## S. Newcque no the apparent inequalities

fore his observation agrees well with that of Flamstead. The discordance between the observed and computed times, of this second occultation indicates a correction of about +82'' to Hansen's mean longitude at the epoch 1680, and the first may be considered as confirming this correction in direction, if not in amount.

For the eclipse of May 3, 1715 we have the following computed and observed times. I have assumed Halley's station to be in latitude  $51^{\circ}$  81' and longitude  $25^{\circ}$  west. Pound's is taken in accordance with his own statement to be in latitude  $51^{\circ}$  34', and longitude  $8^{\circ}$  west. These agree pretty well with Flamstead's statements that Wanstead is seven or eight miles N. by E. from Greenwich,\* and that Crane Court is half a minute of time West of Greenwich.

Halley at London.

	Computed.			Observed.			0-0
First contact, Beginning of Totality, End of " End of Eclipse,	h 20 21 21 21 22	m 2 5 9 16	8 35 52 3 55	h 20 21 21 21 22	m 2 5 9 16	87 39 2 37	$-\frac{3}{+13}$ +13 +18

Pouna at Wanstead.

	Computed.			Observed.			C0
Eclipse first perceived, The total immersion, The omersion, The just end of the eclipse.	h 20 21 21 21 22	m 3 6 9 17	8 18 38 48 49	h 20 21 21 21	m 3 6 9	15. 6 26	+ 3 + 32 + 22

The only information I have respecting Flamstead's observations is contained in a letter of his found in Baily's 'Life and Correspondence of Flamstead, p. 315, from which it uppears that his times differ only a few seconds from Halley's, instead of differing by the half minute required by the difference of meridians. An obvious slip of the pen, (*later* being written instead of *earlier*) makes it doubtful in which way the "few seconds" are to be counted. It can, however, be fairly inferred from his statement that his observations diverge from the tabular times as much or more than Pound's.

The discordance of the results of first and last contact may be attributed to this cause: that with their imperfect telescopes the observers did not begin to see the moon until several seconds after the actual commencement of the eclipse, and lost sight of it a few seconds before the actual end. The discordance in the duration of totality indicates with a high probability that the computed shadow path falls a few miles too far north. In this case the mean of the results for beginning and end of totality

\* Baily's Flamstead, p. 316 p. 328.

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