XXIV. *An Observation of an Eclipse of the Sun at the Island of* New-found-land, *August* 5, 1766, *by Mr.* James Cook, *with the Longitude of the Place of Observation deduced from it : Communicated by* J. Bevis, *M. D. F. R. S.*

Read April 30, 1767.

MR. Cook, a good mathematician, and very expert in his business, having been appointed by the Lords Commissioners of the Admiralty, to survey the sea coasts of New-found-land, Labradore, &c. took with him a very good apparatus of instruments, and among them a brass telescopic quadrant made by Mr. John Bird.

Being, August 5, 1766, at one of the Burgeo Islands near Cape Ray, latitude 47° 36′ 19″, the south-west extremity of New-found-land, and having carefully rectified his quadrant, he waited for the eclipse of the sun; just a minute after the beginning of which, he observed the zenith distance of the sun's upper limb 31° 57′ 00″; and, allowing for refraction and his semidiameter, the true zenith distance of the sun's centre 32° 13′ 30″, from whence he concluded the eclipse to have begun at 0^h 4′ 48″ apparent time, and by a like process to have ended at 3^h 45′ 26″ apparent time.

N. B. There

N. B. There were three feveral obfervers, with good telefcopes, who all agreed as to the moments of beginning and ending.

Mr. Cook having communicated his obfervation to me, I fhewed it to Mr. George Witchell, who told me he had a very exact obfervation of the fame eclipfe, taken at Oxford by the Rev. Mr. Hornfby; and he would compute, from the comparifon, the difference of longitude of the places of obfervation, making due allowance for the effect of parallax, and the earth's prolate fpheroidal figure; and he has fince given me the following refult:

5^h	23'	59"	beginn. at Oxford.	7^h	7'	5"	end at Oxford.
0	46	48	beginn. at Borgeo Ifles.	3	39	14	end at Borgeo Ifles.
4	37	11		3	27	51	
— 51	59		effect of parallax, &c.	+ 17	35		effect of parallax, &c.
3	45	22	diff. of meridians.	3	45	26	diff. of meridians.

J. Bevis.

XXV. *Letter*