30	Point Elizabeth, N. 7° E., 5 miles
"	24 31 37.6	19 04.4	49 25 56.5	Q	P	18 39 38.7	66 43 00	82 18 12	82 17 27		
"	24 39 18.1	19 04.4	50 55 33	Q	R	18 47 12	66 43 00	82 20 15	82 19 33*		
"	27 02 25.6	19 08.3	77 11 36	Q	F	21 12 22	66 54 17	81 45 22.5	81 44 28.5		
"	27 04 11.6	19 08.3	78 31 01	Q	F	21 14 17.6	66 54 17	81 45 25.5	81 44 31.5	81 44 57.7	Cape Wilson, N. 90° E., 4 miles.
3	27 09 02	19 08.3	78 46 30.5	Q	H	21 19 16.8	66 54 17	81 45 46.5	81 44 48		
"	27 14 24.9	19 08.3	79 31 10	Q	B	21 24 16.2	66 54 17	81 46 40.5	81 45 55		
4	8 48 36.4	19 09	75 58 32	Q	R	2 58 26.4	66 54 17	81 46 12	81 45 12*		
"	11 52 56	19 09.8	41 28 45	Q	C	6 02 45.3	66 54 17	81 45 49.5	81 44 51	81 39 18.6	Island of Ootitsooruck, from N. 10° E., to N. 45° E., 1 mile.
"	27 14 04.9	19 15.9	78 33 18	Q	F	21 23 57.8	66 56 27	81 39 06	81 37 37.5		
"	27 19 54	19 15.9	80 27 05	Q	F	20 29 44.3	66 56 27	81 39 45	81 38 16.5		
5	27 22 17.5	19 15.8	79 40 30	Q	Re	21 34 41	66 56 17	81 46 40.5	81 45 09		
"	27 27 30.1	19 15.7	80 28 50	Q	B	21 37 23.6	66 55 55	81 39 00	81 37 45	81 38 42.7	The Continental shore, from half to three-quarters of a mile distant to the Westward.
"	27 34 18.6	19 15.8	81 55 09	Q	C	21 44 06	66 56 00	81 39 16.5	81 37 45		
6	26 46 46.3	19 19.2	74 24 59	Q	P	20 58 25	66 56 00	81 39 25.5	81 37 40.5		
"	27 01 48.5	19 19.8	76 58 38	Q	H	21 11 16.6	66 56 00	81 40 46.5	81 39 01.5		
"	27 08 57	19 19.8	76 48 02	Q	Re	21 18 28	66 56 17	81 41 15	81 39 30	81 27 49.7	
"	27 06 15.4	19 19.3	78 02 55	Q	C	21 14 50.1	66 56 00	81 40 24	81 38 39		
8	10 24 15.6	19 24.2	57 26 22	Q	P	4 34 10.2	67 02 21	81 31 03	81 29 52.5		
"	10 26 38	19 24.3	56 59 08	Q	H	4 36 33	67 02 25	81 30 54	81 28 49.5		
"	10 28 48.5	19 24.2	56 35 40	Q	B	4 38 34.7	67 02 25	81 31 52.5	81 29 45	81 27 49.7	
"	10 32 22.7	19 24.5	33 51 45	Q	B	6 42 18.3	67 02 24	81 30 30	81 28 16.5		
"	26 50 06.7	19 26.8	74 09 09	Q	Re	21 00 01	67 02 07	81 26 37.5	81 24 01.5		
"	26 50 51.7	19 27	75 38 12	Q	H	21 09 33.8	67 02 30	81 31 54	81 29 12		
"	27 04 55.1	19 27	78 12 37	Q	B	21 26 48.8	67 02 25	81 30 40.5	81 28 08	81 28 10.5	
"	27 38 25	19 26.9	79 25 13	Q	C	21 35 19.1	67 02 30	81 30 52.5	81 28 10.5		

LONGITUDE BY CHRONOMETERS.

"	30	45	21.8	24.3	72	01	30	Q	H	...	20	47	43.5	67	11	30	81	30	51	81	27	07.5			
"	35	43	53	24.3	72	26	35	Q	R	...	20	53	27.7	67	11	30	81	27	36	81	23	55.5			
"	38	40	40	24.4	74	57	03	Q	B	...	21	09	20.7	67	11	26	81	28	39	81	24	58.5	81	24	36.9
"	37	36	27	24.4	39	20	03	L	Re	3 57	21	34	04	67	11	17	81	29	36	81	25	45			
11	10	19	48.5	25.4	59	19	12	Q	E	...	4	20	23.8	67	11	35	81	26	31	81	22	40.5			
"	10	15	50.5	25.5	58	10	58	Q	N	...	4	26	22.7	67	11	38	81	27	33.5	81	23	57			
12	26	46	40.8	41.8	72	10	18	Q	Re	...	20	55	52	67	18	54	81	27	46	81	23	06			
"	27	00	14.8	41.8	74	49	47	Q	B	...	21	09	20.6	67	18	41	81	28	52.5	81	24	10.5			
"	27	05	02.2	41.8	75	01	29	Q	C	...	21	14	18	67	19	00	81	26	31	81	21	46			
"	27	09	10.3	41.9	75	38	20	Q	R	...	21	18	24.9	67	18	57	81	26	48	81	22	06			
14	11	05	37.5	46.5	24	13	35	L	P	4 04	5	13	23.8	68	06	00	81	45	19.5	81	40	27			
"	11	08	48	46.5	23	55	18	L	F	3 56	5	16	45	68	06	00	81	43	37.5	81	37	45			
"	11	09	10.2	46.5	23	55	00	L	R	4 00	5	16	45	68	06	00	81	48	09	81	43	13.5			
"	11	10	15.8	46.5	23	48	31	L	Re	4 04	5	18	07	68	06	00	81	44	13	81	39	21			
"	11	12	03.5	46.5	23	37	37	L	N	3 56	5	19	53	68	06	00	81	44	30	81	39	37.5			
"	24	29	42.2	48.7	23	22	09	L	P	4 04	18	38	12.9	68	19	00	81	32	46.5	81	28	00			
"	24	36	01	49	23	57	54	L	R	4 00	18	44	42	68	19	00	81	30	06	81	25	21			
"	24	46	46.4	49	24	56	49	L	B	4 17	18	55	20	68	19	00	81	31	54	81	27	10.5			
"	26	17	15.8	48.9	32	55	70	L	Re	3 59	20	25	31	68	18	23	81	35	33	81	30	46.5			
15	11	56	00.2	50.4	19	22	15	L	Re	3 59	6	04	13	68	28	23	81	36	09	81	31	24			
19	10	23	49.7	20	25	23	55	L	F	3 42	4	50	11.1	69	32	35	79	25	03	79	21	30			
"	10	37	43.9	20	25	25	04	L	N	3 54	4	53	58	69	32	00	79	26	52.5	79	23	16.5			
"	10	41	28.6	20	25	24	43	L	P	3 50	4	57	56.9	69	32	45	79	23	15	79	19	42			
"	10	42	26.6	20	25	24	39	L	R	4 00	4	58	49	69	32	34	79	24	46.5	79	21	09			
"	10	43	25.4	20	25	24	37	L	Re	3 59	4	59	22	69	32	00	79	31	09	79	27	16.5			
"	11	15	14.8	20	25	21	48	L	B	3 56	5	31	34	69	32	34	79	25	30	79	21	52.5			
"	11	18	36.9	20	25	21	30	L	C	4 00	5	39	45.7	69	32	34	79	24	49.5	79	21	09			
20	24	21	24.6	20	25	21	45	L	R	3 50	18	30	55	69	22	00	81	04	46.5	81	02	09			
"	24	31	04.8	20	25	22	35	L	B	3 56	18	40	37.6	69	22	00	81	04	10.5	81	01	16.5			
21	26	18	14	20	25	22	27	Q	F	...	20	27	07.6	69	33	27	81	12	12	81	10	18.5			
"	26	48	39.4	20	25	23	30	L	N	3 42	20	57	25.8	69	33	27	81	17	37.5	81	16	00			

Made fast alongside the rocks on the Continental shelf.

One mile to the N.N.E. of the entrance to Barrow River

Amplitude, from N 41° E., to N. 70° E., 4 or 5 degrees.

Land, apparently islands, from N. 40° E., to S 15° E.

81 22 47.1

81 27 49.5

79 22 16.5

81 01 42.7

Made first alongside the rocks on the Continental shelf.

One mile to the N.N.E. of the entrance to Barrow River.

Amplitude, from N 45° E, to N. 70° E, 4 or 5 leagues.

Lead, apparently inland, from N. 30° E, to S 15° E.

81 24 36.9

81 22 47.1

81 40 04.8

81 27 49.5

79 22 16.5

81 01 42.7

OBSERVATIONS FOR DETERMINING THE LONGITUDE BY CHRONOMETERS, *continued.*

1822	Time by 228.	228's Correction to Mean Greenwich Time.	Observed Altitude of Limb.	Observer	Dip of Horizon.	Apparent Time.	Latitude.	Longitude.		Mean Longitude by different Observers.	REMARKS.
								By 228.	By Mean of the Chronometers.		
July 21	H. M. S.	FAST	° ' "			H. M. S.	° ' "	° ' "	° ' "		
	26 51 56.7	20 14.9	33 43 33	L Re	3 59	21 00 18 1	69 33 27	81 20 12	81 18 34.5		
"	26 53 37.8	20 14.9	68 09 59	P	...	21 02 37.2	69 33 27	81 10 42	81 09 04.5		
"	26 56 08	20 15.1	68 30 23	C	...	21 05 06.6	69 33 27	81 10 51	81 08 58.5	81 09 13	Terra Island, S 81° E., 6 miles.
"	26 59 25.4	20 15	68 56 57	H	...	21 08 22.1	69 33 27	81 11 21	81 09 36		
22	24 26 18.9	20 18.2	21 41 20	L B	1 56	18 34 34 6	69 28 00	81 20 15	81 19 13.5	81 18 58.4	
"	24 30 05.5	20 18.4	22 00 23	L C	1 56	18 38 23 9	69 28 00	81 19 31.5	81 18 43.5		
23	8 27 12.3	20 19.5	70 29 45	N	...	2 34 20 5	69 20 45	81 36 37 5	81 35 54		
"	8 28 46.5	20 19.5	70 15 40	P	...	2 36 12.3	69 20 45	81 32 15	81 31 31.5	81 33 16.1	At the Esquimaux tents, Igloodik.
24	4 23 55.5	20 23.2	62 02 28	Re	...	3 31 09	69 20 45	81 33 58 5	81 33 58.5		
"	8 27 44.3	20 23	61 57 10	R	...	3 35 07 3	69 20 45	81 31 40.5	81 31 40.5		
"	24 16 03	20 24 4	20 25 08	L Re	3 57	18 24 15	69 23 00	81 18 49.5	81 18 45		
"	24 51 56.6	20 24.5	23 31 12	L N	3 42	18 59 48	69 24 30	81 23 57	81 23 51		
25	8 59 19.8	20 25.3	65 17 27	P	...	3 06 43.7	69 20 45	81 30 36	81 30 30		
"	9 02 06	20 25.3	65 57 16	P	...	3 09 24.7	69 20 45	81 31 54	81 31 48		
"	9 05 15.5	20 25	65 29 06	B	...	3 12 28.6	69 20 45	81 33 19.5	81 33 13.5		
"	9 06 46	20 25	64 12 03	B	...	3 14 04 4	69 20 45	81 32 00	81 31 54	81 31 31 5	At the Esquimaux tents, Igloodik.
"	9 09 41	20 25.3	63 47 14	H	...	3 17 00.9	69 20 45	81 31 33	81 31 27		
"	9 12 08	20 25 8	64 28 02	H	...	3 19 30	69 20 45	81 31 01 5	81 30 55.5		
"	9 17 26.8	20 25	63 40 05	C	...	3 24 42	69 20 45	81 31 40.5	81 31 34.5		
"	9 19 52.2	20 25	62 14 47	C	...	3 27 10.2	69 20 45	81 30 55.5	81 30 49.5		
26	24 47 31.3	20 28.4	46 07 29	R	...	18 57 03.8	69 32 40	80 57 30	80 57 10.5		
"	26 51 03	20 28.5	65 27 33	Re	...	21 01 13	69 32 40	80 48 03.5	80 47 54		
"	27 08 36.3	20 28.5	68 14 17	P	...	21 18 12	69 32 28	80 56 39	80 56 30	80 55 45.5	Terra Island, E.N., 1 mile.
"	27 16 16.8	20 28.8	69 26 32	H	...	21 27 46.9	69 32 40	80 58 06	80 57 46.5		
"	27 30 12.1	20 29	70 21 42	B	...	21 39 47.1	69 32 28	80 56 51	80 56 38		
"	27 34 46 6	20 28 6	71 23 10	R	...	21 44 13 1	69 32 40	80 58 58 5	80 58 39		

"	26 40 59.3	20 30.2	44 24 02	Q	Re	...	18 52 28	69 27 47	80 28 09	80 27 46.5	80 26 23.7	Middle of the Callispor Islands, Ebb, 1 mile and a quarter
"	27 51 37.7	20 30.4	70 55 48.4	Q	P	...	21 43 10.1	69 28 27	80 26 57	80 26 18.5		
29	10 52 12.3	20 33	22 12 16	L	Re	3 00	5 04 35	69 21 47	80 14 22.5	80 13 51		
"	11 08 36	20 33	20 45 49	L	N	3 50	5 21 10.5	69 21 00	80 11 27	80 10 55.5		
"	25 02 00.6	20 34	23 56 20	L	P	2 00	19 17 11.1	69 20 00	79 32 27	79 31 52.5	79 31 52.5	
Aug. 1	27 01 31	20 40.1	32 08 02	L	Re	3 00	21 10 08	69 28 38	81 11 40.5	81 10 51	81 10 51	
2	25 12 08.4	20 42	46 38 11	Q	Re	...	19 21 29	69 33 34	81 01 18	81 00 25.5		Tern Island, ESE, 9 miles and a half.
"	25 18 34.9	20 42.1	47 42 20	Q	N	...	19 27 54	69 33 40	81 01 39	81 00 45	81 00 35.2	
3	11 05 37	20 42.7	40 35 27	Q	R	...	5 15 26.2	69 34 20	80 54 27	80 53 34.5	80 53 34.5	
4	25 41 12.7	20 46	50 15 23	Q	P	...	19 49 05.9	69 32 00	81 24 42	81 24 00		
"	25 50 31.4	20 46	52 48 26	Q	R	...	19 58 18.8	69 32 00	81 26 10.5	81 25 28.5		
5	25 51 48.6	20 48	51 29 31	Q	B	...	19 59 52	69 32 00	81 23 12	81 22 30		
"	25 55 26.5	20 47.9	52 03 38	Q	C	...	20 03 30.3	69 32 01	81 23 22.5	81 22 37.5	81 23 06.2	North end of the Island of Neer-lonakto, N 87° W, 6 or 7 miles
"	26 31 07.4	20 47.5	57 31 50	Q	E	...	20 39 03.1	69 32 05	81 25 19.5	81 24 34.5		
6	11 50 52.5	20 48.7	30 55 16	Q	Re	...	5 59 10	69 32 20	81 20 12	81 19 27		
10	26 28 05.1	20 57.3	27 13 32	L	Re	3 57	20 35 49	69 33 44	81 36 00	81 35 24		
11	8 58 37.4	20 58.3	56 44 31	Q	F	...	3 06 15	69 32 33	81 37 36	81 37 00		
"	9 01 47.4	20 58.3	57 21 34	Q	F	...	3 09 22.6	69 32 33	81 38 12	81 37 36		
"	10 53 14.5	20 58.5	38 25 40	Q	R	...	5 00 53.2	69 32 24	81 37 16.5	81 36 40.5		
13	8 25 49.6	21 02.1	59 53 25	Q	Re	...	2 33 27	69 32 15	81 41 07.5	81 40 37.5	81 37 24.5	North end of the Island of Neer-lonakto, N 88° W, 1 mile and a half
"	9 28 24.6	21 02.2	51 11 59.5	Q	P	...	3 36 23.4	69 32 24	81 36 07.5	81 35 37.5		
"	9 32 01	21 02.3	50 39 40	Q	B	...	3 39 54.4	69 32 24	81 39 27	81 39 07		
"	9 36 08	21 02.2	50 33 24		R	...	3 44 00.2	69 32 24	81 37 43.5	81 37 13.5		
17	10 38 07	21 10.2	37 19 20	Q	Re	...	4 47 14	69 30 52	81 28 40.5	81 28 16.5		
20	10 17 17.5	21 16.1	38 54 29	Q	F	...	4 26 56.7	69 32 00	81 29 00	81 28 22.5		
"	10 23 09	21 16.1	37 59 38	Q	Re	...	4 32 31	69 31 26	81 33 28.5	81 33 06	81 30 44.2	Ditto, WbN half N, 4 miles
23	25 59 10.2	21 23.2	42 40 00	Q	P	...	20 07 59.3	69 36 05	81 53 16.5	81 53 13.5		
"	26 04 43.9	21 23.2	44 03 37	Q	H	...	20 13 30.4	69 36 05	81 54 03	81 54 00		
"	26 06 40.7	21 23.2	43 18 27	Q	H	...	20 15 29.8	69 36 05	81 53 39	81 53 36	81 54 47.2	Bouvier Islands, from N 25° W, to S 86° W, distant from 1 to 3 and a half miles
"	26 47 30.5	21 23.2	49 11 08	Q	B	...	20 56 08.8	69 36 05	81 56 07.5	81 56 04.5		
"	26 53 04.6	21 23.2	49 55 28	Q	B	...	21 01 46.2	69 36 05	81 55 19.5	81 55 16.5		

OBSERVATIONS FOR DETERMINING THE LONGITUDE BY CHRONOMETERS, *continued.*

1822	Time by 228.	228's Correction to Mean Greenwich Time	Observed Altitude of Lamb.	Obs. ver.	Dip of Horizon.	Apparent Time.	Latitude	Longitude		Mean Longitude by different Observers	REMARKS.
								By 228	By Mean of the Chronometers.		
Aug. 23	H M S. 26 50 15.3	H. S. 21 23	49 32 16	Q	C	3 57	20 58 50	69 36 05	81 57 00	81 56 57	
"	26 55 57.5	21 23.2	50 19 23	Q	Re	...	21 04 49	69 36 13	81 52 45	81 52 42	
24	9 58 55.2	21 23.8	39 29 00	Q	N	...	4 07 37	69 36 05	81 56 16.5	81 56 15	81 54 47.2 { Bouverie Islands, from N. 35° W. to S 86 W dist. from one to three and half miles
"	10 03 40.6	21 23.8	38 43 05	Q	Re	...	4 12 26	69 36 13	81 55 25.5	81 55 24	
"	10 23 45.5	21 23.8	35 56 08	Q	R	...	4 32 35	69 36 05	81 54 25.5	81 54 24	
26	11 38 46	21 27.9	22 05 29	Q	R	...	5 42 40.7	69 44 35	83 15 28.5	83 15 39	
"	11 46 45	21 27.9	20 42 50	Q	B	...	5 50 40	69 44 30	83 15 24	83 15 34.5	
"	12 01 03.5	21 27.9	18 16 07	Q	C	...	6 04 56	69 44 35	83 16 04.5	83 16 13.5	83 15 35.1 { West end of Liddon Island, N.W., distance 3 miles.
"	12 03 22	21 27.9	17 51 45	Q	B	...	6 07 16.5	69 44 30	83 15 27	83 15 37.5	
"	12 04 02	21 27.9	17 44 20	Q	B	...	6 08 00	69 44 30	83 14 40.5	83 14 51	
"	27 39 50.4	21 29	52 48 56	Q	F	...	21 44 11.3	69 42 25	81 11 27	83 11 42	
"	27 42 20.9	21 29	54 08 30	Q	F	...	21 46 44	69 42 25	83 10 54	83 11 09	83 12 06.7 { On shore on the South Coast of the Strait of the Fury and Hecla
"	27 48 27	21 29.1	53 42 30	Q	Re	...	21 52 40	69 42 24	83 13 24	83 13 29	
30	10 49 04.3	21 35.6	28 53 20	Q	R	...	4 53 42.2	69 45 15	83 20 01.5	83 20 40.5	
31	24 39 05.2	21 38.7	24 04 40	Q	R	...	18 44 09.5	69 45 15	83 19 58.5	83 20 48	
"	26 36 33.6	21 38.7	41 34 58	Q	P	...	20 41 34.3	69 45 15	83 21 10.5	83 22 01.5	
"	26 40 11.8	21 38.5	42 05 05	Q	H	...	20 45 12.2	69 45 15	83 21 07.5	83 21 58.5	
Sept. 2	9 03 07.3	21 43.2	41 26 37	Q	Re	...	3 07 54	69 44 51	83 17 46.5	83 18 51	
"	10 01 48	21 49.4	30 26 25	Q	H	...	4 08 19.2	69 45 15	83 20 10.5	83 21 25.5	83 21 37.8 { West end of Liddon Island, N half E., 2 miles
"	10 04 14.4	21 49.4	31 06 10	Q	H	...	4 10 50	69 45 15	83 20 34.5	83 21 49.5	
"	26 59 20.6	21 50.7	40 33 52	Q	Re	...	21 05 48	69 45 22	83 25 48	83 27 06	
"	27 27 48.1	21 50.7	43 55 07	Q	H	...	21 34 37.9	69 45 15	83 20 19.5	83 21 37.5	
"	27 39 50.9	21 50.7	45 12 59	Q	H	...	21 36 41.3	69 45 15	83 20 10.5	83 21 28.5	
"	27 34 29.7	21 50.7	45 11 14	Q	B	...	21 41 25.5	69 45 15	83 18 51	83 20 09	
"	10 21 29.2	21 53.2	36 19 35	Q	R	...	4 28 10.6	69 48 20	83 28 19.5	83 29 40.5	
"	26 48 54.6	21 54.5	37 06 02	Q	F	...	20 50 54	69 48 10	83 27 01.5	83 28 25.5	83 29 27.1 { Lying between Liddon and Am-herst Islands.

	27 07	13.7	31	54.6	40 08	25	Q	C	...	21 14	08.6	69 48	12	83 28	07.5	83 29	31	83 29	27.1	Lying between Liddon and Am- herst Islands.	
"	10	20	15.2	31	55.2	28 28	12	Q	N	...	4 37	10	69 48	02	83 29	33	83 30	57	83 29	27.1	
"	26	42	56.2	31	58.5	31 01	39	Q	Re	...	30 44	51	69 59	50	84 52	24	84 53	48	84 53	48	On shore, North side of the Strait of the Fury and Hecla.
"	26	46	56.4	29	36	28 03	37	Q	F	...	21 08	26.7	69 20	11	81 34	40.5	81 34	40.5	81 34	40.5	
"	26	51	09.3	29	36	29 24	12	Q	F	...	21 10	45.7	69 20	11	81 34	13.5	81 34	13.5	81 34	13.5	
"	26	55	17	29	36	29 53	40	Q	H	...	21 14	44.4	69 20	11	81 35	27.	81 35	27	81 35	27	On the Beach, at the South side of Igloodik.
"	26	57	46.6	29	36	29 08	21	Q	H	...	21 17	18.5	69 20	11	81 34	21	81 34	21	81 34	21	
"	27 01	49.1	29	36.8	30 08	26	Q	R	...	21 21	18.2	69 20	11	81 35	01.5	81 35	01.5	81 35	01.5		

MEM.—In laying down the land in the strait of the Fury and Hecla, the angles obtained from the various stations have been in some instances preferred to single Observations for Latitude and Longitude.

M.M.—In laying down the land in the strait of the Fury and Hecla, the angles obtained from the various stations have been in some instances preferred to single Observations for Latitude and Longitude.

TABLE III.

OBSERVATIONS for ascertaining the Error of No. 259 on Mean Time, and thence the apparent Time, used in the Lunar Observations at Winter Island, 1821-22.									
DAY *	Time by 259	Observed Altitude.	Object observed.	Observer.	Barometer.	Thermometer.	Mean Time.	259 Fast of Mean Time.	REMARKS.
1821	H. M. S.	O. ' "					H. M. S.	H. M. S.	
October 11	8 04 22.2	22 27 52	Ω	H	29 68	+11	2 29 19		
" "	8 06 57.6	23 10 42	Ω	H	" "	"	2 30 57	5 36 02.97	
" "	8 13 03.7	21 50 35	Ω	P	" "	"	2 37 01.9		
" "	8 19 36.3	20 55 10	Ω	R	" "	"	2 43 31		
" 14	8 08 48.87	18 55 17	Ω	P	29 70	+6	2 32 26.09	5 36 22.35	
" "	8 16 14.66	18 57 58	Ω	R	" "	"	2 39 52.8		
" 20	7 02 58.2	22 25 36	Ω	P	29 60	Zero	1 26 08.2	5 36 51.3	
" "	7 13 01.5	21 31 34	Ω	H	" "	"	1 36 05.9		
November 4	16 01 34.1	108 57 28	* Capella	P	30 11	"	10 23 51.8	5 37 41.3	* East of Meridian.
" "	16 33 30.7	115 19 09	"	H	" "	"	10 55 50.4		Ditto.
December 1	12 17 26	85 07 26	"	P	29 81	-20	6 37 57		Ditto.
" "	12 21 28.5	82 54 37	* Lyra	R	" "	"	6 42 00.3	5 39 29.33	* West of Meridian.
" "	12 36 05.4	88 43 14	Capella	H	" "	"	6 56 34.6		* East of Meridian.
" 20	15 11 42.6	70 38 15	* Cygni	R	29 88	-19	9 30 17	5 41 25.6	* West of Meridian.
" 30	14 57 12.4	79 03 54	Pollux	R	30 00	-20	9 15 07.5	5 42 03.53	* East of Meridian.
" "	14 58 58.3	79 24 31	"	P	" "	"	9 16 55.2		Ditto.
1822									
January 6	15 12 22	86 44 56	"	P	29 82	-26	9 29 44.9	5 42 37.1	Ditto.
" 13	23 39 00	81 08 25	* Lyra	R	29 80	-33	17 55 35.6	5 43 24.75	Ditto.
" "	23 39 31.85	81 15 35	"	P	" "	"	17 56 06.75		Ditto.
February 4	14 59 01.5	49 40 55	Regulus	P	" "	-35	9 13 32.27	5 45 29.94	Ditto.
" "	14 59 03.7	49 41 22	"	R	" "	"	9 13 33.05		Ditto.
" 25	15 10 24.88	32 12 17	Arcturus	P	30 00	-30	9 22 49.2	5 47 33.55	Ditto.
" "	15 20 00.52	34 06 31	"	R	" "	"	9 32 26.7		Ditto.
" 28	15 05 29.6	33 30 10	"	P	29 83	-34	9 17 37.9	5 47 52.6	Ditto.
" "	15 16 07.2	33 26 02	"	R	" "	"	9 28 13.7		Ditto.
March 26	6 33 45.65	40 45 43	Ω	P	30 23	-2	2 43 19.1	5 50 25.18	
" "	8 38 15.42	40 08 14	Ω	R	" "	"	2 47 51.6		
April 1	8 31 18.82	45 23 56.1	Ω	P	29 07	-5	2 40 10.9	5 51 06.75	
" "	8 36 12.12	44 43 13.5	Ω	R	" "	"	2 45 04.2		
" "	8 43 09.1	43 44 16.5	Ω	H	" "	"	2 52 04.3		

N^o III.

TABLE I.

LUNAR OBSERVATIONS,
FOR DETERMINING THE ERRORS OF THE CHRONOMETERS,
ON MEAN GREENWICH TIME,
MADE DURING THE SUMMER OF 1821.

LUNAR OBSERVATIONS FOR DETERMINING THE ERRORS OF THE CHRONOMETERS ON MEAN GREENWICH TIME,
made during the Summer of 1821.

DATE. 1821.	Time by 259	Observed Distance of Limbs.	Apparent Altitudes.		No. of Obser- vations	Barometer.	Thermome- ter.	True distance.	Apparent Greenwich Time.	259 On Mean Green- wich Time.	PHENOMENA.
			Moon's centre.	Sun's centre							
June 30	H. M. S. 20 54 09.4	O ' " 109 36 49	O ' " 20 01 19	O ' " 11 41 26	R	30 03	+35	O ' " 109 51 42.6	H. M. S. 20 53 15	M. S. S. 0 19.4	☉ East of ♄
"	21 01 43.5	109 33 47.5	20 02 57	12 28 56	R	"	"	109 47 41.8	21 00 45	0 15.4	"
"	21 10 24	109 30 15.5	20 03 45	13 25 55	R	"	"	109 43 06.4	21 09 17.4	0 07.4	"
"	21 17 37.4	109 26 53.5	20 02 23	14 13 20	R	"	"	109 38 55.2	21 17 04.5	0 41.1	"
"	21 23 36.9	109 24 16.5	20 00 16	14 52 40	R	"	"	109 35 34.8	21 23 17	0 34.2	"
"	21 30 50.5	109 21 32	19 55 47	15 40 02	R	"	"	109 32 01.5	21 29 54.5	0 18.1	"
"	21 47 17	109 14 37.6	19 40 07	17 32 19	R	"	"	109 23 16.7	21 46 16	0 07.3	"
"	21 53 56.4	109 11 52.5	19 31 35	18 17 53	R	"	"	109 19 46.8	21 52 40	F. 0 02.1	"
"	22 02 45.3	109 08 12	19 18 13	19 18 44	P	"	"	109 15 10.66	22 01 14	0 16.9	"
"	22 10 37.4	109 04 32	19 03 35	20 13 10	R	"	"	109 10 42.8	22 09 33	S. 0 10.1	"
"	22 19 24.2	109 00 50.8	18 45 22	21 14 50	R	"	"	109 06 07.6	22 18 03	F. 0 06.6	"
"	23 25 57.7	108 31 04	15 23 10	29 11 53	P	"	"	108 30 14.4	23 24 46.8	S. 0 04.2	"
"	23 30 09	108 29 16	15 05 14	23 40 46	P	"	"	108 28 11.2	23 28 35.8	F. 0 06.1	"
"	23 35 46.6	108 26 37	14 42 42	30 22 10	P	"	"	108 25 06.4	23 34 20	0 11.5	"
"	23 39 51	108 24 40	14 26 08	30 51 27	P	"	"	108 22 45.6	23 38 41.5	S. 0 05.6	"
"	23 43 37.5	108 22 43	14 09 29	31 16 04	P	"	"	108 20 38.4	23 42 38.2	F. 0 15.8	"
"	23 48 07.9	108 20 55	13 46 51	31 50 24	P	"	"	108 18 32	23 46 33	0 19.7	"
"	23 52 25.3	108 18 49	13 29 43	32 21 34	P	"	"	108 16 08.8	23 50 59.2	0 11.9	"
"	23 59 41.4	108 15 24	12 57 54	33 14 18	H	"	"	108 12 12	23 58 17.7	0 09.2	"
"	24 09 41.9	108 10 43	12 09 34	34 25 10	H	"	"	108 06 58	24 08 01.1	0 25.2	"
"	24 16 40.1	108 06 46	11 34 23	35 13 30	H	"	"	108 02 40	24 16 00.3	S. 0 35.9	"
31	23 35 21.7	95 23 29.3	24 03 06	30 19 59	H	30 14	+34	95 25 10	23 34 26.5	0 43.1	"
"	23 47 03.1	95 18 09.7	23 24 33	31 40 30	R	"	"	95 18 46.4	23 46 20.6	0 45.8	"
"	23 54 14.2	95 14 33.4	22 57 58	31 53 04	H	"	"	95 15 03	23 53 10.5	0 24.7	"
"	24 06 43.8	95 08 49	23 02 32	34 25 21	P	"	"	95 07 20	24 07 20.5	0 05.8	"
"	24 09 39.8	95 08 13.3	21 58 31	34 30 17	R	"	"	95 06 42.2	24 09 53.5	0 28.7	"

July 5	24 12 56.5	95 06 44	21 41 11	34 48 05	P	7	30 14	+34	95 04 59.6	24 11 38 2	S. 0 10.3	"
"	8 39 34	73 21 43	27 09 35	32 19 56	P	10	29 60	+35	73 30 50.4	8 35 05	F. 0 19.3	☉ West of ☽
"	8 42 50.3	73 22 59.8	27 11 12	31 54 59	P	10	"	"	73 32 28.4	8 38 38.4	0 02.3	"
"	8 47 48	73 25 13	27 15 11	31 20 56	H	10	"	"	73 35 11	8 44 28.5	S. 0 50.1	"
"	8 49 57	73 25 02.1	27 18 04	31 04 16	F	11	"	"	73 35 11.4	8 44 33	F. 1 13.7	"
"	8 56 45.7	73 27 50	27 20 05	30 18 29	H	10	"	"	73 38 41	8 52 11.7	0 24.3	"
"	9 02 59.5	73 30 14	27 21 38	29 32 46	P	12	"	"	73 41 44	8 58 50.2	S. 0 00.6	"
"	9 06 33.1	73 31 39	27 21 54	29 06 29	P	10	"	"	73 43 41.4	9 02 44.3	0 21.1	"
"	9 10 48	73 33 26	27 21 05	28 35 47	H	10	"	"	73 45 05	9 06 08.5	F. 0 29.8	"
"	9 15 33.5	73 34 46	27 18 24	28 01 15	H	10	"	"	73 47 32	9 11 29	S. 0 05.3	"
"	9 20 38.2	73 36 37	27 16 04	27 24 05	P	11	"	"	73 49 55.2	9 16 41.1	0 12.9	"
"	9 25 22.8	73 38 12	27 13 47	26 50 52	P	5	"	"	73 51 58.4	9 21 09.3	S. 0 03.5	"
"	9 13 31.9	106 23 00	8 01 38	28 08 52	P	10	29 90	+33	106 28 42	9 09 05.2	S. 0 12.4	"
"	9 23 09	106 27 02	8 29 59	26 58 31	H	10	"	"	106 33 21	9 19 18.4	0 48.7	"
"	9 30 00.6	106 29 37	8 48 15	26 06 14	P	10	"	"	106 36 27	9 26 07.3	0 45.3	"
"	9 30 04.8	106 29 30	8 48 32	26 16 01	R	10	"	"	106 36 13 3	9 25 37.5	0 12	"
"	9 32 14	106 29 42	8 58 28	25 52 30	F	11	"	"	106 36 26.9	9 26 07.1	F. 1 28.2	"
"	9 33 49.8	106 30 40	8 57 49	25 41 38	P	10	"	"	106 37 42.6	9 28 53.5	0 17.1	"
"	9 34 42.1	106 31 22.5	9 00 16	25 36 02	R	10	"	"	106 38 31.8	9 30 41.75	S. 0 38.9	"
"	9 39 05	106 32 33	9 11 24	25 04 19	H	10	"	"	106 40 00	9 33 55.5	F. 0 30.1	"
"	9 40 19.6	106 33 49	9 14 33	24 55 37	R	10	"	"	106 41 16.2	9 36 43	S. 1 02.7	"
"	9 45 31.4	106 35 34.5	9 27 00	24 17 26	R	10	"	"	106 43 33	9 41 44	0 52	"
"	9 48 32.3	106 36 32	9 34 00	23 54 46	H	10	"	"	106 44 43	9 44 17 5	0 25	"
"	9 50 32.2	106 37 17.5	9 38 42	23 40 14	R	10	"	"	106 45 41.4	9 46 25.5	0 32.7	"
"	9 52 29.6	106 37 49	9 42 09	23 25 44	P	10	"	"	106 46 01	9 47 31.1	F. 0 19.2	"
"	9 54 51.3	106 38 57	9 46 47	23 08 54	R	10	"	"	106 47 41.5	9 50 49.5	S. 0 37.7	"
"	9 55 38.7	106 39 11	9 48 35	23 02 55	P	10	"	"	106 47 50	9 51 08.8	0 09.5	"
"	9 56 34	106 39 00	9 49 24	22 57 19	F	11	"	"	106 47 42	9 50 47	F. 1 07.3	"
"	9 59 40	106 40 37.5	9 56 47	23 34 39	R	10	"	"	106 49 45.2	9 55 21	S. 0 20.5	"
"	10 01 01	106 41 16	9 58 52	22 25 10	H	10	"	"	106 50 27.5	9 56 54.6	0 33.1	"
"	10 04 21.5	106 42 15.5	10 05 18	22 01 32	R	10	"	"	106 51 42	9 59 38	F. 0 04	"
"	10 05 37.5	106 42 59	10 07 42	21 54 00	H	10	"	"	106 52 34	10 01 32.5	S. 0 34 6	"

LUNAR OBSERVATIONS FOR DETERMINING THE ERRORS OF THE CHRONOMETERS ON MEAN GREENWICH TIME,
made during the Summer of 1821.

LUNAR OBSERVATIONS.

DATE.	Time by 259	Observed Distance of Limbs.	Apparent Altitudes.		Obs. ver.	No of Obser- vations	Baromet.	Thermom- eter.	True distance	Apparent Greenwich Time.	259 On Mean Green- wich Time.	PHENOMENA.
			Moon's centre.	Sun's centre.								
July 8	H. M. S. 10 09 12.5	106 44 10	10 13 20	21 25 12	P	10	29 90	+33	106 54 07	H. M. S. 10 04 57.5	M. S. S. 0 24.5	☉ West of ☽
"	10 09 28.1	106 43 49.5	10 13 37	21 24 06	R	10	"	"	106 53 49	10 04 18	F. 0 30.5	"
"	10 15 13.6	106 45 48	10 23 18	20 43 29	P	10	"	"	106 56 27	10 10 04.8	S. 0 29.3	"
"	10 15 35.9	106 46 40.5	10 24 02	20 41 05	R	10	"	"	106 57 13	10 11 40.5	0 44.2	"
"	10 19 54.2	106 47 48	10 30 41	20 10 27	H	10	"	"	106 58 39.5	10 14 55.8	F. 0 19.7	"
"	10 20 06.6	106 48 18	10 31 09	20 07 03	R	10	"	"	106 59 16	10 16 16	S. 0 49.1	"
"	10 24 25	106 48 52	10 37 13	19 38 19	H	10	"	"	107 00 09.5	10 18 13.5	F. 1 31.7	"
"	10 24 30.1	106 49 59	10 37 33	19 37 48	R	10	"	"	107 01 19	10 20 46	S. 0 55.6	"
"	10 28 46.4	106 51 06	10 42 20	19 08 04	P	11	"	"	107 02 48.4	10 24 02.8	F. 0 04.1	"
"	10 29 37.9	106 51 37	10 44 52	18 47 41	R	10	"	"	107 03 36.9	10 25 49	S. 0 50.9	"
"	10 32 22.9	106 52 28	10 46 06	18 43 20	P	10	"	"	107 04 28.6	10 27 42.8	F. 0 00.4	"
"	10 34 21	106 53 18.5	10 48 25	18 30 16	R	10	"	"	107 05 31	10 30 00	S. 0 18.8	"
"	10 36 41.5	106 53 35	10 49 48	18 13 10	H	10	"	"	107 06 02	10 31 08.2	F. 0 53.5	"
"	10 38 54.9	106 55 00	10 53 52	17 44 07	R	10	"	"	107 07 52.7	10 35 11	S. 0 55.9	"
"	10 41 24.2	106 55 02	10 54 13	17 40 44	H	10	"	"	107 07 57	10 35 21	F. 1 23.2	"
"	10 43 08.6	106 56 43	10 56 47	17 29 18	R	10	"	"	107 09 46.5	10 39 21	S. 0 52.2	"
"	11 09 41.3	107 05 51.7	11 05 01	14 27 15	P	10	"	"	107 21 35.6	11 05 20.3	0 18.7	"
"	11 13 06.3	107 07 05	11 05 01	14 04 51	P	10	"	"	107 23 10.2	11 08 48	0 21.6	"
"	11 17 58	107 08 21	11 03 41	13 32 09	H	10	"	"	107 24 51.5	11 12 30.4	F. 0 47.6	"
"	11 22 43.7	107 10 04	11 00 40	12 58 53	H	10	"	"	107 27 08	11 17 29.8	0 33.8	"
"	11 28 51.1	107 12 24	10 57 28	12 17 10	R	10	"	"	107 30 11.6	11 24 14.5	S. 0 03.5	"
"	11 34 35.6	107 14 24	10 53 59	11 40 05	P	11	"	"	107 32 52	11 30 05.7	0 11.1	"
"	11 38 31.8	107 15 54	10 50 23	11 15 19	P	10	"	"	107 34 41.4	11 34 06.2	0 15	"
"	11 43 44.6	107 17 37	10 44 46	10 42 10	H	10	"	"	107 36 58	11 39 05.4	0 01	"
"	11 45 54	107 18 37.5	10 42 14	10 29 36	R	10	"	"	107 38 13	11 41 50	0 36.3	"
"	11 48 52.2	107 18 58	10 39 18	10 09 50	H	10	"	"	107 38 51	11 43 13.6	F. 0 58.4	"

"	11 50 03.4	107 20 18	10 38 42	10 02 15	R	10	"	"	107 40 11.7	11 46 10.5	S. 0 47.4	"
"	11 52 48.5	107 20 45	10 34 39	9 44 50	P	10	"	"	107 41 19	11 48 40	0 31.7	"
"	11 53 17.5	107 21 08	10 34 00	9 42 05	R	5	"	"	107 41 28.5	11 48 59.5	0 22.4	"
"	11 57 01	107 22 10	10 28 11	9 18 02	H	10	"	"	107 42 58	11 52 16.2	F. 0 04.6	"
"	11 58 15.2	107 23 06.1	10 26 24	9 09 47	R	10	"	"	107 43 35	11 53 36.5	S. 0 01.7	"
"	12 02 13.4	107 24 10.5	10 21 38	8 44 12	R	10	"	"	107 45 35.1	11 58 01.5	0 28.6	"
20	1 12 50	110 25 57.6	15 57 35	36 28 58	P	10	29 94	39	110 17 22	1 05 26.2	F. 1 28.5	⊙ East of
"	1 16 41.4	110 23 51	15 34 28	36 52 46	P	10	"	"	110 15 03	1 09 38.3	1 07.8	"
"	1 22 25	110 20 58.5	14 58 55	37 28 33	R	10	"	"	110 11 58	1 15 14	1 15.7	"
"	1 23 33.6	110 20 12	14 51 50	37 33 45	H	10	"	"	110 11 13.4	1 16 34.7	1 03.6	"
"	1 23 52.4	110 19 26.3	14 53 10	37 37 29	F	11	"	"	110 10 15.4	1 18 19.9	S. 0 23.0	"
"	1 30 40.2	110 16 59	14 06 27	38 18 40	H	10	"	"	110 07 48	1 22 47	F. 1 57.9	"
"	1 36 19.6	110 14 01	13 29 28	38 56 35	P	10	"	"	110 04 40	1 28 27.5	1 56.7	"
"	1 39 59.6	110 11 35.5	13 05 56	39 20 50	R	10	"	"	110 02 07.8	1 33 02.5	1 01.8	"
"	1 42 51.4	110 9 46.3	12 44 37	39 28 47	P	11	"	"	110 00 15.9	1 36 26	0 30.1	"
"	1 45 20.8	110 08 22	12 31 40	39 50 2	P	10	"	"	109 58 51.5	1 38 59	0 26.5	"
"	1 48 24.6	110 06 33	12 05 37	40 12 44	P	10	"	"	109 57 03	1 42 15.8	0 13.4	"
"	1 51 47.2	110 05 25.2	11 53 56	40 26 6	R	10	"	"	109 55 51	1 44 26.5	1 25.3	"
"	1 53 47.9	110 04 11	11 40 08	40 38 19	P	10	"	"	109 54 39	1 46 37	1 05.4	"
"	1 57 35.1	110 02 09.5	11 18 26	40 58 56	R	10	"	"	109 52 34	1 50 38	1 01.7	"
"	1 57 56	110 02 00.6	11 16 23	41 00 34	P	10	"	"	109 52 27.4	1 50 37.2	1 23.3	"
"	1 59 34	110 01 06.6	11 02 59	41 08 29	F	11	"	"	109 51 14	1 52 48	0 30.7	"
"	2 02 00.6	109 59 33	10 50 13	41 21 36	P	10	"	"	109 50 00.2	1 55 02.2	1 02.9	"
"	2 06 10.2	109 57 23	10 23 36	41 39 54	P	10	"	"	109 47 58	1 58 47.5	1 27.2	"
"	2 06 37.8	109 57 05	10 20 36	41 47 00	R	10	"	"	109 47 32.8	1 59 28.5	1 13.9	"
"	2 10 47.9	109 54 38	9 53 09	42 07 54	P	10	"	"	109 45 13	2 03 42.9	1 09.5	"
"	2 12 05.8	109 54 09.5	10 13 21	42 15 01	R	10	"	"	109 44 22.7	2 05 13.5	0 56.9	"
"	2 14 12.8	109 52 43	9 31 06	42 24 39	P	10	"	"	109 43 22.4	2 07 03.3	1 14	"
"	2 17 30.9	109 50 51.5	9 10 26	42 39 16	R	10	"	"	109 41 35	2 10 18.5	1 17	"
"	23 49 36.6	97 46 06.4	33 47 12	26 54 14	F	11	29 80	37	97 48 21	23 43 34.8	0 03.4	"
"	23 53 45.3	97 45 09	33 30 17	27 19 42	P	10	"	"	97 47 09.4	23 45 45.2	2 01.6	"
"	23 58 25.6	97 42 40	33-10 53	27 53 20	P	10	"	"	97 44 12	23 51 06.8	1 20.4	"

LUNAR OBSERVATIONS FOR DETERMINING THE ERRORS OF THE CHRONOMETERS ON MEAN GREENWICH TIME,
made during the Summer of 1821, *continued.*

DATE.	Time by 259.	Observer. Distance of Limbs.	Apparent Altitudes.		Obser- ver.	No. of Obser- vations	Baromet- er.	Thermom- eter.	True distance.	Apparent Greenwich Time.	259 On Mean Green- wich Time.	PHENOMENA.
			Moon's centre.	Sun's centre.								
July 21	H. M. S. 0 01 36.9	07 40 36.5	32 55 16	28 13 22	R	10	29 80	37	07 41 58.6	H. M. S. 23 55 08.7	M. S. F. 0 29.8	☉ East of the ☾
"	0 04 17.5	97 39 36	32 43 12	28 32 21	H	10	"	"	97 40 36.8	23 57 37.2	0 41.9	"
"	0 04 24	97 39 11.3	32 51 85	28 37 19	F	11	"	"	97 40 01	23 58 42	S. 0 16.4	"
"	0 09 51.3	97 36 50.5	32 19 47	29 10 56	R	10	"	"	97 37 25.4	0 03 26.1	F. 0 26.8	"
"	0 12 14.5	97 35 52	32 11 14	29 27 31	H	10	"	"	97 36 08.2	0 05 44.5	0 34.6	"
"	0 13 44	97 34 46	32 05 49	29 38 01	R	10	"	"	97 35 00.3	0 07 49.6	S. 0 04	"
"	0 17 49.3	97 33 48	31 49 11	30 07 11	P	10	"	"	97 33 29.6	0 10 32.2	F. 1 18.7	"
"	0 18 47	97 32 48.5	31 39 19	30 11 30	R	10	"	"	97 32 34.4	0 12 14.1	0 34.5	"
"	0 21 49.7	97 32 01	31 28 38	30 34 57	P	10	"	"	97 31 21.2	0 14 24.7	1 26.6	"
"	0 23 09.8	97 30 48.5	31 21 22	30 43 05	R	10	"	"	97 30 09	0 16 38	0 33.4	"
"	0 27 46.7	97 28 21	30 57 14	31 13 36	H	10	"	"	97 27 16	0 21 50	S. 0 01.7	"
"	0 33 58.8	97 25 24	30 24 46	31 55 22	H	10	"	"	97 23 47.7	0 28 08	0 07.6	"
"	0 36 25.9	97 24 39.5	30 13 01	32 12 02	R	10	"	"	97 22 54.6	0 29 46.5	F. 0 40.5	"
"	1 07 09.7	97 10 28	27 32 18	35 38 22	P	10	"	"	97 05 55.8	1 00 33.1	0 38.1	"
"	1 10 54	97 08 54	27 10 47	36 02 40	P	10	"	"	97 04 16.2	1 03 33.8	1 21.7	"
"	1 15 10.8	97 00 35.5	26 43 09	36 27 51	H	10	"	"	97 01 45.6	1 08 09	1 03.3	"
"	1 20 11.8	97 04 01.8	26 13 53	36 53 49	H	10	"	"	96 58 59.9	1 13 22.8	0 50.5	☉ East of the ☾
"	1 24 01.2	97 01 44.2	25 49 23	37 28 27	P	14	"	"	96 56 14	1 18 08.7	S. 0 00.6	"
24	3 54 21.6	56 04 00.5	41 16 19	46 36 54	F	11	"	"	56 11 28.6	3 48 31.1	0 15	"
"	4 03 37.4	56 00 18	40 15 44	46 51 16	P	10	"	"	56 07 09	3 56 30.5	F. 1 01.2	"
"	4 07 53	55 57 54.3	39 54 35	47 00 14	F	11	"	"	56 04 24.6	4 01 35	0 12.5	"
"	4 08 37.1	55 58 08	39 48 37	47 01 32	P	10	"	"	56 04 09.6	4 02 02	0 29.4	"
"	4 11 30.5	55 56 48	39 29 05	47 04 51	R	10	"	"	56 03 00.7	4 04 11	1 15.8	"
"	4 14 31	55 55 29	39 10 12	47 08 11	H	10	"	"	56 01 34	4 06 50.5	1 35	"
"	4 16 37.5	55 54 18.5	38 57 10	47 10 57	R	10	"	"	56 00 12.8	4 09 20	1 11.9	"
"	4 19 00.9	55 53 10.5	38 41 52	47 12 49	H	10	"	"	55 58 57.9	4 11 39.2	1 16.2	"

"	4 21 41.4	55 51 55.5	38 26 10	47 15 17	R	10	"	"	55 57 38.8	4 14 07	1 28.9	"
"	4 49 17	55 09 22.8	29 02 54	46 02 51	H	10	"	"	55 10 57.5	5 40 27.3	1 44	"
Aug.	7 12 56	42 52 14	26 10 05	39 46 42	R	10	29 60	36	42 58 50	7 05 31	1 27.7	"
"	7 13 20.6	42 52 38	26 10 36	39 49 56	P	10	"	"	42 59 13	7 06 19.2	1 04.1	"
"	7 18 21.2	42 54 52	26 16 09	39 29 59	P	10	"	"	43 01 35.4	7 11 24.7	0 59.2	"
"	7 21 02	42 55 05.5	26 19 20	39 14 07	R	10	"	"	43 02 34.4	7 13 33	1 32.3	"
"	7 26 27	42 57 08	26 22 09	38 54 42	H	10	"	"	43 04 51.2	7 18 26.8	2 12.8	"
"	7 34 00.8	42 59 42	26 27 32	38 22 48	H	10	"	"	43 08 04.6	7 25 22.3	2 41.1	"
"	7 39 38	43 02 29	26 30 59	37 54 10	P	10	"	"	43 11 25.4	7 32 34.5	1 06.3	"
"	7 43 28.8	43 03 53	26 32 59	37 40 09	P	10	"	"	43 13 07	7 36 11.6	1 20	"
"	7 47 57	43 05 12	26 32 56	37 17 46	H	10	"	"	43 14 33.8	7 39 18.5	2 41.2	"
8	9 33 56.7	65 54 53	13 54 30	27 08 36	R	10	29 90	34	66 06 04	9 28 54	1 14.1	"
"	9 39 10	65 56 08.5	13 53 31	26 49 23	R	10	"	"	66 07 36	9 32 16.5	1 04.9	"
"	9 41 21.2	65 56 49	13 51 45	26 36 12	P	10	"	"	66 08 29.4	9 34 13.8	1 18.9	"
"	9 43 02	65 57 18.5	13 50 25	26 26 24	H	10	"	"	66 09 06.5	9 35 35.6	1 37.7	"
"	9 45 18.3	65 58 07.3	13 48 03	26 00 29	H	10	"	"	66 10 12	9 37 59.8	1 29.8	"
"	9 46 56.8	65 58 55	13 47 26	26 02 24	P	10	"	"	66 11 03	9 39 52	1 16.3	"
"	9 52 15.9	66 01 09	13 43 56	25 30 20	R	10	"	"	66 13 42.5	9 45 43.5	0 43.8	"
"	9 53 47.6	66 01 21	13 42 30	25 20 35	P	10	"	"	66 14 04.6	9 46 13	1 46.1	"
"	9 54 06.8	66 01 11.8	13 44 58	25 17 09	F	11	"	"	66 13 55	9 46 11.5	2 06.8	"
"	9 55 52.2	66 02 22	13 40 58	25 09 32	R	10	"	"	66 15 14.2	9 49 05	0 58.6	"
"	9 57 06.8	66 02 35	13 39 46	25 00 36	P	10	"	"	66 15 35	9 49 51.3	1 27	"
"	10 00 27	66 03 51	13 37 25	24 40 35	H	10	"	"	66 17 08.5	9 53 17.2	1 21.2	"
"	10 02 11.7	66 04 33	13 34 59	24 29 33	P	11	"	"	66 18 60	9 55 10.7	1 12.5	"
"	10 03 16.4	66 04 45.1	13 34 01	24 23 07	H	10	"	"	66 18 17.4	9 55 49	1 38.8	"
"	10 04 47.9	66 05 05.7	13 32 56	24 14 27	F	11	"	"	66 18 41	9 56 41	2 18.4	"
"	10 06 55	66 06 14	13 29 12	24 00 16	P	10	"	"	66 20 05.4	9 59 46.9	1 19.6	"
"	10 08 21.1	66 06 49.5	13 27 18	23 51 35	R	10	"	"	66 20 46.4	10 01 17	1 15.6	"
"	10 10 25.7	66 07 33	13 25 07	23 36 25	P	11	"	"	66 21 44	10 03 24	1 13.3	"
"	10 11 28.3	66 07 50	13 22 21	23 32 14	R	10	"	"	66 22 02.5	10 04 05	1 34.8	"
"	10 14 57.6	66 09 12	13 16 29	23 10 08	P	10	"	"	66 23 43.4	10 07 47	1 12.2	"
"	10 15 28.5	66 09 14	13 19 06	23 06 54	F	11	"	"	66 23 46	10 07 53	1 47	"

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LUNAR OBSERVATIONS.

LUNAR OBSERVATIONS FOR DETERMINING THE ERRORS OF THE CHRONOMETERS ON MEAN GREENWICH TIME,
made during the Summer of 1821, *continued.*

DATE.	Time by 259	Observed Distance of Lambda.	Apparent Altitudes.		Obser- ver.	No of Obser- vations	Barometer.	Thermom- eter.	True distance	Apparent Greenwich Time	259 On Mean Green- wich Time.	PHENOMENA.
			Moon's centre.	Sun's centre								
Aug. 3	H. M. S. 10 15 58	66 09 23.7	13 15 50	23 04 01	H	10	29 90	+34	66 24 00 6	H. M. S. 10 08 25	M. S. F. 1 44.4	☉ West of the ☾
"	10 18 25.3	66 10 36	13 11 40	22 48 25	P	10	"	"	66 25 24.2	10 11 29	1 07 9	"
"	10 19 35.7	66 10 58.3	13 09 57	22 41 09	H	10	"	"	66 25 54	10 12 34 9	1 12.2	"
"	10 22 42.3	66 12 00	13 04 55	22 21 37	P	10	"	"	66 27 12 4	10 15 27 4	1 26 5	"
"	10 23 02.4	66 12 16.5	13 04 36	22 19 43	R	10	"	"	66 27 28 8	10 16 05	1 29	"
"	10 25 45.8	66 13 11	13 00 18	22 02 34	P	11	"	"	66 28 38 6	10 18 37 4	1 20	"
"	10 26 03.75	66 13 16.5	13 00 02	22 00 52	R	10	"	"	66 28 46	10 18 54	1 21 3	"
"	10 26 31.5	66 13 57.3	13 00 36	21 58 52	F	11	"	"	66 29 25	10 20 20	0 23	"
"	10 30 23.9	66 15 03	12 52 38	21 33 50	P	10	"	"	66 30 53.6	10 23 34.7	1 00.8	"
"	10 30 43	66 15 02.6	12 52 15	21 32 04	H	10	"	"	66 30 56	10 23 40	1 14.4	"
"	10 32 50.4	66 15 54	12 48 06	21 18 48	P	10	"	"	66 31 57.8	10 25 56	1 06.1	"
"	10 34 51	66 16 23.4	12 44 27	21 06 30	H	10	"	"	66 32 36.9	10 27 22.7	1 39.7	"
"	10 36 46.6	66 16 56.3	12 36 10	20 54 31	F	11	"	"	66 33 14	10 28 45	2 13.1	"
"	10 37 16	66 17 29	12 40 12	20 50 44	P	10	"	"	66 34 02	10 30 29.8	0 57.2	"
"	10 39 16.8	66 18 25.5	12 35 31	20 38 04	R	10	"	"	66 35 01 2	10 32 40.5	0 47.9	"
"	10 40 35.1	66 18 47	12 30 35	20 34 36	P	10	"	"	66 35 26	10 33 34.8	1 12	"
"	10 42 20.4	66 19 25	12 29 22	20 18 18	R	10	"	"	66 36 16.6	10 35 27	1 05	"
"	10 44 47	66 20 11	12 24 19	20 02 39	P	10	"	"	66 37 16.2	10 37 37.3	1 21.4	"
"	10 47 46.2	66 21 24	12 18 24	19 43 44	P	10	"	"	66 38 45.4	10 40 54	1 04	"
4	10 39 44	77 11 57	8 38 35	20 29 05	P	10	30 12	38	77 27 19.8	10 32 15	1 45.9	"
"	10 43 40 6	77 13 04	8 35 27	20 12 04	P	10	"	"	77 28 39.6	10 35 13.3	1 44	"
"	10 43 48.6	77 13 02	8 35 26	20 11 22	H	10	"	"	77 28 37.6	10 35 09.5	1 55.7	"
"	10 46 00 4	77 14 22.4	8 32 13	19 51 19	H	10	"	"	77 30 14.7	10 38 44	1 33	"
"	10 46 59.4	77 14 50	8 30 58	19 44 47	P	10	"	"	77 30 48	10 39 57.4	1 18.7	"
"	10 50 12.6	77 16 19	8 27 54	19 23 56	R	10	"	"	77 32 31.2	10 43 45	0 44 2	"
"	10 50 21 1	77 16 11	8 27 53	19 22 51	P	11	"	"	77 32 33	10 43 49.3	0 38.5	"