

XLIX. *Extract of a Letter from Mr. John Winthrop, Professor of Mathematicks in Cambridge, New England, to James Short, A. M. F. R. S.*

S I R,

Dated June 6, 1764.

Read Nov. 15, 1764. I AM greatly obliged to you for your candid and judicious remarks on my observation of Venus on the Sun, which I received from my much-esteemed friend Dr. Franklin. I wrote to the Dr. pretty largely on the subject, which I desired him to communicate to you : but when I had the pleasure of a visit from him last summer, he could not recollect whether he had done it or not. I therefore beg leave now to trouble you with the substance of it. Your remarks turned on two points, the longitude of the place of observation, and the equation of time when found by equal altitudes. As to the first, I was so diffident of the observation on the Moon, that I chose to keep to the longitude of St. John's, as set down by Sir Jonas Moore, who makes it $52^{\circ} 50'$ West of Greenwich. Though I did not think it needful to mention this doubt in the pamphlet, which was published soon after I got home, to gratify the curiosity of my countrymen, yet I expressed it fully in a written account of the observation, drawn up in a different form, and sent to the late Dr. Bradley, but which I believe never reached his hands.

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As to the equation of the time of noon, depending on the change of the Sun's declination, I did not make it in that pamphlet. I had all along intended to calculate it when I should settle the result of the observation, though I knew it must be very small, as the Sun did not alter his declination, then, above 1' in 4 hours. But when I came to observe the contacts, and found that I could not be sure of them within 3'' or 4'', whereas Dr. Halley's papers led me to expect that I might observe them to a single second, I thought it hardly worth while to calculate this equation, as the precise moments of the contacts could not be fixed by it.—But I have since done it, and find it to be 4'' to be subtracted from the middle time. An account of the observation, thus corrected, I sent last summer to Professor Bliss at Greenwich, concluding, from his station, that the observations from different parts of the world would be collected and compared by him. But having since understood that that affair is in your hands, though I have not yet had the pleasure of seeing your paper upon it, and having had no return from Mr. Bliss, I ask leave to transmit a copy of it to you; and if you will be pleased to give it a place in your Transactions with a remark at the end (if you think it proper) showing what the Sun's parallax comes out from the observation as it now stands (which I suppose will not differ much from the other determinations) I shall take it as a favour. This will do honour to the government who employed me. Perhaps, too, posterity may be glad to see, and may make use of, the only observation of this rare phenomenon that was made in America.

I am, &c.

John Winthrop.

L. Obser-