valido flante vento à ſetemptrione; craſſique vapores aſcendere viſi ſunt è fluvio portuque vicino.

In thermometro domini de Reaumur, ſequentes mutationes obſervatæ fuere.

7^h 20′ Spiritus vini 12° & dimidium altitudinis ſupra terminum congelationis aquæ obtinebat.

h			o
8	12	. . . . .	13
8	30	. . . . .	$12\frac{1}{2}$
8	43	. . . . .	$12\frac{1}{4}$
8	55	. . . . .	$11\frac{3}{4}$
9	30	. . . . .	12
10	0	. . . . .	$12\frac{1}{2}$
10	40	. . . . .	$13\frac{1}{4}$

LXXIII. *An Account of ſome aſtronomical Obſervations taken at* Liſbon *by M.* John Chevalier *in the Year* 1753. *By* James Short, *M. A. and F. R. S.*

Read March 14, 1754. THIS gentleman mentions two emerſions of the ſatellites of Jupiter, *viz.* one of the firſt, and another of the third, both obſerved, in a very clear air, with a Gregorian teleſcope ſix feet long. Dr. Bevis, from a great number of obſervations, has computed *formulæ* of tables for the times of the immerſions and emerſions of the firſt ſatellite of Jupiter, and which times we have ſeldom found to differ from the obſervations above 10″: By com-

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comparing, therefore, the time of the emerſion of the firſt ſatellite obſerved by this gentleman, with the time computed from theſe *formulæ*, the difference of longitude between London, at St. Paul's, and the place of obſervation at Liſbon, comes out to be 36′ 6″; and by ſeveral former correſponding obſervations the difference had been found to be 36′ 10″. By ſome obſervations of the ſame ſatellite, ſent me lately by the reverend P. Pezenas at Marſeilles, and which he had received from ſome aſtronomers at Liſbon, the difference of longitude between London and Liſbon is ſometimes 34′, and ſometimes 35′: But it is to be remarked of theſe gentlemen, that tho' they both obſerved at the ſame place, and thro' refracting teleſcopes of the ſame length; yet they ſometimes differ from one another a whole minute, in the time of emerſion.

M. Chevalier further mentions the obſervation of the eclipſe of the ſun laſt October, thro' a teleſcope of 15 palms. He ſaw both the beginning and end, in a very clear air; and ſays, that the greateſt quantity of the eclipſe was 11 digits and 5 minutes, which he meaſured with a micrometer; but, unluckily, has not given us either the diameter of the ſun, or that of the moon, which he might have meaſured (for the eclipſe was annular), tho' he was at the pains of meaſuring all the digits, both in the increaſe and decreaſe of the eclipſe. He further takes notice, that, at the time of the greateſt obſcuration, the light of the ſun was remarkably diminiſhed; and that they were able to ſee Jupiter, Venus, and ſome ſtars of the firſt and ſecond magnitude; but he could not ſee Mercury, on account of

of his proximity to the ſun: And that a reflecting ſpeculum, of three palms in diameter, which could melt lead, when placed in its focus, and inſtantly ſet wood in a flame; did produce the ſame effects, even when the ſun was ſeven digits eclipſed; but that, about the time of the greateſt obſcuration, it was not able to burn wood, tho' held in its focus for ſome time: And that, at the ſame time, the air became very cold, the wind blowing hard from the north; and that ſome vapours, or fog, were ſeen to riſe out of the river and adjacent harbour.

He likewiſe mentions ſome alterations in the ſpirit of wine thermometer of M. de Reaumur, during the eclipſe.

The ſame eclipſe of the ſun was obſerved alſo at Liſbon by A. P. Euſebius da Veiga, profeſſor of mathematics. His times of the beginning and end are ſomewhat earlier than thoſe of M. Chevalier; and he alſo makes the greateſt obſcuration larger, by 3 minutes of a digit.

To his account of this eclipſe he ſubjoins ſome occultations of ſtars by the moon, obſerved by him at Liſbon laſt year; *viz.* of Venus, on the 27th of July; of *α Libræ*, on the 5th of Auguſt; and of *β Capricorni*, on the 5th of October.