

XLVIII. *An Account of an Observation of an Eclipse of the Moon, made at Hawkhill, near Edinburgh. In a Letter to the Astronomer Royal, from James Lind, M. D.*

Edinburgh, December 14,
1769.

DEAR SIR,

Read Dec. 21, 1769. **I** HERE send you our observations on the eclipse of the Moon, the 12th current; I wish it had rather been an account of an occultation, but the seeing of them seems to be denied to us: the night of the last was the only cloudy night that has been here for these four weeks past; the weather having been more like summer weather than that of winter.

The morning of the eclipse was very clear, and inclining to frost. Before we got to the observatory, near one third of the Moon's disc, where the first contact began, was covered with a smoaky appearance, which made us apprehend the eclipse was begun; but, on getting to the observatory, we saw, by our telescopes, the Moon's limb was still untouched;

A a a 2

about

about five minutes after, at $16^h 30' 51''$ mean time, a thick darkness came on the Moon's upper limb, which was still distinctly to be seen through it. At $16^h 39' 21''$ the limb was broke. The middle of the eclipse was reckoned to be the middle time betwixt the disappearing of this limb, and the re-appearing of the other. I likewise send you the sidereal times, by which the observations were taken, each observation being corrected to less than half a second; the mean times are not so near, being taken from the other by means of a table; but are still correct enough for observations which, of themselves, cannot be observed with great precision.

ECLIPSE OF THE MOON,

December 12, 1769, at Hawkhill.

	Sid. time.			Mean time.			
	h	'	"	h	'	"	
1st contact of darkness	9	59	19	=	16	30 51	
Moon's limb broke	10	7	50	=	16	39 21	
Clear spot in or about Terra Pruinæ touched	10	15	22	=	16	46 51	
Ditto disappeared							
Copernicus	10	28	58	=	17	0 25	
							touched
							central
	10	31	32	=	17	2 59	
Mare Crisium touched	10	59	53	=	17	31 15	
Ditto disappeared	11	9	23	=	17	40 44	
Middle of eclipse	11	32	37	=	18	3 54	
						1st	

	Sid. time.			Mean time.		
	h	'	"	h	'	"
1st clear spot re-appeared, but indistinctly, being a little cloudy	12	14	24	=	18	45 34
Mare Crisium totally emerged	12	47	10	=	19	18 29
Moon's limb compleated	12	57	24	=	19	28 27
2d contact of darkness	12	59	24	=	19	30 27
End of smoaky appear- ance	13	5	25	=	19	38 27

Towards the end it was very clear, and I maké no doubt but we should have seen the smoaky appearance, had it not been for the day-light coming on.

Since I wrote to you last, we have taken another meridian observation for the latitude, and made it $55^{\circ} 57' 30''$ N.

In looking into the Abridgment of the Philosophical Transactions, Vol. VII. p. 140, I found an account of an annular eclipse of the Sun, observed at Edinburgh, by Mr. Mac Laurin, in the year 1737; which may help to determine our longitude for the present, till it is done more correctly by occultations of the stars by the Moon, or eclipses of Jupiter's satellites. I am, with respect,

S I R,

Your most devoted, humble servant,

James Lind.

REMARKS BY THE ASTRONOMER ROYAL.

The beginning of the eclipse was observed at the Royal Observatory at $10^{\text{h}} 20' 29''$, and the bisection of Copernicus at $10^{\text{h}} 43' 23''$ sidereal time; which, compared with the correspondent observations above, give $12' 39''$ and $12' 51''$ of time, for the difference of meridians of Hawkhill and Greenwich.

Nevil Maskelyne.