

XXX. *A Letter from J. A. Rizzi Zannoni, Member of the Academy of Sciences at Gottingen, and Geographer to his Sicilian Majesty, to the late Earl of Morton, Pr. R. S. containing several Astronomical Observations, made in several Parts of the Kingdom of Naples and Sicily; translated from the French, by Mathew Maty, M. D. Sec. R. S.*

Naples, July 29, 1768.

My Lord,

Read Nov. 10, 1768. **I** Take the liberty to apply to your Lordship on a subject of great importance to geography. His Sicilian Majesty has lately ordered a topographical map of his dominions to be made; and all the materials, which are to serve for that work, have been collected together.

We frankly acknowledge, my Lord, that we are indebted to Englishmen for most of the astronomical observations, made in various parts of the kingdom of Naples. The following list contains them all; but, in order to render them useful, it would be necessary to have the corresponding ones made at London, or Greenwich, the latitude and longitude of these two places being perfectly known, by the accurate observations of the mathematicians belonging to the Royal Society.

We,

We, therefore, beg of your Lordship to procure us, from the members of that illustrious body, the observations relative to our object. As for the computation of the parallaxes, and the results, I will set about that work myself, as soon as I shall be furnished with the proper materials.

I have the honor to be,

My Lord,

Your Lordship's

most obedient humble servant,

J. A. Rizzi Zannoni.

Eclipses of the three first Satellites of Jupiter, observed at the Royal College at Naples, in the years 1762, 1763, and 1764, by Father Maria Carcani, Superior of the Pious Schools, by means of a telescope of 24 palms *.

| | | h | ' | " | | | |
|--------|--------|----|----|----|----|-----------------|----------------------------|
| 1762 | August | 4 | at | 1 | 35 | 9 | } Immerf. of I. Satellite. |
| | Sept. | 26 | — | 4 | 2 | 17 | |
| | Octob. | 19 | — | 4 | 19 | 44 | |
| | Nov. | 14 | — | 7 | 43 | 19 | } Emerf. of I. |
| | — | — | — | — | or | 20 | |
| | — | 28 | — | 11 | 24 | 52 | |
| | — | 30 | — | 5 | 52 | 14 | |
| — | 30 | — | 10 | 45 | 49 | } Emerf. of II. | |
| Decem. | 14 | — | 9 | 36 | 33 | } Emerf. of I. | |
| — | 25 | — | 7 | 47 | 56 | } Emerf. of II. | |

| | | | | | | | |
|------|--------|----|----|----|----|----|---|
| 1763 | Jan. | 6 | — | 9 | 39 | 36 | } Emerf. of I. |
| | — | 22 | — | 7 | 54 | 7 | |
| | — | 29 | — | 9 | 47 | 35 | |
| | March | 9 | — | 8 | 26 | 49 | } Emerf. of III. Emerf. of I. Immerf. of II. Immerf. of I. Immerf. of II. |
| | — | 9 | — | 8 | 11 | 9 | |
| | — | 25 | — | 6 | 55 | 24 | |
| | Octob. | 12 | — | 15 | 54 | 25 | |
| — | 14 | — | 17 | 55 | 45 | | |
| — | 30 | — | 10 | 27 | 31 | | |

| | | | | | | | |
|------|-------|----|----|----|----|----|----------------|
| 1764 | Jan. | 4 | — | 5 | 39 | 3 | } Emerf. of I. |
| | — | 25 | — | 11 | 15 | 23 | |
| | Feb. | 10 | — | 9 | 33 | 0 | |
| | — | 17 | — | 11 | 29 | 0 | |
| | — | 19 | — | 5 | 58 | 47 | |
| | — | 26 | — | 7 | 55 | 30 | |
| | March | 4 | — | 9 | 51 | 25 | |
| — | 13 | — | 6 | 18 | 8 | | |
| — | 27 | — | 10 | 14 | 51 | | |

* The Italian palm is about two-thirds of a foot.

| | | h | ' | " | | |
|------|-------|------|-------|----|-------------------------------------|--|
| 1760 | Aug. | 11 | at 10 | 17 | 20 | Imm. of I. |
| | — | 20 | — 8 | 57 | 28 | } Emerf. of I. } at Messina, by Mr. Robert Dunn. |
| | — | 27 | — 10 | 52 | 47 | |
| | Sept. | 3 | — 12 | 49 | 55 | } Emer. of I. at Reggio, by Mr. Dunn. |
| | — | 11 | — 2 | 48 | 5 | |
| | — | 12 | — 9 | 17 | 49 | } Emer. of I. at Cotrone, by Mr. Dunn. |
| | Oct. | 5 | — 9 | 46 | 11 | |
| — | 12 | — 11 | 44 | 34 | } Imm. of I. at Malta, by Mr. Dunn. | |
| July | 3 | — 11 | 45 | 10 | | |

| | | | | | | |
|------|-------|------|------|----|----|---|
| 1762 | Sept. | 11 | — 12 | 16 | 38 | } Imm. of I. at Policastro, by Mr. Berkeley. |
| | — | 19 | — 2 | 12 | 36 | |
| | Oct. | 4 | — 12 | 35 | 53 | } Imm. of I. at Cirella, by Mr. Berkeley, with a Newtonian Reflector of 3 feet, of Watkins. |
| | — | 12 | — 2 | 31 | 37 | |
| | — | 13 | — 9 | 0 | 31 | |
| | — | 19 | — 4 | 25 | 56 | |
| — | 20 | — 10 | 56 | 37 | | |

| | | | | | | |
|------|-------|-----|------|----|------------------------|---|
| 1764 | May | 5 | — 9 | 20 | 49 | Em. of I. at Sancta Maura. |
| | Aug. | 10 | — 15 | 14 | 6 | Imm. of I. at Linguetta. |
| | Sept. | 2 | — 15 | 29 | 51 | } Imm. of I. at Durazzo, by Mr. Berkeley. |
| | — | 3 | — 15 | 54 | 50 | |
| | — | 18 | — 13 | 48 | 6 | |
| | — | 25 | — 15 | 48 | 0 | |
| May | 28 | — 9 | 21 | 32 | Em. of I. at Tarentum. | |

The transit of Mercury over the Sun, in the year 1743, was observed at Naples, by Father P. N. with a telescope of 18 palms, made by Campani. He determined the first contact at 1^h 57' 25'', and the second at 2^h 0' 35''.

The transit of the same planet in 1753, was observed at Naples, in the Royal College, by Father Carcani, with telescope of 18 $\frac{1}{4}$ palms.

| | h | ' | " |
|------------------|----|---|----|
| First contact at | 23 | 5 | 51 |
| Emerf. of center | 23 | 7 | 28 |
| Second contact | 23 | 9 | 5 |

The

The transit of Venus over the Sun, of the year 1761, was observed at Naples, at the same place, by the same astronomer, with an excellent telescope of 24 palms.

| | | h | ' | " |
|--------------------|----|----|----|----|
| The first contact | at | 21 | 16 | 55 |
| The second contact | | 21 | 35 | 20 |

The same transit was likewise observed at Malta, by several people. A serjeant in the marines, who is an excellent pilot, has posted himself at Valetta, and has an excellent clock, and a Newtonian reflecter of 3 palms. He observed the beginning of the emerfion at $21^{\text{h}} 17' 50''$, and the total emerfion at $21^{\text{h}} 36' 33''$.

Finally, at Tarentum, the latitude of which place is the same with that of Naples, Mr. William Felton observed the transit of Mercury over the Sun of 1753, with a very good reflector of 2 feet.

| | | h | ' | " |
|--------------------|----|----|----|----|
| The first contact | at | 11 | 18 | 26 |
| The second contact | | 11 | 21 | 36 |

Eclipses of the three first Satellites of Jupiter, observed, at the Royal Observatory at Greenwich, in the years 1762, 1763, and 1764, during the time that the late Rev. Nathaniel Bliss, A. M. F. R. S. Professor of Geometry in the University of Oxford, was Astronomer Royal; communicated by Nevil Maskelyne, B. D. F. R. S. Astronomer Royal.

N. B. The observations were sometimes made with a 6 foot Newtonian reflector, the diameter of whose aperture is 9 inches, and which magnifies 100 times, and sometimes with a 2 foot reflector, the diameter of whose aperture is $4\frac{1}{2}$ inches, and which magnifies 90 times; and sometimes with another 2 foot reflector, made by Mr. Bird, whose aperture is 3,8 inches, which magnifies 88 times.

The 6 foot telescope shews an immersion of the first satellite later, and an emersion of the same sooner, than the first of the 2 foot telescopes by about 20". The difference between the two 2 foot telescopes may be supposed about 5".

| | | h | ' | " | | | |
|------|---|-------|-----|-------|-------|--|------|
| 1762 | } | Aug. | 26 | at 12 | 51 45 | } Imm. of I. satel. with 6 foot telescope. | |
| | | Sept. | 18 | — 13 | 9 29 | | |
| | | Oct. | 4 | — 11 | 31 26 | | |
| | | | | 11 | — 13 | 27 9 | |
| | } | Nov. | 3 | — 15 | 48 56 | } Em. of I. with 6 foot telescope. | |
| | | | | | 21 | | — 15 |
| Dec. | | 23 | — 4 | 57 40 | | | |

| | | | | | | | | | | |
|-------|-------|--------|--------|---------------------|--------------------------------------|--|---------------|------|------|----|
| 1763 | Jan. | 6 at 8 | 42 | 6 | Em. of I. fatel. with 6 foot telefc. | | | | | |
| | March | 9 | { 7 | 7 | 51 | Em. of III. fatel. } 2 foot telescope, | | | | |
| | | | { 7 | 30 | 16 | Em. of I. fatel. } N. Maskelyne. | | | | |
| | Sept. | 30—13 | 7 | 52 | Imm. of I. fatel. | 6 foot | | | | |
| | Oct. | 12—14 | 58 | 5 | Imm. of II. fatel. } | } | Bird's 2 foot | | | |
| 14—16 | | | | | | | | 59 | 1 | |
| 16—11 | | | | | | | | 28 | 0 | |
| 1764 | Feb. | 24—12 | 29 | 42 | } Em. of I. fatel. } | | | | | |
| | March | 4—8 | 54 | 48 | | | | | | |
| | April | 12—7 | 41 | 39 | | | | | | |
| Sept. | 25—14 | 31 | 49 | } Imm. of I. fatel. | } 2 foot | | | | | |
| | | | | | | | Nov. | 4—13 | 3 | 37 |
| | | | | | | | Nov. | 10 | { 14 | 57 |
| { 14 | 56 | 57 | 2 foot | | | | | | | |

The observations prior to the year 1762 fell in the time of Dr. Bradley's being Astronomer Royal, whose observations are not in my possession; neither can I have access to them.

Nevil Maskelyne.