

it was wont to take that very impetuous motion, and half a degree before it arrived thereto, we took it out. Then looking constantly with a carefull eye upon the water in the Globe, which by reason of the transparency of the Chrystal was plainly seen to be yet altogether fluid and clear, the water, though now out of the Ice, did by the operation of the introduced cold, (after it had attained to its due point with a swiftness imperceptible to the Eye, the transparency within the Globular part being lost, and it self in an instant, as twere, deprived of its motion) totally conglaciate. Which Experiment we tried over and over again, and found it alwayes succeed alike.

*An Extract of a Letter of Monsieur Hevelius, concerning his Observations of the Moon's Eclipse, on Septemb. 29. st. n. 1670. and the Conjunction of Venus and the Moon, on the 11th of Octob. st. n. 1670; as also some remarks about the New Star near the Beak of the Swan, and that other in the Neck of the Whale: together with some other particulars of a Philos. nature. Here deliver'd in the same Tongue, in which it was written.*

—**N**on potui Responsum tuum ad meas ultimas expectare, quin rursus ad Vos scriberem, deque recentioribus quibusdam Phœnomenis & Observationibus, hinc à me feliciter habitis, certiores redderem; in primis cum videam, meas quales quales Animadversiones Cœlestes Illustrissimæ nostræ Societati Regiae hactenus non omnino displicuisse.

Primò, die 29. Septembris st. nov. mane, Eclipsin Lunæ cœlo perquam sereno, ab initio usque ad finem, ex voto observavi. Initium ejus incidit hora 2. 22'; quamquam id ipsum dix omnino accurate observari potuerit, ob Umbram Terræ dilutissimam: siquidem, durante Eclipse, tota Umbra adeo tenuis erat atque diluta, ut omnes præcipuas maculas per eam, meo viginti pedum Tubo, quin & brevioribus, optime conspicere potuerim.

( 2024 )

*Maxima ejus Obscuratio incedit hor. 3. 50'. Finis vero h. 5. 21'. Tota itaque Duratio fuit hor. 2. 59'; & Quantitas vix amplius 9 digitorum. Quibus vero Tabulis, Eclipseos hujus Observatio accuratius respondeat, Vos Judicabitis. Juxta Rudolphinas h̄c Gedani incidit;*

<i>b.</i>	<i>hor.</i>
<i>Initium 2.37'.5''.</i>	<i>Secundum Riccioli Tab. Initium 2.14'.47''.</i>
<i>Max. Obsc. 4. 2. 50.</i>	<i>Max. Obscur. 3.55.37.</i>
<i>Finis 5.28. 35.</i>	<i>Finis 5.36.27.</i>
<i>Tota dur. 2.51. 30. dig.</i>	<i>Tota duratio 3.21.40.</i>
<i>Quantitas 9. 4. 0.</i>	<i>Quantitas digit. 11.43. 0.</i>

*Circa Medium hujus Eclipseis hor. 3. 40'. Stellulam quandam incognitam, ac solo Tubo conspicuam, à Luna circa Lacum nigrum Majorem tectam, clarissimè conspexi; sed exire eam non deprehendi. Deinde, finitā Eclipsei, jucundissimum quoque observatu erat, bina Luminaria simul supra Horizontem videre. Nam priusquam Luna occideret, Sol oriebatur. Cætera notata digna ex particulari hoc Typo deprehendetis:*

Ordo

Ordo	Phases Luna Te- lescopicis Observata.	Altitudines	Tempora ex Al- titudinibus Cor- rectis.	Aanimadvertisenda.
		Cauda Cygni 50°.54. Cauda Cygni 50. 25. Pollucis II 26. 39. Pollucis II 27. 16.	hor. 8'.34". 12. 11.32. 1.28.56. 1.33.17.	
1	Penumbr. init. Initium Eclip. 1 I $\frac{1}{8}$ dig. 2 I $\frac{1}{4}$		2.10. 0. 2.22. 0. 2.31. 0. 2.36. 0.	Cæpit Eclip. in part. & sup. circa fin. hyperb. Umbra finū Apollinem & M. Porphy. string. Lacus niger major regi incipiebat.
3	3 $\frac{1}{4}$ 4 $\frac{1}{4}$ paulo plus 5 $\frac{1}{8}$ 6 dig. fere		2.41.40. 2.45.50. 2.49. 0. 2.53. 0.	Umbra ad Ins. Corsicam pervenerat. Pal. Maëtis & M. Aetna plane sectus.
7	7 $\frac{1}{4}$ 8 6 dig. 9 6 $\frac{1}{4}$ 10 6 $\frac{1}{2}$		2.57. 0. 3. 3. 0. 3. 5. 0. 3. 8 30.	Ins. E. sib. & Ins. Macra secta. Ins. Melos regi incipiebat.
11	7 $\frac{1}{8}$ 12 7 $\frac{1}{8}$ 13 7 $\frac{1}{8}$ 14 8 $\frac{1}{4}$		3.11. 0. 3.16. 0. 3.20. 0. 3.25. 30.	Ins. Rhodus secta.
15	8 $\frac{1}{2}$ 16 8 $\frac{1}{4}$ 17 8 $\frac{1}{8}$		3.29. 0. 3.33.40. 3.37.50. 3.40. 0.	Ins. major Caspii tegebatur.
18	9 dig. 19 9 paulo min.		3.47. 0. 3.51.10.	Max. Obsc. per I. Leto. & M. Aber. se exten. Pal. Mareotis sub umbra sectione subsisteb.
20	8 $\frac{1}{4}$		3.57. 0.	
21	8 $\frac{1}{2}$		4. 1.40.	
22	8 $\frac{1}{4}$ fere	Polluc. II 49°.50'.	4. 6. 0. 4.10.28.	
23	8 paul. plus		4.11. C. 4.17.20.	Ins. Melos & Rhodus umbrâ exiverant.
24	7 $\frac{3}{4}$		4.22.25. 4.27.35.	M. Porphyries illustrari incipiebat. Umbra M. Aetna jam reliquerat.
25	7 $\frac{1}{8}$		4.33.40.	
26	6 $\frac{3}{4}$		4.37.37.	
27	6 $\frac{1}{4}$ fere		4.44.46.	M. Argentaria. & Ins. Besbic. illustrabantur
28	5 $\frac{1}{4}$		4.50.56. 4.54. C. 4.57. C.	
29	4 $\frac{3}{4}$		5. 1.23.	Umbra totam fere I. Caspian maj transierat.
30	4 d <sup>g.</sup> .		5. 4.45.	
31	3 $\frac{1}{8}$		5. 7.42.	
32	2 $\frac{1}{4}$		5.10.50.	
33	1 $\frac{1}{4}$ fere			
34	1 $\frac{1}{8}$			
35	1 $\frac{1}{4}$ dig.	Cordis S 25°. 4'8.		
	Finis Eclip. Penumbr. finis	Sirii 18°. 54'.	5.21.25. 5.24. 0. 5.28.32.	Fines circa Riphæi montes contigit. I i 2 Secundo,

( 2026 )

Secundo; die 11 Octob. st. n. incidit mane, post Solis ortum, horā circiter octavā, hīc Gedani, *Conjunctionio Veneris & Lunæ*, quam *Calculus Rudolphinus* pariter eodem fere tempore indig-  
tavit; quo videl. Luna parte suā inferiori Venerem occultare ad 23" minimum debebat. Ad quod rarissimum spectaculum observandum me Tubo 20. pedes longo accinxiram. Atque quam-  
vis Aer non omnino esset desecatus, nubesque rariuscū & hinc  
inde obvolitarent, Sole pariter jam orto, nihilominus & Lunam  
& Venerem clarissimè conspeximus, ad horam usque decr-  
minim; imò diutius potuissemus, si fuisset opus: Sed à Luna ut ut  
Tabulæ dictæ Occultationem illam penitus confirmabant, Venus  
tamen nequaquam tēta fuit, sed aberat hæc, circa veram scil.  
*Conjunctionem*, à Limbo Lunæ inferiori ad 4, vel, minimum,  
3. minuta; sic ut nulla eo tempore Occultatio, sed tantum ar-  
dens *Transitus* ext̄ erit. Volupte profecto erat jucundissimum il-  
lud Spectaculum, de die, soleque splendente, adeò distinctè ac  
dilucidè contemplari. Luna namque erat tenuissima, ad Con-  
junctionem propendens, valdeque Corniculata: At Venus pro-  
pemodum plena, & corpore valde diminuto. Si non adeò vapo-  
rosus fuisset Aer, frequentius accuratiusque distantias Veneris &  
Lunæ à Jove, aliisve quibusdam Fixis cepisse; ut jam non  
nisi eas, quas mitto, observare licuerit. Horā 7. 40'. eo ipso die  
tres Parejii apparuerunt. Quid Vos hisce de rebus deprehendi-  
stis. primā occasione exspecto.

*Transitus*

(2027)

## Transitus Lunæ Supra Venerem, Ao. 1670.

die 11 Octob. st. n. Observatus.

G E D A N I  
A

Jobanno Hevelio.

<i>Fus. hor. a.m.</i> <i>mense.</i>		<i>Distantie &amp;</i> <i>Altitudines.</i>	<i>Tempus ex al-</i> <i>titud. Corrett.</i>
<i>Hor. '</i>		<i>o. ' "</i>	<i>Hor. '</i>
3 47 20	<i>Altitudo Lucidae V</i>	41. 45. 0	3. 54. 10
3 50 35	<i>Eadem altitudo</i>	41. 21 0	3. 57. 28
5 47 44	<i>Distantia ♀ in ♍.</i>		5. 54. 44
5 48 35	<i>Dift. ♀ limb. orient. à ♍.</i>	35. 25. 30	5. 55. 35
5 51 59	<i>Dift. ♀ à ♍.</i>	35. 50. 0	5. 59. 0
5 53 40	<i>Dift. ♀ limb. orient. à ♍.</i>	35. 29. 10	6. 0. 40
6 12 30	<i>Dift. ♀ à ♍.</i>	35. 50. 20	6. 6. 0
6 14 3	<i>Dift. ♀ limb. orient. à ♍.</i>	35. 37. 35	6. 8. 0
6 37 0	<i>Diftit. ♀ à ♀, quantum nu-</i> <i>do oculo dijudgetari potuit.</i>	6. 0	6. 51. 0
7 12 0	<i>Dift. ♀ à ♀ limbo infer.</i>	5. 0	7. 7. 0
7 17 0	<i>Diftit. ♀ à ♀, limb infer.</i>	4. 0	7. 12. 0
7 35 0	<i>Venus clare apparuit, sed</i> <i>Luna non ampl. ob nubec.</i>		7. 30. 0
7 45 0	<i>Venus; simul tres Parelii</i> <i>apparuerunt.</i>		7. 40.
9 11 0	<i>Venus permanxit conspicua.</i>		9. 12. 0
9 15 48	<i>Altitudo Solis.</i>	19. 48. 0	9. 17. 20
9 17 39	<i>Altitudo Solis.</i>	19. 58. 0	9. 19. 4
			<i>Tertio,</i>

Tertio, Nova illa Stella sub Capite Cygni, quæ initio Tertiæ videbatur Magnitudinis, mirum in modum Mense Septembris decrevit, adeò ut 14. Octobris nullâ ratione amplius Sextante observari à me potuerit; lièt omnem adhibuerim diligentiam. Nam vix ac ne vix quidem nudo oculo animadverti potuit; adeò ut ab hac die illam amplius non viderim, ut ut singulis diebus Cælo serenissimo omnes oculorum nervos ad eam intenderim. Altera verò Nova in Collo Ceti ad medium usque mensis Octobris, Mandibulæ Ceti aequalis ferè extitit magnitudine, & claritate eam propemodum superavit; adeò ut hoc Anno Secundæ fuerit magnitudinis, ac major quam præcedentibus annis, excepto Anno 1660, quo major etiam Mandibulæ Ceti à me fuit deprehensa. Aliis temporibus non memini eam Tertiæ Magnitudinis Stellas superasse. Certum igitur est, ipsam non eandem semper præse ferre Magnitudinem nec claritatem, ut ut in maximo suo existat incremento: hesternâ verò die multum decreverat.

Quod restat, Lentem illam Domini Burattini pro Tubo 70. pedum elaboratam necdum explorare licuit. Idem promisit aliam multò longiorem, pedum scil. 140; quam ubi accepero, illarum vires simul explorabo, vosque deinde de omnibus & singulis certiores reddam.

Succinum, quod sigillo cedit (de quo ante hac) inter omnium rarissima quæ apud nos reperiuntur, meritò habetur; quippe dum vixi, si bina illa frusta, quæ penes me habeo, excipias, ne unquam quidem vel minimum frustulum vidi, ut ut tale à multis annis sollicitè quæsiverim. Interim ut Illusterrimæ Societati promptuarij meam declarem, illi ex binis illis frustulis, quæ penes me sunt, alterum proximo vere navi quadam transmittam; terrâ quippe id fieri nequit si faciem, figuram, atque insignia impressa omnino retinere debeat. An unquam frustulum, altera parte molle, alterâ durissimum possim impetrare, valde dubito.

In Machina mea Cœlesti alacriter & constanter, quantum occupationes aliæ unquam permittunt pergo. Valete & porro favete vestro Confidali, Illusterrimæ Societati R. devinctissimo Joh. Hevelio. Dabam Dantiscl 1670. D. 31. Octobris.

( 2029 )

# Lunæ ad Fixas Saturnumque,

Anno 1671.

Appulsus observabiles, prædicti, & ad Meridianum Latitudinemque *Londini* accurate supputati à Joh. *Flamsteadio* Derbiensi-Anglo.

1. A Nno 1671. Januarii 4°, Luna appellit ad stellam in altero flexu Australi aquæ Aquarii, Magn. 5. cuius long.  $\times 12^{\circ} . 18'$ . Lat.  $2^{\circ} . 49'$ . Austr.

*Londini, hujus occultationis,*

	b.	h.	m.	s.
Initium	6. 57. 10			
Finis	7. 14. 22			
Mora	0. 17. 12			

*Lat. \* à centro* { Ingr. 15. 05 } *Austr.*  
*Luna in* { Emerf. 16. 51 } *Austr.*

2. Febr. 13. post medium noctem sequentem celebratur appulsus Lunæ ad stellam honoris 4. quæ vocatur Borealis trium sub ventre  $\pi$ ; cuius Long.  $\pi 9^{\circ} . 53' . 5''$ . Lat.  $1^{\circ} . 20' . 30''$  Austr.

*Londini, Stelle diæ,*

	b.	h.	m.	s.
Immers.	14°. 24'. 45".			
Emerf.	15. 30. 54.			
Mora sub D.	1. 06. 09.			

*Lat. \* à centro* { Immers. 7. 05" } *Austr.*  
*Luna in* { Emerf. 1. 20 } *Austr.*

3. Mart.

( 2030 )

b.

3. Mart. 4. 8. 46'. p. m. secundum Wingi Ephemerides Luna  
congreditur cum Media trium in coda Arietis, cuius eo tempore  
long.  $\varpi$  17°. 19'. 8". Lat. Sept. 2°. 50".

Londini,

b.

Subingr. 10. 14'. 52". Lat. Stellæ à } Immers. 16. 07".  
Detectio \*e. 10. 31. 13. } centro ðæ in } Emerf. 15. 39.  
Mora sub ða. 0. 16. 21. } Max. appropinquatio centror. 15. 53.

4. April. 12. alterâ horâ post occasum Solis Luna appellit ad  
Spicam Virginis, 1æ Magnit.

Londini,	Derbiæ.	}	Lond.	Derb.
h.	h.			
Subingr. 9.05'.53"	9.01'.00"	Lat. * à }	Immers. }	" "
Emerf. 10.20.35	10.13.45			
Mora 1.14.41	1.12.39	ðæ in	Emerf. 4.33	4.48 B.

5. Maii 6. Luna, post occasum Solis, Borealem trium sub ventre  
 $\varpi$  (magn. 4tæ) cooperiet: Cujus Long.  $\varpi$  9°. 53'. Latit. 1°. 20'.  
Bor.

Londini Stellæ,

b.

Subingr. 9.09'.37")	Lat. à centro ðæ in }	Subingr. 1'. 54".	Bor.
Emerf. 10. 14. 56		Emers. 8. 10.	
Mora. 1. 5. 19			

6. Maii 21. Saturno Cyntbia jungitur post medium noctem se-  
quentem.

Londini centri Saturni

In

b.

*Ingressus* 14. 29'. 17". } Lat. à centro } *Immers.* 8'. 52". }  
*Emerſio* 15. 31. 23. } D<sup>a</sup> in } *Emers.* 4. 27. } *Bor.*  
*Mora sub D<sup>a</sup>.* 1. 02. 06. }

b.

7. Julii 17. 13. 8'. Luna, Authore Wingo, cum Stella, sti bonoris dicta, in Lino Boreo Xum à Connexu precedens: ejus tunc temporis locus  $\Upsilon$  23°. 7'. 26". lat. 1°. 38 $\frac{1}{2}$  Bor.

*Londini stellæ cum Luna*

b.

*Congressio* . 12. 8. 32. } Lat. à centro } *Immers.* 14. 50". }  
*Sejunctio* 12. 52. 21. } ad Boream in } *Emers.* 12. 10.  
*Mora sub ea* 0. 43. 49. }

b.

8. Septemb. 9. 10. 54'. Luna juxta Ephemerides cum stella Lucis 4<sup>te</sup> in Lino Australi Xum lucidiorum trium media, cuius long.  $\Upsilon$  12°. 53'. lat. 1°. 5 $\frac{1}{2}$ . Bor.

*Londini Occultationis*

b.

*Initium* 10. 23'. 48". } Stellæ à centro } *Immers.* 15'. 20". }  
*Finis* 10. 59. 33. } Lat. ad Bor. in } *Emers.* 11. 11.  
*Duratio* 0. 35. 41. }

9. Octob. 9. post medianam noctem sequentem, Luna ad Pleiadas appellat, quarum loca ad instans tempus proveniunt.

	long.	lat.	magn.
<i>Occidentalis lucidior</i>	24°. 41'. 48".	4°. 9'. 40.	5.
<i>Occidentalis Borealior</i>	24°. 52. 07.	4°. 31. 36.	6.
<i>Infima occidentali proxima</i>	24°. 58. 37.	3°. 53. 30.	6.
<i>Sequens Borealior</i>	24°. 59. 07.	4°. 23. 56.	6.
<i>Media &amp; lucida</i>	25°. 19. 37.	4°. 00. 00.	3.
<i>Quæ est in cuspidi ad ortum</i>	25°. 45. 07.	3°. 51. 20.	5.
<i>Orientalium superior</i>	25°. 46. 07.	3°. 54. 00.	7.
	K k	Occidentalis	

*Occidentalis lucidioris inter Pleiades*

b.

<i>Immers.</i>	$16^{\circ}15'13''$	}	<i>Lat. à centro ðæ</i>	}	<i>Ingressu</i>	$1^{\circ}22''$
<i>Emers.</i>	$17^{\circ}21.20.$		<i>ad Bor. in</i>		<i>Egressu</i>	$2^{\circ}15.$
<i>Mora.</i>	$1.06.07.$					

*Medium & Lucidam Pleiadum Luna nobis..*

b.

<i>Subducit</i>	$17^{\circ}33.07''$	}	<i>Lat. lucida à cen-</i>	}	<i>Ingr.</i>	$7'.16''$
<i>Retegit</i>	$18^{\circ}29.23$		<i>tro ðæ ad Austr. in</i>		<i>Emers.</i>	$6.37.$
<i>Detinet</i>	$0.56.16$					

*Infimam occidentali proximam Lunæ.*

b.

<i>Attingit</i>	$17.4'.36''$	}	<i>Lat. * à ða</i>	}	<i>Ingressu</i>	$14'.07''$
<i>Detegit</i>	$17.40.34.$		<i>ad Austr. in</i>		<i>Emers.</i>	$13.40.$
<i>Retinet</i>	$0.35.48.$					

*Succedit autem queque Phasis alteri hoc ordine :  
Octobris 10mo mane.*

Phas.	in	"	"
1	$4.15.13.$		<i>Luna Occidentalem lucidiorem attingit.</i>
2	$5.04.36.$		<i>infimam occidentali proximam obsidet.</i>
3	$5.21.20.$		<i>occidentalis lucidior emergit.</i>
4	$5.33.07.$		<i>media &amp; lucida luce nobis capta est.</i>
5	$5.40.34.$		<i>infima occidentali proxima evadit.</i>
6	$6.29.23.$		<i>media &amp; lucida Pleiadum remittitur.</i>

*10 Novemb. 3. ineunte nocte Luna iterum Medium in Lino Australi,  $\gamma$ um aggreditur, cuius tunc temporis locus versus  $\gamma 12^{\circ}.53'.$   
 $40''$ , cum Lat.  $1^{\circ}05'.03''$ . Bor.**Londini*

( 2033 )

*Loudini Luna stellam*

<i>b.</i>	<i>"</i>	
<i>Subripet</i>	<i>7. 47. 07.</i>	<i>Lat. * à centro</i>
<i>Remittit</i>	<i>8. 52. 45.</i>	<i>D° ad Bor. in</i>
<i>Retinet</i>	<i>1. 05. 38.</i>	<i>Ingr. 8. 13<math>\frac{1}{2}</math>.</i>

  

*b.*,  
II. Decemb. 3. 14.30; juxta Ephemeridas, Luna Pleiades aſſequitur.

*Pleiadum occidentalis Evidior à Luna*

<i>b.</i>	<i>"</i>	
<i>Captia est</i>	<i>14. 16. 46.</i>	<i>Lat. * à centro</i>
<i>Remissa</i>	<i>15. 11. 34.</i>	<i>D° ad Bor. in</i>
<i>Retenta</i>	<i>0. 54. 48.</i>	<i>Ingr. 1. 46.</i>

  

*Media & Lycide Pleiadum*

<i>b.</i>	<i>"</i>	
<i>Subingressus</i>	<i>15. 21. 38.</i>	<i>Lat. * à centro</i>
<i>Reteclio</i>	<i>16. 16. 18.</i>	<i>D° ad Austr. in</i>
<i>Mora sub D°</i>	<i>0. 54. 40.</i>	<i>Ingr. 3.02.</i>

  

*Infimæ occidentali proximæ*

<i>b.</i>	<i>"</i>	
<i>Subteclio</i>	<i>14. 50. 06.</i>	<i>Lat. à centro</i>
<i>Emersio</i>	<i>15. 36. 06.</i>	<i>Ingress. 10. 34.</i>
<i>Mora</i>	<i>0. 46. 00.</i>	<i>D° ad Austr. in</i>

  

*Ultimæ, quæ in cupide est ad ortum,*

<i>b.</i>	<i>"</i>	
<i>Immersio</i>	<i>16. 09. 19.</i>	<i>Lat. * à centro</i>
<i>Emersio</i>	<i>16. 53. 09.</i>	<i>Ingress. 9. 56.</i>
<i>Mora sub D°</i>	<i>0. 43. 50.</i>	<i>D° ad Austr. in</i>

( 2034 )

*Cæterum hujus phænomeni tali ordine succedunt Phæses :*

Phæs.	h.	"
1	14.16.46.	<i>Occidentalis lucidior subripitur.</i>
2	14.50.06.	<i>infima occidentali proxima obtegitur.</i>
3	15.11.34.	<i>occidentalis lucidior emergit.</i>
4	15.21.38.	<i>media &amp; lucida obscuratur.</i>
5	15.36.06.	<i>infima prodit occidentali proxima.</i>
6	16.09.19.	<i>que in cuspidé ad ortum occupatur.</i>
7	16.16.18.	<i>media &amp; lucida se à Luna exerit.</i>
8	16.53.09.	<i>que in cuspidé ad ortum evadit.</i>

All those that desire the Advancement of *Astronomy*, and have convenience of making Observations, are herewith solicited to apply themselves with all diligence and exactness to observe these recited Appearances.

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*Accompt of three Books.*

I. *ORIGO FORMARVM & QUALITATVM; juxta Philosophiam Corpuscularem Considerationibus & Experimentis Illustrata*, à Roberto Boyle Nobili Anglo, è Societ. Regia. Oxon. 1669. in 12°.

**H**aving formerly, (Numb. 11.) given the Contents of this Instructive Treatise, we again take notice of it here, only to let Forreigners know, that the same is now Printed in the *Latin Tongue*, after it had been publick in the *English* since *April*, of the year 1666.

II. *METALLOGRAPHIA, or an History of Metals*; by John Webster, Practitioner in Physick and Chirurgery. London, for Walter Kettilby in Paul's Church-Yard. 1670. in 4°.

**T**he Author of this History hath with much diligence and curiosity deliver'd therein (to speak of it in general,) the