

XXII. *Observation of the late Transit of Venus: In a Letter to James Burrow, Esquire, V. P. R. S. By Mr. James Horsfall, F. R. S.*

S I R,

Read June 8,
1769. **L**OOKING upon it as the duty of every member of the Royal Society, to contribute their mite towards the discovery of such an important matter as *The dimensions of the solar system*, I therefore take the liberty to communicate to you the following observations, made upon the late transit of Venus.

They were made with a Gregorian telescope, magnifying at least 100 times.

The time undermentioned is equal time.

The rate of going of the two clocks had been correctly ascertained by my friend Dr. Bevis, and myself, by observing the Sun pass the meridian for several days preceding the day of the transit.

My situation was upon a platform laid upon the ridges of my own chambers near the Middle Temple Hall: consequently, the great volumes of smoke arising from the houses to the north-west were no small impediment to a good observation: this was very remarkable at the *time of internal contact*. The Sun's limb undulated then prodigiously, and there was also a gust of wind which made the telescope vibrate, but not

not so much as once to lose the planet out of the field. I pronounced that moment (I mean that of internal contact) as soon as I saw a lambent light (*not a well-defined light*) whirl round the opaque limb of the Planet; from whence I am inclined to think I pronounced that *too early* by two or three seconds.

The first part of this rare phænomenon, which I beheld, was a kind of penumbra, at $7^{\text{h}} 8' 50''$.

I then counted 1, 2, 3 to $8''$, and plainly discerned the dark limb of Venus make a dent very near the vertex of the Sun's limb.

At $7^{\text{h}} 26' 34''$ I perceived the lambent light above-mentioned; at which time the Sun was not above $\frac{1}{4}$ of a degree above the top of a chimney.

This is a simple and faithful relation of what I observed, which I had not even copied till this morning, after you was pleased to notify your expectation.

I am glad of this opportunity publicly to acknowledge the many obligations you have been pleased to confer on me; and am,

S I R,

(with great respect),

Your much obliged,

and most obedient,

humble servant,

Middle-Temple,
8 June, 1769.

J. Horsfall.