

V. *The Difference in Time of the Meridians of diverse Places computed from Observations of the Eclipses of Jupiter's Satellites, by the Reverend Mr. Derham Canon of Windsor, and F. R. S.*

SIR *Thomas Derham*, at *Florence*, having lately favoured me with his Transcript of *Monfignor Bianchini's* Observations of the Eclipses of *Jupiter's Satellites*, from the Year 1721, I have laid them down so as to be seen at an easy View, for the Service of the *R. S.* *Monfieur Bianchini* saith, they were made with a Telescope of *Campani's* grinding of $23 \frac{1}{2}$ *Roman Palms*: That *Father Jo. Bapt. Carboni* at *Lisbon* made use of such another of the same Make, Length, and Goodness; and therefore thinks the Times assigned by them, to be exact; that he drew *Meridian-Lines* at *Affisi* in *Ombria* & *Urbino*; at *St. Quirico* in *Tuscany* and *Florence*: And that *Monfignor Eustach. Manfredi* at the Observatory of *Bologna*, and he observed the Immersion of the first *Satellite* on 25 *August* within two Seconds of one another; *Manfredi* with a Glass of 8 *Bononia* Feet, and he with one of 11; both made by *Campani*. With his own, *Bianchini* hath inserted some Observations, made at the same time by *Father Carboni* at *Lisbon*, and *Father Grammatici* at *Ingolstadt*; *Monfieur Maraldi* at *Paris*, and *Monfignor Eustachius Manfredi* at *Bologna*; as also an Immersion observed by *Mr. Molyneux* near *London* (I suppose at *Kew*) with his reflecting Telescope, and two at *Pekin* in *China* by *Father Ignatius Kogler* a *Jesuit*: But I suppose there is a Mistake in the Observation of *November 30, 1724*, that it was an Emerfion, not an Immersion; the Immersions of the first *Satellite* being not to be seen then.

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Sir

Sir *Thomas* tells me that Signior *Bianchini* promiffeth his Observations of the circumjovial Eclipses from the Year 1700, and that he will send the Society in *November* his new Globe of *Venus*.

As to the *Bologna* Observations, they were put into my Hands by Dr. *Rutty*, Secr. to the R. S; and are said to be made with a Glass of *Campani's*, of 11 *Bologna* Feet, And to save the Peruser the Trouble, I have computed the Difference in Time between the Places in *Bianchini's* and *Manfredi's* Catalogues, and some Observations that I had of mine own.

Rome and <i>Lisbon.</i>	Rome and <i>Kew.</i>	Ingolstad and <i>Lisbon.</i>	St. <i>Quirico</i> and <i>Upminster.</i>
H. ' "	H. ' "	H. ' "	H. ' "
I 24 46	o 45 47	I 22 53	o 47 50
I 25 34	Rome and	I 23 21	<i>Florence</i> and
I 26 34	<i>Wansted.</i>	Ingolstad and	<i>Lisbon.</i>
I 29 o	o 49 10	St. <i>Quirico</i>	I 19 43
I 26 44	Rome and <i>Up-</i>	o I 20	<i>Florence</i> and
I 26 54	<i>minster.</i>	o I 40	<i>Bologne.</i>
I 28 11	o 47 28	Ingolstad and	o o 31
Rome and	Rome and	<i>Bologne.</i>	<i>Florence</i> and
<i>Paris.</i>	<i>Southwick</i> in	o I 53	<i>Upminster.</i>
o 39 48	<i>Northamp-</i>	Ingolstad and	o 42 1
o 40 50	<i>ton-shire.</i>	<i>Paris.</i>	<i>Upminster</i> and
o 36 16	o 47 58	o 36 23	<i>Bologne.</i>
o 38 56	<i>Urbino</i> and	o 36 00	o 43 43
o 40 17	<i>Lisbon.</i>	Ingolstad and	<i>Upminster</i> and
Rome and <i>In-</i>	I 28 57	<i>Upminster.</i>	<i>Lisbon.</i>
<i>golstad.</i>	<i>Paris</i> and <i>Lis-</i>	o 46 10	o 37 42
o 2 51	<i>bon.</i>	St. <i>Quirico</i> and	<i>Bologne</i> and
o 4 1	o 45 46	<i>Lisbon.</i>	<i>Lisbon.</i>
Rome and <i>Bo-</i>	o 45 44	I 22 30	I 21 28
<i>logne.</i>	<i>Paris</i> and <i>Bo-</i>	St. <i>Quirico</i> and	<i>Bologne</i> and
o 3 45	<i>logne.</i>	<i>Paris.</i>	<i>Albano.</i>
o 2 16	o 34 30	o 37 40	o 3 43
o 4 45	o 34 o		
o 4 14	o 38 32		

Observations of the Eclipses of *Jupiter's Satellites* made by Monsignor *Bianchini* at *Rome*, and other Places: With Accounts of such as he received from other Places.

Days of the Month.	Time of Observation.	Satel. Eclip.	Place where observed.	Days of the Month.	Time of Observation.	Satel. Eclip.	Place where observed.
Anno Domini 1721.				Anno Domini 1724.			
		H. ' "				H. ' "	
<i>Apr.</i> 3	15 4 32	Im. I	At <i>Rome.</i>	<i>Jun.</i> 8	{ 14 3 28 }		<i>Carboni</i> at
<i>Jun.</i> 21	8 46 0	Em. I	<i>Rome.</i>	15	{ 15 56 27 }		<i>Lisbon.</i> } I. I
Anno Domini 1722.				Anno Domini 1724.			
<i>Jun.</i> 9	13 20 0	E. I	<i>Rome.</i>	23	13 42 50		<i>Rome.</i> }
18	9 36 30	E. I	At <i>Albano.</i>	30	{ 15 34 29 }	I. I	<i>Rome.</i>
<i>Jul.</i> 11	9 49 10	E. I	<i>Rome.</i>		{ 14 8 55 }		<i>Lisbon.</i>
27	8 7 30	E. I	<i>Rome.</i>	<i>Aug.</i> 10	10 45 20	E. I	<i>Rome,</i> but
<i>Aug.</i> 19	8 26 20	E. I	<i>Rome.</i>	17	12 40 45	E. I	doubtful.
Anno Domini 1723.				Anno Domini 1724.			
<i>Mar.</i> 26	17 14 50	I. I	<i>Rome.</i>	26	9 6 45	E. I	<i>Rome.</i>
<i>Apr.</i> 11	15 31 45	I. I	<i>Rome.</i>	<i>Sep.</i> 11	7 30 53	E. I	<i>Rome.</i>
<i>May</i> 3	{ 15 48 51 }	I. I	At <i>Ingolstadt</i>	18	9 28 16	E. I	<i>Rome.</i>
	{ 15 43 0 }		by <i>F. Grammatici.</i>	25	{ 11 25 55 }	E. I	<i>Rome.</i>
27	18 56 0	I. I	<i>Rome.</i>		{ 9 59 21 }		<i>Lisbon.</i>
<i>Jun.</i> 5	12 16 30	I. I	<i>Rome.</i>	<i>Oct.</i> 11	9 53 8	E. I	<i>Albano.</i>
12	14 11 39	I. I	<i>Rome.</i>	14	{ 9 31 0 }	E. 3	From the
<i>Jul.</i> 23	{ 9 11 40 }	E. I	<i>Rome,</i> by		{ 11 7 0 }	I. 3	<i>Limb</i> of ☽
	{ 7 46 0 }		<i>Fa. Carboni.</i>	27	8 16 0	E. I	into ☽ <i>Shadow.</i>
30	11 7 20	E. I	<i>Rome.</i>	<i>Nov.</i> 12	5 33 10	E. I	<i>Albano.</i>
<i>Aug.</i> 8	7 32 0	E. I	At <i>Ocricoli</i> in	19	8 25 5	E. I	<i>Rome.</i>
			<i>via flaminia.</i>	30	6 14 0	I. I	At <i>Pekin</i> in <i>China,</i>
15	9 35 0	E. I	At <i>Affisi</i> in	<i>Dec.</i> 5	6 42 25	E. I	by <i>F. Kogler</i> the <i>Jesuit.</i>
			<i>Ombria.</i>	Anno Domini 1725.			
<i>Sep.</i> 7	{ 9 50 45 }	E. I	<i>Urbino.</i>	<i>Jan.</i> 19	15 17 10	I. I	<i>Rome.</i>
	{ 8 21 48 }		<i>Lisbon.</i>	<i>July</i> 5	13 32 20	I. I	<i>Albano.</i>
23	8 17 54	E. I	At <i>Muceria</i> in <i>Ombria.</i>	7	14 55 30	I. I	<i>Pekin.</i>
<i>Oct.</i> 16	8 36 10	E. I	At <i>Albano</i> in the <i>via appia.</i>	21	{ 11 45 22 }	I. I	<i>Rome.</i>
					{ 10 89 35 }		<i>Mr. Molinere</i>
				28	{ 13 39 10 }		near <i>London.</i>
					{ 12 12 26 }	I. I	<i>Rome.</i>
							<i>Lisbon.</i>

Day of the Month.	Time of Ob- servation.	Satel. Eclip.	Place where observed.	Day of the Month.	Time of Ob- servation.	Satel. Eclip.	Place where observed.
				Anno Domini 1728.			
Nov.	15	{ 9 53 50 } 8 24 50	E. 1 Rome. Lisbon.	Jan.	15	13 13 46	E. 1 Rome.
	24	6 15 15	E. 1 Rome.	Feb.	16	9 46 56	E. 1 Rome.
Dec.	17	6 20 30	E. 1 Rome.	Mar.	26	8 32 7	E. 1 Rome.
Anno Domini 1726.				Observations made at the Observatory of Bo- logne, by Monsignor Eustachius-Mansfredi.			
Jul.	17	{ 13 28 46 } 13 24 45 12 1 52	I. 1 Rome. Ingolstad. Lisbon.	Aug.	16	15 29 0	I. 1 Dubious.
Aug.	2	{ 11 40 0 } 11 41 20 13 36 0	I. 1 St. Quirco in Tuscany. Ingolstad. Siena in Tus- cany.		25	11 54 24	I. 1 Dubious.
	9	{ 12 13 30 } 15 28 29	I. 1 Lisbon. Florence.	Nov.	27	9 35 11	E. 1 Dubious.
	16	{ 14 8 46 } 15 29 0 11 54 24	I. 1 Lisbon. Bologne. Bian. ? At Man. } Bol.	Dec.	4	11 27 45	E. 1 Dubious.
Aug.	25	{ 11 56 18 } 11 19 55 10 32 57	I. 1 Ingolstad. Paris. Lisbon.		26	5 47 4	I. 3 Dubious.
Sep.	26	{ 8 41 0 } 8 39 20 8 3 20	I. 1 St. Quirico. Ingolstad. Paris.			7 56 23	— The third be- gan to e- merge.
Oct.	1	16 7 45	I. 1 St. Quirico.			29 59 26	E. 1
Nov.	20	{ 7 46 30 } 6 20 19	E. 1 Rome. Lisbon.		31	6 18 54	E. 2 Just begun.
	27	{ 9 39 25 } 6 0 16	E. 1 Rome. Rome.	Anno Domini 1727			
Dec.	6	{ 5 58 0 } 5 24 0	E. 1 Bologne. Paris.	Jan.	2	9 45 27 11 53 38	I. } E. } 3 Dubious.
Anno Domini 1727.					5	7 51 54	E. 1
Mar.	8	6 42 50	E. 1 Rome.		7	8 54 12	E. 2
Aug.	5	{ 15 18 27 } 15 0 8 14 21 12	I. 1 Rome. Rome. Paris.	Feb.	7	{ 5 50 5 } 7 52 54	I. } E. } 3 Dubious.
Sep.	6	{ 12 0 0 } 11 55 15 11 19 43	I. 1 Rome. Bologne. Paris.		8	8 37 59	E. 2 Air thick.
Oct.	15	10 41 30	I. 1 Albano.	Aug.	21	13 34 39	I. 1
	20	6 5 54	I. 1 Albano.	Sep.	6	11 55 17	I. 1
	22	12 33 23	I. 1 Albano.		17	{ 10 48 59 } 12 40 30	I. } E. } 3
				Oct.	13	16 5 45	I. 1
					22	12 29 42	I. 1
					23	8 55 34	E. 3
					30	11 1 9	I. 3 Dubious.
				Nov.	5	9 5 15	I. 2 Dubious.
					30	8 44 13	E. 2
				Anno Domini 1728.			
				Jan.	17	8 41 8	E. 3
				Feb.	16	9 43 11	E. 1
					29	{ 6 40 45 } 8 50 40	I. } E. } 3 Dubious.