

well fitted to answer this purpose and compared them directly with Hansen's Tables.

They are

1. Occultation of Aldebaran, 1680, Sept. 13, observed at Greenwich by Flamstead.

2. Occultation of the same star 1680, Nov. 7, observed at Greenwich by Flamstead, and at London by Halley.

3. Total eclipse of the sun 1715, May 3, observed at London, Greenwich and Wanstead by Halley, Flamstead and Pound.

To compute the occultations of Aldebaran the mean position for 1680.0 was derived from Le Verrier's Tables (Annales de l'Observatoire, Tome II) correcting the right ascension by $+0^{\circ}.01$, and was as follows:

$$\alpha(1680) = 4^{\text{h}} 17^{\text{m}} 37^{\text{s}}.01$$

$$\delta \dots +15^{\circ} 49' 11''.8$$

The corrections for reduction to apparent place are

$$\begin{array}{l} \text{for Sept. 13,} \quad \Delta\alpha = +2^{\circ}.90; \quad \Delta\delta = +1''.1 \\ \text{Nov. 7,} \quad \Delta\alpha = +4^{\circ}.18 \quad \Delta\delta = +2''.4 \end{array}$$

The following geocentric positions of the moon were derived from Hansen's Tables.

Date (Julian Cal.)	Sept. 13.						Nov. 7.					
	h	m	s	h	m	s	h	m	s	h	m	s
Gr. Mean Time,	15	0	53	16	12	53	7	50	39	8	48	15
D's Longitude,	64° 54' 24".3	65° 37' 20".4	64° 33' 11".6	65° 9' 49".6								
" Latitude,	-4 45 29.8	-4 48 10.6	-4 39 28.9	-4 40 48.0								
" Parallax,	0 59 30.0	0 59 28.8	1 1 18.5	1 1 17.8								

From these data we derive the following times for the immersion and emersion of Aldebaran for the dates in question. The observed times have been concluded from the observed altitudes and clock times given by Flamstead in the *Historia Celestis*, kindly furnished me by Prof. Winlock. They differ but little from the results of Flamstead himself, when the latter are corrected for the equation of time.

	Computed.			Observed.			O-O.
	h	m	s	h	m	s	
Sept. 13, Immersion,	15	2	49	15	0	53	+116
Emersion,	16	10	6	16	9	12	+53
Nov. 7, Immersion,	7	51	47	7	50	43	+64
Emersion,	8	48	16	8	47	12	+64

The great difference between the results of the two phases of the first occultation gives rise to a suspicion of error in the observations or the data of reduction. The second observation is confirmed by that of Halley in London, he having observed the immersion at $7^{\text{h}} 50^{\text{m}} 9^{\text{s}}$, and noticed that the star was "newly emerged" at $8^{\text{h}} 47^{\text{m}} 1^{\text{s}}$. His place of observation was probably twenty-five or thirty seconds west of Greenwich, and there-