

## XII.

S u p e r

Longitudine geographica  
 Speculae astronomicae Regiae, quae Monachii est, ex tri-  
 ginta septem defectionibus solis observatis, et ad calculos  
 revocatis nunc primum definita

a

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Commentatio altera, lecta in Consessu academico VI. Iduum Maii 1789.

S i t

- l. = longit. verae ☉.  
 A = ascensio: rect. ☉.  
 B = latitud. ☉.  
 $\frac{1}{2}D$  = semidiam. ☉.  
 $\pi''$  = Parall. horizon. ☉.  
 m = motui. hor. ☉ in longit.  
 $\epsilon$  = obliquit. eclipt.  
 L = longit. verae ☿.  
 $\lambda$  = latit. verae ☿.  
 $\pi'$  = Parallax. ☿.  
 M = motui horar. ☿ in longit.

S i t.

- $\pi$  = Differ. parallax. ( $\odot$  —  $\oplus$ ).  
 $\alpha$  = AR medii coeli.  
 $\varphi'$  = elevatio. poli.  
 $\beta$  = lat. geocentr.  
 $\frac{n}{m} = \frac{333}{334}$   
 $p$  = different. parallax. longit.  $\odot$ .  
 $\lambda'$  = latit.  $\odot$  apparent.  
 $\frac{1}{2}D'$  = semidiametr.  $\odot$  geocentricae.  
 $\mu$  =  $M - m$  = motui horar. ( $\odot$  —  $\oplus$ ).  
 $\log. h$  = log. pro reductione spatii ad tempus.  
 $l'$  = longit. verae ( $\odot$  —  $\oplus$ ) =  $(L - l)$ .  
 $T$  = temp. observat. medio.  
 $t$  = temp. ad  $\odot$  propius accedenti.  
 $\tau$  = temp. civil. Parisiis.  
 $\tau'$  = tempori arithmetice medio phases observatas inter et conjunctionem propius supputatam.  
 $ae$  = aequat. temporis.  
 $T'$  = tempori vero.  
 $\delta$  = different. meridian. tempore.

## 1.

Eclipsis solis tubo achromatico Dollondii 275ies augente a me observata Junii 16. 1806.

Monachii,  $\text{Initium} = 5^h.35'.58'',69$  } tempore solari medio.  
            $\text{Finis} = 6^h.44'.29'',76$  }

## 2.

Positis different. meridian. Parisios inter et speculam regiam =  $-37'.05''.56$ ;  
 et elevatione poli =  $48^o 07'.33''$ . Illa quidem ex siderum inerrantium occultationibus, hac vero ex observationibus stellae polaris, aliisque, variis et multiplicibus a me definita.

Elementa desumpta ex: *Tables astron. publiées par le Bureau des Longitudes de France par M. Delambre. Paris 1806.*

Initium computatum.		Locus Solis.									
5 <sup>h</sup> .35'58",69 = temp. med. astron. Monachii = 16 <sup>h</sup> .58'53",13 temp. civ. Parisino.											
	Longitudo.	Perigeum.	M.	A.	B.	C.	D.	E.	F.	N.	
Aequat. sec.	- - - - 0, 4	- - - - 0, 0									
1806	9 <sup>s</sup> .09 <sup>o</sup> .56'.43",2	9 <sup>s</sup> .09 <sup>o</sup> .35'.15",0	839	344	278	154	836	733	546	230	
16. Jun.	5. 13. 37. 02, 8	- - - 28, 2	24	520	455	739	242	38	15	24	
	2. 23. 33. 46, 4	9. 09. 35. 43, 2	863	964	733	893	78	771	561	254	
16 <sup>h</sup> .	- - - 39. 25, 6	2. 24. 15. 37, 1	23	23	2	3					
58'.	- - - 02. 22, 9										
53"13	- - - 02, 2	5. 14. 39. 53, 9	886	987	735	896					
		5. 14. 39. 898		9	2B.. 470						
☉	2. 24. 15. 37, 1	5. 14. 664 anom	med	996	2B-C	574					
					dupl...	148					
					C-2(2B-C)...	748					
Aeq. centr.	0. 0. 29. 10, 4										
Var. sec.	. . . . . 0, 1										
A.	. . . . . 07, 3										
B. C.	. . . . . 13, 5										
B. D.	. . . . . 04, 2										
B. E.	. . . . . 16, 3										
B. F.	. . . . . 0, 2										
Nut. ☉	. . . . . 18, 0										
Nut. ☉	. . . . . 0, 2										
Aberrat. ☉	. . . . . 0, 3										
Lg. ☉ ver.	2. 24. 45. 47, 2										
☉	2. 24. 15. 37, 1										
Nut. ☉	. . . . . 18, 0										
Lg. ☉ med.	2. 24. 15. 55, 1										
			Obliquitas Eclipticae.				Latitudo solis.				
			Obliquitas 1800. 23 <sup>o</sup> .27'.57",0				A+B+N=985+0,06				
			5,5 anni . . . . . 03, 4				2B-C=554-0,08				
			Nut. ☉ . . . . . 0, 2				3C-4B=748-0,06				
			Nut. ☉ . . . . . 0, 4				B-2E=193+0,04				
Lg. ☉ ver.			23 <sup>o</sup> .27'.53",0				Latit. ☉ = 1 = - 0,04				
E Tabula XXIX.											
			Semidiam. ☉ . . . 15'.46",03								
			Motus horar. ☉ . . 02. 23, 15								
			Parall. ☉ . . . . . 08, 66								



Initium computatum.

Locus Lunae.

Constructio argument.		Long. med. ☉		Anom. med.			Suppl. nod.
	Aeq. sec.	- - - 10, 3		- - - 44, 8			- - - 08, 5
	1806	1 <sup>s</sup> .210.42'.30",0		10 <sup>s</sup> .020.10'.23",6			2 <sup>s</sup> .220.47'.24",0
	16. Jun.	-27. 16. 54, 5	Argg.	- 08. 47. 19, 0	Deductio argumen- torum.	Argg.	- 08. 47. 26, 1
	16 <sup>b</sup> .	- 08. 47. 03, 4		- 08. 42. 36, 0			- - - 02. 07, 1
	58 <sup>c</sup> .	- - 31. 50, 6		- - 31. 24, 4			- - - 07, 0
	53",13	- - - - 29, 1		- - - 28, 9			- - - 0, 1
	☉	2.28.18.57, 9	A. . .	10.20.13.06,7	N.	XVII.	3.01.36.56, 5
	☽	2.24.45.47, 2	Aequat. A.	11.27.54.11,9	☉+N.	☉	2.24.45.47, 2
☉-☽	D.	0.03.33.10, 7	24 aequat.	0.02.53.55,2		XVIII.	5.26.23
Anom.☉	I.	5.14.39.53, 9	XV.	10.21.01.13,8		V.	1.13.20
D+I.	II.	5.18.13	Argg.	Aequat. longit.	XVIII+V.	XIX.	7.09.43
D-I.	III.	6.18.53	I.	0 <sup>s</sup> . 00.09'.05",4		VI.	1.16.53
	D.	0.03.33	II.	- - - - 22,4		2D	0.07.06
a n. m. ☉	A.	10.20.13	III.	- - - - 20,0	VI+2D	XX.	1.23.59
D+A.	IV.	10.23.46	IV.	- - - - 15,9	2A-	2A-	9.10.26
D-A.	V.	1.13.20	V.	- - - - 46,8	XX-2A.	XXI.	4.13.33
V+D.	VI.	1.16.53	VI.	- - 02.32.20,4		2A.	9.10.26
	2A.	9.10.26	VII.	- - - 01.31,3		X-	5.21.46
VI+2A	VII.	10.27.19	VIII.	- - - - 01,3	2A-X.	XXII.	3.18.40
VI-2A	VIII.	4.06.27	IX.	- - - 01.16,3		☉	2.28.18.57,9
	A.	10.20.13	X.	- - - 01.07,7		N.	3.01.36.56,5
a.	L	5.14.40	XI.	- - - 01.30,9	☉+N.	☽	5.29.55.54
A-I.	IX.	5.05.33	XII.	- - - - 0,6	2☽-	2☽-	11.29.51.48
	VII.	10.27.19	XIII.	- - - 01.54,8	VI-	VI.	1.16.53
VII-IX.	X.	5.21.46	XIV.	- - - - 17,9	VI-2☽	XXIII.	1.17.01
	VI.	1.16.53	XV.	- - - - 03,9	2A.	2A.	9.10.26
	IX.	5.05.33	XVI.	- - - - 01,6	XXIII+2A	XXIV.	10.27.27
VI+IX.	XI.	6.22.26	XVII.	- - - - 03,2	N.	XVII.	3.01.36.56,5
	V.	1.13.20	XVIII.	- - - 02.07,9	Aequat. N.	Aequat. N.	11.29.24.20,8
	I.	5.14.40	XIX.	- - - - 03,7	☉"	☉"	2.25.40.04,9
V+I.	XII.	6.28. 0	XX.	- - - - 11,4	☽	☉"+N'.	5.26.41.22,2
	VI.	1.16.53	XXI.	- - - - 01,9	2☽.	2(☉"+N')	11.23.22.44,4
	I.	5.14.40	XXII.	- - - - 0,1	2☽-XXV	XXV-	10.21.01.13,8
VI+I.	XIII.	7.01.33	XXIII.	- - - - 15,0	☽	☉"+N'	5.26.41.22,2
VI-I.	XIV.	8.02.13	XXIV.	- - - - 14,8	constans	constans	11.29.58
	VII.	10.27.19	24 aequat.	0 <sup>s</sup> .020.53'.55",2	27ma	27ma	- - 01.14,8
	I.	5.14.40	25 <sup>ta</sup>	11. 23. 48, 52, 3		XXVIII.	5.26.40.37,0
VII+I.	XV.	4.11.59	☉	2. 28. 18, 57, 9			
VII-I.	XVI.	5.12.39	☉'	2. 25. 01. 45, 4			
			☉-	2. 24. 45. 47, 2			
			XXVI.	0. 0. 15. 58, 2			
			26 <sup>ta</sup>	- - 38. 19, 5			
			☉"	2. 25. 40. 04, 9			



## Finis computatus.

## Locus Lunae.

Constructio argumenti.	Long. med. ☾	Anom. med.	Suppl. nod.
Aeq. sec. 1806	10, 3	44, 8	08, 5
16. Jun.	1 <sup>s</sup> . 210. 42'. 30", 0	10 <sup>s</sup> . 02 <sup>o</sup> . 10'. 23", 6	2 <sup>s</sup> . 22 <sup>o</sup> . 47'. 24", 0
18 <sup>h</sup> .	- 27. 16. 54, 5	- 08. 47. 19, 0	- 08. 47. 26, 1
07 <sup>h</sup> .	- 09. 52. 56, 3	- 09. 47. 55, 5	- 02. 23, 0
43", 95	- 03. 50, 6	- 03. 48, 6	- 0, 9
	- 24, 1	- 23, 9	- 0, 1
☾	2.28.56.45, 8	A. 10. 20. 50. 35, 4	N. XVII. 3.01.37.05, 6
☉	2.24.48.31, 3	Aequat. A. 11. 27. 54. 13, 1	☉ 2.24.48.31, 3
☾-☉	D. 0.04.08.14, 5	24 aequat. - 02. 54. 20, 7	☉+N XVIII. 5.26.26
Anom. ☉	I. 5.14.42.43, 3	XXV. 10. 21. 39. 09, 2	V. 1.13.17
D+I.	II. 5.18.51	Argg. Aequat. longit. XVIII+V. XIX. 7.09.43	XIX. 7.09.43
D-I.	III. 6.19.25	I. 0 <sup>s</sup> . 00.09'.05", 9	VI. 1.17.25
an. m. ☾	D. 0.04.08	II. - - - 22, 0	2D. 0.08.16
D+A.	A. 10.20.51	III. - - - 20, 8	VI+2D. XX. 1.25.41
D-A.	IV. 10.24.59	IV. - - - 15, 8	2A- 9.11.41
V+D.	V. 1.13.17	V. - - - 46, 8	XX-2A. XXI. 4.14. 0
	VI. 1.17.25	VI. - - 02.32.51, 0	2A. 9.11.41
	2A. 9.11.41	VII. - - - 01.29, 3	X- 5.22.58
VI+2A	VII. 10.29.06	VIII. - - - 01, 3	2A-X. XXII. 3.18.43
VI-2A	VIII. 4.05.44	IX. - - - 01.15, 9	☾ N. 2.28.56.45, 8
a.	A. 10.20.51	X. - - - 01.06, 6	N. 3.01.37.05, 6
A-I.	I. 5.14.43	XI. - - - 01.29, 5	☾+N δ. 6. 0.33.51, 0
	IX. 5.06.08	XII. - - - 0, 6	2δ- 0.01.07.42. 0
	VII. 10.29.06	XIII. - - - 01.53, 9	VI. 1.17.25
VII-IX	X. 5.22.58	XIV. - - - 17, 8	VI-2δ. XXIII. 1.16.17
	VI. 1.17.25	XV. - - - 03, 9	2A. 9.11.41
	IX. 5.06.08	XVI. - - - 01, 6	XXIII+2A. XXIV. 10.27.58
VI+IX.	XI. 6.23.33	XVII. - - - 03, 2	N. XVII. 3.01.37.05, 6
	V. 1.13.17	XVIII. - - - 02.07, 8	Aequat. N. 11.29.24.20, 4
	I. 5.14.43	XIX. - - - 03, 7	☾" 2.26.22.24, 3
V+I.	XII. 6.28. 0	XX. - - - 11, 2	δ. ☾"+N'. 5.27.23.50, 3
	VI. 1.17.25	XXI. - - - 01, 9	2δ. 2(☾"+N') 11.24.47.40, 6
	I. 5.14.43	XXII. - - - 0, 1	XXV. 10.21.39.09, 2
VI+I.	XIII. 7.02.08	XXIII. - - - 15, 0	2δ-XXV. XXVII. 1.03.08.31, 4
VI-I.	XIV. 8.02.42	XXIV. - - - 14, 7	δ. ☾"+N'. 5.27.23.50, 3
	VII. 10.29.06	24 aequat. 0 <sup>s</sup> . 02 <sup>o</sup> . 54'. 20", 7	constans 11.29.58
	I. 5.14.43	25 <sup>ta</sup> ☾" 2. 28. 56. 45, 8	27 <sup>ma</sup> - - 01, 13, 7
VII+I.	XV. 4.13.49	☾' 2. 25. 43. 17, 4	XXVIII. 5.27.23.04, 0
VII-I.	XVI. 5.14.23	☉- 2. 24. 48. 31, 3	
		XXVI. 0. 0. 54. 46, 1	
		26 <sup>ta</sup> - - 39. 06, 9	
		☾" 2. 26. 22. 24, 3	



4.

Elementa igitur ex tabulis desumpta ita se habent:

tempore initii,	finis.
l = 84 <sup>o</sup> .45'.47",20	84 <sup>o</sup> .48'.30"5
A = 84. 15. 55, 1	84. 18. 43, 7
B = . . . 0, 04	
$\frac{1}{2}$ D = . . 15. 46,03	
$\pi''$ = . . . 8,66	
m = . . . 2. 23,15	
$\epsilon$ = 23. 27. 53,0	
L = 85. 02. 24,9	85. 44. 33. 2
$\lambda$ = . + 17. 41,4	+ 13. 47. 4
$\pi'$ = . . 60. 16,5	.. 60. 17, 9
M = . . 60. 41,98	.. 36. 43, 71
$\pi$ = . . 60. 07,84	.. 60. 09, 24
$\alpha$ = 168. 15. 35,45	185. 26. 10, 1

5.

Correctio latitudinis,

posita depressione sphaerae telluris =  $\frac{1}{334}$  vel  $\frac{n}{m} = \frac{355}{334}$ 

$$\log. \text{tg. lat. geoc.} = \beta = \frac{n^2}{m^2} \text{tg. } \varphi$$

$$\log. \frac{n^2}{m^2} = 9.9973956$$

$$\text{tg. } \beta' = 0.0474811$$

$$\beta = 47^{\circ}.57'.18'',0 \quad \text{tg. } \beta = 0.0448767$$

6.

Calculi anguli  $\varphi$ 

$$\text{Tg. } \varphi = \sin. \alpha \cot. \beta.$$

$$\sin \alpha = 9.3085083 | 8.9765161 n$$

$$\cot. \beta = 9.0551233 | 9.9551233$$

$$\text{ang. } \varphi = 100.23'.52'',8$$

$$\epsilon = 23. 27. 53. 0$$

$$\varphi + \epsilon = 330.51'.45'',8$$

$$\text{tg. } \varphi = 9.2636316 | 8.9316304 n$$

$$\text{ang. } \varphi = 40.52'.59'',2$$

$$\epsilon = 23. 27. 53. 0$$

$$\varphi + \epsilon = 180.34'.53'',8$$

7.

## Differentia parallaxium longitudinis.

$$\sin. L \cos. \lambda - \frac{\sin. \pi \cos. \beta}{\cos. \varphi} \sin. (\varphi + \epsilon)$$

$$\text{Tg. long. } \odot \text{ app.} = \frac{\sin. L \cos. \lambda - \frac{\sin. \pi \cos. \beta}{\cos. \varphi} \sin. (\varphi + \epsilon)}{\cos. L \cos. \lambda - \sin. \pi \cos. \alpha \cos. \beta.}$$

Initium.

Finis.

	sin. L=0.9983708	9.9987964	
	cos. L=8.9367946	8.8766267	
	cos. λ=9.9999943	9.9999965	
Num.=0.9962424	sin. L cos. λ=9.9983651	9.9987964	Num.=0.9972324
Num.=0.9864547	cos. L cos. λ=8.9367880	8.8706232	Num.=0.0742347
	sin. π=8.2427997	8.2429683	
	sin. β=9.8707661	9.8707661	
	C cos. φ=0.0071912	0.0015791	
	8.1207570	8.1153135	
0.9962424	sin. (φ+ε)=9.7460150	9.5033209	0.9972324
Num.=0.0073582	=7.8667720	7.6186344	Num.=0.0041556
Diff.=0.988842	log.=9.9951455	9.9969828	Diff.=0.9930768
	sin. π=8.2427997	8.2429683	
	cos. α=9.9908183n	9.9980423n	
	cos. β=9.8258894	9.8258894	
0.9864547	8.0595074n	8.0669000n	0.0742374
Num.=0.0114685	log.=8.9908856	8.9340059	Num.=0.0116651
Diff.=0.0979232	C. log.=1.0091144	1.0659941	Diff.=0.0589025
	9.9951455	9.9969828	
L=85° 02'. 24", 9	9.9951455	9.9969828	L=85° 44'. 33", 2
L'=84.20. 41, 2	tang. L'=1.0042599	1.0629769	L'= 5.8 03. 22, 1
p = - 2508", 7			p = - 2471", 1

8.

## Latitudo lunae apprens.

$$\left( \sin. \lambda - \frac{\sin. \pi \sin. \beta}{\cos. \varphi} \cos. (\varphi + \epsilon) \right) \cos. L'$$

Tg. lat. ☾ app. =

$$\frac{\sin. \pi \sin. \beta}{\cos. \varphi} \cos. (\varphi + \epsilon) \cos. L'$$

	cos. L cos. λ = 8.1207570	8.1153135	
	sin. π sin. β = 9.9192743	9.9767491	
sin λ = 0.0051458	cos (φ+ε) = 8.04003183	8.0920626	sin λ = 0.0040113
Num. = 0.0109656	log. = 7.7649081n	7.9216813n	Num. = 0.0123612
Diff. = -0.0058198	cos. L' = 8.9936217	8.9354046	Diff. = -0.0083499
	C = 1.0001144	1.0659941	
λ' = -1208", 0	tg. λ' = 7.7676442n	7.9230800n	λ' = -1727", 7

9.

## Semidiameter lunae geocentrica.

$$\text{Sin. semid. } \odot \text{ geoc.} = \frac{\cos. L' \cos. \lambda' \sin. \frac{1}{2} D}{\cos. L \cos. \lambda - \sin. \pi \cos. \alpha \cos. \beta}$$

Initium.		Finis.
C. Den. cos. L' = 0.0027361	0.0013987	. . . . .
cos. $\lambda'$ = 9.9999925	9.9999846	. . . . .
sin. $\frac{1}{2} D$ = 7.6799121	7.6800797	. . . . .
$\frac{1}{2} D' = 993'' 28$ . . . . .	sin. $\frac{1}{2} D' = 7.6826407$   7.6814630 . . . . .	$\frac{1}{2} D' = 990'' 58$

10.

Tempus ad  $\delta$  propius accedens.

$$\text{Motus hor. } \odot - \odot : 3600'' = \text{long. vera } (\odot - \odot) : x''$$

Initium.

$$\begin{aligned} \mu &= 34'. 19'', 27 = 34'. 32 \\ e' &= 16. 37, 7 = 16, 63 \end{aligned}$$

$$34'. 32 : 3600'' = 16', 63 : x'' = 1744'' = 29'. 04''$$

$$T = 5^h. 35'. 58'', 7$$

$$\begin{aligned} \text{Correct.} &= -29. 04, 0 \\ t &= 5^h. 06'. 54'', 7 \end{aligned}$$

11.

## Motus horarius lunae — solis.

Initium.		Finis.
T = 16 <sup>h</sup> . 45'	17 <sup>h</sup> . 20''	
$\mu = 34'. 18'', 99$	34'. 19'', 73	

12.

## Logarith. pro reduction. spatii ad tempus.

$$\begin{aligned} 34', 3165 : 3600'' = 1 : h' & \quad | \quad 34', 32883 : 3600'' = 1 : h' \\ \log. h' = 0.2426495 & \quad | \quad 0.2424924 \end{aligned}$$

54

13.

## Solutio trianguli SMN.

Sit  $Vm = \text{Long. } \odot \text{ appar.}$   
 $Vs = \text{Long. } \ominus.$   
 $VM = \text{Long. } \odot \text{ verae.}$   
 $Mm = \text{Parall. } \odot - \ominus \text{ in long.}$   
 $MN = \text{Latitud. } \odot \text{ verae.}$   
 $mn = \text{Latitud. } \odot \text{ appar.} - \text{lat. } \ominus$   
 $Sn = \text{Semid. } \odot - \ominus \text{ correct.}$

erit  $Sm^2 = (fn + mn)(fn - mn)$   
 et inde

temp. initii,		finis.
$SM = p - Sm$		$SM = p + SM$
hinc		

Correctio =  $-SM' = h'.SM$

$Sn = 1939,31$		$Sn = 1936,61$
$mn = 1207,96$		$mn = 1727,66$
$Sum. = 3147,27$ . . . . .	$\log. = 3.4979340$	$Sum. = 3664,27$
$Diff. = 731,35$ . . . . .	$\log. = 2.8641253$	$Diff. = 208,95$
	$\log.Sm^2 = 7.3620593$	
$Sm = 1517,1$ . . . . .	$\log.Sm = 3.1810296$	$Sm = 875,01$
$p = 2503,7$		$p = 2471,1$
$SM = 986,6$ . . . . .	$\log. = 2.9941411$	$SM = 3346,11$
	$\log.h' = 0.2426495$	$SM' = 1^h, 37', 28'', 3$
$SM' = 28'.45'', 0$ . . . . .	$\log.SM' = 3.2367906$	$SM' = 1^h, 37', 28'', 3$

14.

Tempus  $\delta$  incorrectum.

$T = 5^h, 35', 58'', 69$		$6^h, 44', 29'', 76$
$SM' = -28.45, 00$		$-1. 37. 28, 30$
$\delta = 5^h, 07', 13'', 69$		$5^h, 07', 01'', 46$

15.

Correctio  $\delta$  supputatae.Temp.  $\delta$  correctae.

$$\left. \begin{array}{l} \text{ex init.} \\ \text{ex fine} \end{array} \right\} \begin{array}{c} \text{I.} \\ \text{II.} \\ \text{III.} \\ \text{IV.} \\ \text{V.} \end{array} \begin{array}{l} + \frac{h'fn}{fm} dfn \\ + \frac{h'mn}{fm} d\lambda \\ + \frac{h'mn}{fm} \sin.b d\pi \\ - h' \sin.(1-L') \cos.b d\pi \\ + \frac{h'fn}{fm} d\pi \end{array}$$

ubib = Altit. Nonag.

l = Long. Nonag.

$$\begin{array}{r} h' = 0.2426495 \mid 0.2424924 \\ fm = 3.1810296 \mid 2.9420149 \\ \log. \text{Quot.} = 7.0616199 \mid 7.3004775 \\ fn = 3.2876472 \mid 3.2870421 \\ mn = 3.0820527 \mid 3.2374583 \\ \text{I} = +2,2349 dfn \dots \text{Prod.} = 0.3492671 \mid 0.5875196 \dots \text{I} = -3,8682 dfn \\ \text{II} = +1,3921 d\lambda \dots \text{Prod.} = 0.1436726 \mid 0.5379358 \dots \text{II} = -3,4509 d\lambda \\ \sin.b = 0.7972316 \mid 0.8490947 \\ \text{III} = -0,8728 d\pi \dots \text{Prod.} = 0.9409042 \mid 0.3870305 \dots \text{III} = +2,4379 d\pi \\ h' = 0.2426495 \mid 0.2424924 \\ \cos.b = 0.8915721 \mid 0.8498780 \\ \sin.(1-L') = 0.9497692 \mid 0.9856261 \\ \text{IV} = -1,2133 d\pi \dots \text{Prod.} = 0.0839908 \mid 0.0779965 \dots \text{IV} = -1,1967 d\pi \\ \log. \frac{3}{11} = 0.4357284 \mid 0.4357284 \\ \log. \frac{h'fn}{fm} = 0.3492671 \mid 0.5875196 \\ \text{V} = +0,6095 d\pi \dots \text{Prod.} = 0.7849955 \mid 0.0232480 \dots \text{V} = +1,0549 d\pi \\ \text{Temp. } \delta \text{ correct.} \left\{ \begin{array}{l} \text{ex initio.} = 5^{\circ}.07'.13''.69 + 2,2349 dfn + 1,3921 d\lambda - 1,4766 d\pi \\ \text{ex fine} = 5^{\circ}.07'.01''.46 - 3,8682 dfn - 3,4509 d\lambda + 2,2961 d\pi \\ \text{Aeq. I} \dots \dots \dots 12^{\circ}.23' + 6,1031 dfn + 4,8430 d\lambda - 3,7727 d\pi \end{array} \right. \end{array}$$

16.

Eclipsis solis Romae ab Astronomis celeberrimis Conti et Calandrelli in collegio romano observata. Ex litteris a celeberrimo Astronomo Calandrelli ad me datis.

$$\left. \begin{array}{l} \text{Initium} = 5^{\circ}.42'.41''.9 \\ \text{Finis} = 7^{\circ}.0'.52''.9 \end{array} \right\} \text{temp. solari vero.}$$

54<sup>2</sup>

17.

Diff. merid. Parisios inter et collegium romanum =  $-40'.38''$ . tempore, ex  
epistola Calandrelli. Elevatio poli =  $41^{\circ}.53'.54''.2$  Ex ea-  
dem epistola desumpta.

18.

Tempus solare medium.

Initium.		Finis.
ae = . . . + 7''.36	. . . . .	8''.05
T' = $5^h.42'.41''.9$	. . . . .	$7^h.0'.52''.9$
T Romae = $5.42.49,26$	. . . . .	$7.01.0,95$
$\delta = -40.38,00$	. . . . .	$-40.38,00$
T = $17^h.02'.11''.26$	. . . . .	$18^h.20'.22''.95$

19.

Elementa e tabulis desumpta.

l = $84^{\circ}.45'.55''.0$	. . . . .	$84^{\circ}.49'.01''.6$
A = $84.16.03,2$	. . . . .	$84.19.15,8$
L = $85.04.26,1$	. . . . .	$85.52.18,1$
$\lambda = +17.30,0$	. . . . .	$+13.04,3$
$\alpha = 169.58.22,4$	. . . . .	$189.34.29,05$

Cactera elementa ut supra.

20.

Correctio latitudinis,

$$\beta = 41^{\circ}.43'.39''.5 \quad . . . \quad | \quad . . . \quad \text{tg. } \beta = 0.9502837$$

21.

Differentia parallaxium longit.

L = $85^{\circ}.04'.26''.1$		L = $85^{\circ}.52'.18''.1$
L' = $84.18.10,1$	. . . . .	L' = $85.07.25,2$
p = $-2776'',0$	1.0609907 . . . . .	p = $-2692'',9$

22.

## Latitudo lunae apparens.

Initium.		Finis.
$\lambda' = -971'',3$ . . .	$\text{tg. } \lambda' = 7.6729544n   7.8897359n$ . . . . .	$\lambda' = -1600'',1$

23.

## Semidiameter lunae geocentrica.

$$\frac{1}{2}D' = 992'',52 \quad . \quad . \quad \text{sin. } \frac{1}{2}D' = 7.6823097 | 7.6807782 \quad . \quad . \quad . \quad . \quad \frac{1}{2}D' = 989'',00$$

24.

## Logarith. pro reduct. spatii ad tempus.

$\tau' = 16^h.46'$	$17^h.25'$	
$\mu = . . 34.19'',0$ . . .	$.34.19'',83$	
$\text{log. } h' = .0,2426465$	$0.2424711$	

25.

## Solutio trianguli S m n.

$S n = 1938,55$		$S n = 1935,03$
$m n = 971,26$		$m n = 1600,06$
$S m = 1677,6$ . . .	$\text{log. } S m = 3.2247106$	$3,0367032$ . . . . .
$p = 2776,0$		$S m = 1088,2$
$S M = 1098,4$		$p = 2692,9$
		$S M = 3781,1$
$S M' = 32'. 0'',4$ . . .	$\text{log. } S M' = 3.2834070$	$3.8200893$ . . . . .
		$S M' = 1^h.50'.08'',3$

26.

Tempus  $\delta$  incorrectum.

$T = 5^h.42'.49'',26$	$7^h.01'.00'',95$	
$S M' = -32. 0, 40$	$-1. 50, 08, 30$	
$\delta = 5^h.10'.48'',86$	$5^h.10'.52'',65$	

27.

Tempus  $\delta$  correctum.

$$\begin{array}{r} \text{Ex init.} = 5^{\text{h}}.10'.48''.86 + 2,0203 \text{ dfn} + 1,0122 \text{ d}\lambda - 1,3509 \text{ d}\pi \\ \text{ex fine} = 5.10.52,65 - 3,1078 \text{ dfn} - 2,5692 \text{ d}\lambda + 1,2392 \text{ d}\pi \\ \hline \text{Aeq. II.} \dots 3'',79 - 5,1281 \text{ dfn} - 3,5814 \text{ d}\lambda + 2,5991 \text{ d}\pi \end{array}$$

28.

Eclipsis solis ab Astronomo celeb. Scarpellini Romae in specula astronomica Caetani observata. Ex litteris ad Illustrem de Humboldt, Regi Borussiae a Secretis principem, id temporis Romae Oratorem, mihi amicissimum, datis, ut mecum communicaret.

$$\begin{array}{l} \text{Initium} = 5^{\text{h}}.42'.55''.0 \\ \text{Finis} = 7. 0. 52. 5 \end{array} \left. \vphantom{\begin{array}{l} \text{Initium} \\ \text{Finis} \end{array}} \right\} \text{ temp. sol. vero.}$$

29.

Diff. merid. Parisios inter et speculam Caetani =  $-40'.37''.5$  tempore  
Elevatio poli =  $+410,53'.54''.2$  Illam ex  
litteris (cf. *Connaissance des tems pour l'an XIII.* p. 489) aequae ac hanc  
desumpsi ita habentibus: „L'osservatorio Caetani è di poche tese più au-  
strale di quello del Collegio Romano.”

30.

## Tempus solare medium.

Initium.	Finis.
ae = . . . 7'',36	. . . 8'',05
T' = 5 <sup>h</sup> .42'.55,00	7 <sup>h</sup> . 0'.52'',5
T Romae = 5.43.02,36	7.01. 0,55
$\delta$ = $-40.37,50$	$-40.37,50$
$\tau$ = 17 <sup>h</sup> .02'.24'',86	18 <sup>h</sup> .20'.23'',05

31.

Elementa e tabulis desumpta.

Initium.

$$\begin{array}{l|l}
 l = 84^{\circ}.45'.55'',5 & 84^{\circ}.49'.01'',7 \\
 A = 84. 16. 03, 7 & 84. 19. 15, 9 \\
 L = 85. 04. 34, 3 & 85. 52. 18, 2 \\
 \lambda = + 17. 29, 2 & + 13. 04, 3 \\
 \alpha = 170.01. 39, 1 & 189.34. 24, 2
 \end{array}$$

Finis.

32.

Correctio latitudinis.

$$\beta = 410.43'.39'',5 \dots \text{tg. } \beta = |9.9502837$$

33.

Calculi anguli  $\phi$ 

$$\begin{array}{l|l}
 \phi = 100.59'.20'',0 \dots \text{tg. } \phi = 9.2882015 & 9.2706355n \dots \quad \phi = -100.33'.47'',7 \\
 \phi + \epsilon = 24. 27. 13, 0 & \phi + \epsilon = 12. 54. 05, 3
 \end{array}$$

34.

Differentia parallaxium longit.

$$\begin{array}{l|l}
 L = 850.04'.34'',3 & L = 850.52'.18'',2 \\
 L' = 84. 18. 18, 1 \dots \text{tg. } L' = 1.0011993 & 1.0689825 \dots \dots \dots L' = 85. 07. 25, 3 \\
 p = - 2776'',2 & p = - 2692'',9
 \end{array}$$

35.

Latitudo lunae apparens.

$$\lambda'' = -973''1 \dots \dots \text{tg. } \lambda' = 7.6737472.n | 7.8897498.n \dots \dots \dots, \kappa' = -1600'',1$$

36.

Semidiameter lunae geocentrica.

$$\frac{1}{2}D' = 992'',51 \dots \dots \text{tg. } \frac{1}{2}D' = 7.6823057 | 7.6807777 \dots \dots \dots \frac{1}{2}D' = 989'',0$$

37.

Logarith. pro reductione spatii ad tempus.

Initium.		Finis.
$\tau' = 16^h.46''$	$17^h.25'$	
$\mu = . . 34. 19'',0$	$34. 19'',83$	
$\log. h' = 0.2426465$	$0.2424711$	

38.

Solutio trianguli Smn.

$fn = 1938'',54$		$fn = 1935'',03$
$mn = 973, 06$		$mn = 1600, 06$
$fm = 1676, 6$	$\log. fm = 3.2244375$	$3.0367032$ . . . . . $fm = 1088, 2$
$p = 2776, 2$		$p = 2692, 8$
$SM = 1099, 6$		$SM = 3781, 1$
$SM' = 32'.02'',6$	$\log. SM' = 3.2939812$	$3.8200993$ . . . . . $SM' = 1^h.50'.08''3$

39.

Tempus  $\zeta$  incorrectum.

$T = 5^h.43'.02'',36$	$7^h.01'. 0'',55$
$SM' = -32.02, 60$	$-1. 50.08, 30$
$\zeta = 5^h.10'.59''76$	$5^h.10'.52'',25$

40.

Tempus  $\zeta$  correctum.

$Ex\ init. = 5^h.10'.59'',76 + 2,0215\ dfn + 1,0147\ d\lambda - 1,3625\ d\pi$
$ex\ fine = 5. 10. 52, 25 - 3,1078\ dfn - 2,5692\ d\lambda + 1,2392\ d\pi$
$Aeq. III. . . . . 7'',51 + 5,1293\ dfn + 3,5839\ d\lambda - 2,6017\ d\pi$

41.

Eclipsis ab Astronomo celeb. Chiminello in specula astronomica Patavii observata. Ex Litteris Illustrissimi Cagnoli, Societatis scientiarum Italicae Praesidis ad me datis:

Initium = $5^h.33'.26'',8$	}	temp. solar. vero.
Finis = $6. 51. 30, 9$		

42.

Diff. merid. Parisios inter et Patavium  $= -38'.10''$  tempore  
 Elevatio poli  $= +450.23'.40''$ .

43.

Tempus solare medium.

Initium.

$T' = 5h.38'.26''.80$	$6h.51'.30''.90$
$ae = . . + 7, 35$	$. . + 7, 99$
$T \text{ Patav.} = 5. 38. 34, 15$	$6. 51. 38, 89$
$\delta = -38. 10.$	$- 38, 10$
$\delta = 17h. 0'. 24'', 15$	$18h. 13'. 28'', 89$

Finis.

44.

Elementa e tabulis desumpta.

$l = 840.45'.51'', 0$	$840.48'.45'', 2$
$A = 84. 15. 58, 8$	$84. 18. 58, 8$
$L = 85. 03. 20, 6$	$85. 48. 04, 0$
$\lambda = +17. 36, 0$	$. +13. 27, 8$
$\alpha = 168.54. 31, 05$	$187. 13. 42, 15$

45.

Correctio latitudinis.

$$\beta = 450.13'.21'', 5 \dots \text{tg. } \beta = 0,0033753$$

46.

Calculi anguli  $\varphi$ .

$$\varphi = 100.48'.24'', 3 \dots \text{tg. } \varphi = 0,2807663 | 0,0963894.n \dots \varphi = -70.06'.59'', 6$$

$$\varphi + \varepsilon = 34. 36. 17, 3 \quad | \quad \varphi + \varepsilon = 16. 20. 53, 4$$

47.

Differentia parallaxium longit.

$L = 850.03'.20'', 6$	$L = 850.48'.04'', 0$
$L' = 84. 19. 33, 9 \dots \text{tg. } L' = 1,0028184$	$1,0655993 \dots \dots \dots L' = 85. 05. 08, 7$
$P = - 2626'', 7$	$P = - 2575'', 3$

55

48.

## Latitudo lunae apparens.

Initium.		Finis.
$\lambda' = -1105'', 1$ . . .	$\text{tg. } \lambda' = 7.7289757 \text{ n}   7.9092988 \text{ n}$ . . . . .	$\lambda' = -1674, 0$

49.

## Semidiameter lunae geocentrica.

$$\frac{1}{2}D' = 992, 9 \quad \text{sin. } \frac{1}{2}D' = 7.6825130 | 7.6811741 \quad \dots \quad \frac{1}{2}D' = 990'', 0$$

50.

## Logarith. pro reduct. spatii ad tempus.

$\tau' = 16^h.45'$	$17^h.22'$
$\mu = 34.18'', 99$	$34.19'', 77$
$\text{log. } h' = 0.2426495$	$0.2424825$

51.

## Solutio trianguli Smn.

$fn = 1938'', 93$		$fn = 1936, 03$
$mn = 1105, 06$		$mn = 1673, 96$
$fm = 1593, 2$ . . .	$\text{log. } fm = 3.2022708$	$2.9879616$ . . . . .
$p = 2626, 7$		$p = 2575, 30$
$SM = 1033, 5$		$SM = 3547, 96$
$SM' = 30'.07'', 0$ . . .	$\text{log. } SM' = 3.2569600$	$3.7924612$ . . . . .
		$SM' = 1^h.43'.21'', 0$

52.

Tempus  $\delta$  incorrectum.

$T = 5^h.08'.34'', 15$	$6^h.51'.38'', 89$
$SM = -30.07, 0$	$-1.43.21, 0$
$\delta = 5^h.08'.27'', 15$	$5^h.08'.17'', 89$

53.

Tempus  $\delta$  correctum.

$$\begin{aligned} \text{Ex init.} &= 5^h.08'.27'',15 + 2,1278 \text{ dfn} + 1,2127 \text{ d}\lambda - 1,4168 \text{ d}\pi \\ \text{ex fine} &= 5.08.17,89 - 3,4788 \text{ dfn} - 3,0079 \text{ d}\lambda + 1,7666 \text{ d}\pi \\ \text{Aeq. IV.} &\dots\dots 9'',26 + 5,6066 \text{ dfn} + 4,2206 \text{ d}\lambda - 3,1834 \text{ d}\pi \end{aligned}$$

54.

Eclipsis solis ab Astronomo celeb. Oriani in specula astronomica Mediolani observata, ex litteris ab Ipso ad me datis:

$$\left. \begin{array}{l} \text{Initium} = 5^h.25'.58'',6 \\ \text{Finis} = 6.42.41,7 \end{array} \right\} \text{ temp. sol. medio.}$$

55.

$$\begin{aligned} \text{Diff. merid. Parisios inter et Mediolanum} &= -27'.25'' \text{ temporis.} \\ \text{Elevatio Poli} &= +45^{\circ}.28'.05'' \end{aligned}$$

56.

## Elementa e tabulis desumpta.

Initium.		Finis.
l = 48 <sup>o</sup> .45'.46'',4	84 <sup>o</sup> .48'.49'',5	
A = 84.15.54, 3	84.19.03, 3	
L = 85.02.12, 9	85.49.10, 4	
$\lambda$ = +17.42, 2	+13.21, 7	
$\alpha$ = 165.45.33, 3	184.59.28, 8	

57.

## Correctio latitudinis.

$$\beta = 45^{\circ}.17'.46'',5 \dots\dots | \text{tg. } \beta = 0.0044914$$

58.

Calculi anguli  $\varphi$ .

$$\begin{array}{l} \varphi = 13^{\circ}.41'.0'',0 \dots \text{tg. } \varphi = 0.3864384 \quad 8.9350534.n \dots \varphi = -40.55'.17'',7 \\ \varphi + \varepsilon = 37.08.53, 0 \quad \varphi + \varepsilon = 18.32.35, 3 \end{array}$$

54<sup>2</sup>

59.

Differentia parallaxium longit.

Initium.		Finis.
$L = 85^{\circ}.02'.12'',9$		$L = 85^{\circ}.49'.10'',4$
$L' = 84. 18. 47. 1$	$\text{tg. } L' = 1.0018182$	$L' = 85. 05. 58. 7$
$p = 2605'',8$	$1.0668344$	$p = 2591,7$

60.

Latitudo lunae apparens.

$$\lambda' = -1048'',2 \quad \text{tg. } \lambda' = 7.7060401.n | 7.9015718.n \quad \lambda' = -1644'',3$$

61.

Semidiameter lunae geocentrica.

$$\frac{1}{2}D' = 993'',61 \quad \text{sin. } \frac{1}{2}D' = 7.6827841 | 7.6814126 \quad \frac{1}{2}D' = 990'',46$$

62.

Log. pro reductione spatii ad tempus.

$$\begin{array}{l|l} r' = 16h.43' & 17h.23' \\ \mu = 34.18'',92 & 34.19'',79 \\ \log.h' = 0.2426647 & 0.2424795 \end{array}$$

63.

Solutio trianguli Smn.

$fn = 1939'',64$		$fn = 1936,49$
$mn = 1048, 16$		$mn = 1644,26$
$fm' = 163., 0$	$\text{log. } fm = 3.2127315$	$fm = 1022, 9$
$p = 2605, 8$	$3.0098494$	$p = 2591, 7$
$SM = 973, 8$		$SM = 3614, 6$
$SM' = 28'22''7$	$\text{log. } SM = 3.2311345$	$SM' = 1h.45'.17'',4$
	$3.8005397$	

64.

Tempus  $\delta$  incorrectum.

Initium.

$$\begin{array}{r|l} T = 5^{\text{h}}.25'.58'',6 & 6^{\text{h}}.42'.41'',7 \\ SM' = -28.22,7 & 1.45.17,4 \\ \hline \delta = 4^{\text{h}}.57'.35'',9 & 4^{\text{h}}.57'.24'',3 \end{array}$$

Fiuis.

65.

Tempus  $\delta$  correctum.

$$\begin{array}{l} \text{Ex init.} = 4^{\text{h}}.57'.35'',9 + 2,0780 \text{ dfn} + 1,1228 \text{ d}\lambda - 1,3424 \text{ d}\pi \\ \text{Ex fine} = 4.57.24,3 - 3,3086 \text{ dfn} - 2,8093 \text{ d}\lambda + 1,5519 \text{ d}\pi \\ \hline \text{Aeq. V.} \dots 11'',6 + 5,3866 \text{ dfn} + 3,9321 \text{ d}\lambda - 2,8943 \text{ d}\pi \end{array}$$

66.

Eclipsis solis ab Astronomo celeb. Don Felipe Bauza Mantuae Carpetanorum observata in loco 3'' a Plaza-Major orientem versus distante. Ex litteris ad me datis.

$$\left. \begin{array}{l} \text{Initium} = 4^{\text{h}}.27'.49'',0 \\ \text{Finis} = 6.09.08,5 \end{array} \right\} \text{temp. sol. vero.}$$

67.

Diff. merid. Parisios inter et Madritum = +24'.07'',3 temporis.  
Elevatio poli = +40°.24'.57'',8

68.

Tempus solare medium.

Initium.

$$\begin{array}{r|l} T' = 4^{\text{h}}.27'.49'',00 & 6^{\text{h}}.09'.08'',50 \\ ae = + 7,29 & . . + 8,17 \\ \hline T \text{ Madr.} = 4.27.56,29 & 6.09.16,67 \\ \delta = +24.07,3 & +24.07,30 \\ \hline r' = 16^{\text{h}}.52'.03'',59 & 18^{\text{h}}.33'.23'',97 \end{array}$$

Finis.

69.

## Elementa e tabulis desumpta.

Initium.

$I = 840.45'.30'',8$	$840.49'.32'',7$
$A = 84. 15. 38, 2$	$84. 19. 47, 9$
$L = 84. 58. 14, 3$	$86. 0. 15, 9$
$\lambda = + 18. 04, 3$	$+ 12. 20, 9$
$\alpha = 151. 14. 42, 55$	$176. 38. 57, 95$

Finis.

70.

## Correctio latitudinis.

$$\beta = 400.14'.47'',4 \dots \text{tg. } \beta = 9.9276055$$

71.

Calculi anguli  $\phi$ .

$$\begin{array}{l} \phi = 290.36'.38'',3 \dots \text{tg. } \phi = 9.7545969 \quad 8.8391432 \dots \dots \phi = 30.56'.59'',4 \\ \phi + \epsilon = 53. 04. 31, 3 \quad \phi + \epsilon = 27.24. 52, 4 \end{array}$$

72.

## Diff. parallaxium longit.

$L = 840.58'.14'',3$	$L = 860. 0'.15'',0$
$L' = 84. 14. 37, 4 \dots \text{tg. } L' = 0.9965150 \quad 1.0775021 \dots \dots \dots$	$L' = 85. 13. 04, 7$
$p = - 2616'',9$	$p = - 2830,3$

73.

## Latitudo lunae apparens.

$$\lambda' = - 531'',2 \dots \text{tg. } \lambda' = 7.4108509.n \quad 7.8125204.n \dots \dots \lambda' = 1339'',5$$

74.

## Semidiameter lunae geocentrica.

$$\frac{1}{2}D' = 996''27 \dots \text{sin. } \frac{1}{2}D' = 7.6839490 \quad 7.6818948 \dots \dots \frac{1}{2}D' = 991'',57$$

75.

Logarith. pro reduct. spatii ad tempus.

Initium.

$\tau' = 16^h.41'$	$17^h.32'$
$\mu = \dots 34'.18'',89$	$\dots 34'.19''96$
$\log. h' = 0.2426723$	$0.2424446$

Finis.

76.

Solutio trianguli SMN.

$$\begin{array}{r} \text{Sn} = 1942,30 \\ \text{mn} = 531,16 \\ \text{fm} = 1868,2 \dots \log. \text{fm} = 3.2714375 \\ \text{p} = 2616,9 \\ \hline \text{SM} = 748,7 \end{array}$$

$$\begin{array}{r} \text{Sn} = 1937,60 \\ \text{mn} = 1339,46 \\ \text{fm} = 1400,0 \\ \text{p} = 2830,3 \\ \hline \text{SM} = 4230,3 \end{array}$$

$$\text{SM}' = 21'.49'',1 \dots \log. \text{SM}' = 3.1169801 \mid 3.8688158 \dots \text{SM}' = 2^h.03'.12'',9$$

77.

Tempus  $\delta$  incorrectum.

$T = 4^h.27'.56'',29$	$6^h.09'.16'',67$
$\text{SM}' = -21.49, 10$	$-1.03.12, 90$
$\delta = 4^h.06'.07'',19$	$4^h.06'.03'',77$

77.

Tempus  $\delta$  correctum.

$$\begin{array}{l} \text{Ex init.} = 4^h.06'.07'',19 + 1,8178 \text{ dfn} + 0,4971 \text{ d}\lambda - 0,0913 \text{ d}\pi \\ \text{Ex fine} = 4.06.03,77 - 2,4186 \text{ dfn} - 1,6719 \text{ d}\lambda + 0,2504 \text{ d}\pi \\ \hline \text{Aeq. VI.} \dots 3'',42 + 4,2364 \text{ dfn} - 2,1690 \text{ d}\lambda + 1,2447 \text{ d}\pi \end{array}$$

79.

Eclipsis solis a celeb. Machinatore Megnié, et Don Pedro Giraldo Aranjuetii observata. Ex litteris ad me datis:

$\text{Initium} = 4^h.28'.33'',6$	}	temp. sol. vero.
$\text{Finis} = 6.10.06.6$		

80.

Diff. merid. Parisios inter et Aranjectium = + 23'.43".8 temporis.  
Elevatio poli = + 40°.01'.30"

81.

Tempus solare medium.

Initium.

Finis.

T' = 4h.28'.33".60	6h.10'.06".60
ae = . . . . . 7, 28	. . . 8, 18
T Aranj. = 4h.28'.40".88	6h.10'.14".78
δ = + 23. 48, 80	+ 23. 48, 80
τ = 16h.52'.29".68	18h.34'.03".58

82.

Elementa e tabulis desumpta.

l = 84°.45'.31".9	84°.49'.34".2
A = 84. 15. 39, 3	84. 19. 49, 5
L = 84. 58. 30, 2	86. 0. 41, 0
λ = + 18. 02, 8	+ 12. 17, 8
α = 151.25. 52, 5	176. 53. 31, 2

83.

Correctio latitudinis.

$$\beta = 390.51'.21".1 \dots \text{tg. } \beta = |9.9215937$$

84.

Calculi anguli φ

$$\begin{array}{l} \varphi = 200.28'.19".9 \dots \text{tg. } \varphi = 9.7580276 \quad | \quad 9.8125517 \dots \quad \varphi = - 30.42'.57".2 \\ \varphi + \varepsilon = 53. 16. 12, 9 \end{array}$$

85.

Differentia parallaxium longit.

$$\begin{array}{l} L = 840.58'.30".2 \\ L' = 84. 14. 35, 8 \dots \text{tg. } L' = 9.9964849 \quad | \quad 1.0777836 \dots \dots \dots L = 860. 0'.41".0 \\ p = - 2634".4 \end{array}$$

86.

Latitudo lunae apparens.

Initium.		Finis.
$\lambda'' = -515''.4$		$\lambda'' = -1329''.4$
$\text{tg. } \lambda' = 7.3977379.n   7.8092596.n$		

87.

Semidiameter lunae geocentrica.

$$\frac{1}{2}D' = 996''.6 \quad \dots \quad \text{tg. } \frac{1}{2}D' = 7.6841270 | 7.6818552 \quad \dots \quad \frac{1}{2}D' = 991''.4$$

88.

Logarith. pro reductione spatii ad tempus.

$\tau' = 16h.41$	$17h.32$
$\mu = 34'.18''.89$	$34'.19''.96$
$\log. h' = 0.2426723$	$0.2424446$

89.

Solutio trianguli Smn.

$fn = 1942''.63$		$fn = 1937''.43$
$mn = 515.36$		$mn = 1329.36$
$fm = 1873.0$	$\log. fm = 3.2725432$	$fm = 1409.4$
$p = 2634.4$		$p = 2845.2$
$SM = 761.4$		$SM = 4254.6$
$SM' = 22'.11''.3$	$\log. SM' = 3.1242852$	$SM' = 2h.03'.55''.4$
	$3.8713033$	

90.

Tempus  $\delta$  incorrectum.

$T = 4h.28'.41''.17$	$6h.10'.15''.09$
$SM' = -22.11.30$	$-2.03.55.40$
$\delta = 4h.06'.29''87$	$4h.06'.20''.29$

91.

Tempus  $\delta$  correctum.

$$\begin{aligned} \text{ex init.} &= 4^{\text{h}}.06'.29'',87, = 1,8135 \text{ dfn} + 0,4811 \text{ d}\lambda - 0,9948 \text{ d}\pi \\ \text{ex fine} &= 4.06.20,29 - 2,4023 \text{ dfn} - 1,6483 \text{ d}\lambda + 0,2193 \text{ d}\pi \\ \text{Aeq. VII} &\dots 9'',53 + 4,2153 \text{ dfn} + 2,1294 \text{ d}\lambda - 1,2141 \text{ d}\pi \end{aligned}$$

92.

Eclipsis solis Pampelonaë Navarrae observata. Ex litteris celeberrimi Caesaris  
Astronomi Bouvard ad me datis :

$$\begin{array}{l} \text{Initium} = 4^{\text{h}}.36'.07'' \\ \text{Finis} = 6.11.31 \end{array} \left. \vphantom{\begin{array}{l} \text{Initium} \\ \text{Finis} \end{array}} \right\} \text{ temp. solari vero.}$$

93.

Diff. merid. Parisios inter et Pampelonam = + 16'.08'' in temp.  
Elevatio poli = + 42°.48'.0''

94.

Tempus solare medium.

Initium.		Finis.
T' = 4 <sup>h</sup> .36'.07'',00		6 <sup>h</sup> .11'.31'',00
ae = . . + 07, 20		. . + 08, 12
TPamp. = 4 <sup>h</sup> .36'.14'',20		6 <sup>h</sup> .11'.39'',12
$\delta$ = + 16.08, 00		+ 16.08, 00
<hr/>		
T = 16 <sup>h</sup> .52'.22'',2		18.27'.47'',12

95.

Elementa e tabulis desumpta.

$$\begin{array}{l} l = 84^{\circ}.45'.31'',6 \quad . . \quad 84^{\circ}.49'.19'',2 \\ A = 84.15.39,0 \quad . . \quad 84.19.34,0 \\ L = 84.58.25,7 \quad . . \quad 85.56.49,1 \\ \lambda = + 18.03,2 \quad . . \quad + 12.39,2 \\ \mu = 153.19.12,0 \quad . . \quad 177.14.20,8 \end{array}$$

96.

Correctio latitudinis.

$$\alpha = 42^{\circ}.37'.43'',4 \quad . . \quad 15.\beta = 9.9640111$$

97.

Calculi anguli  $\varphi$ .

Initium.		Finis.	
$\varphi = 260. 0'. 11'', 3$	$\dots \text{tg. } \varphi = 9.6882423$	$  8.7187473$	$\dots \varphi = 020. 59'. 43'', 9$
$\varphi + \varepsilon = 49. 28. 04, 3$			$\varphi + \varepsilon = 26. 27. 36, 9$

98.

## Differentia parallaxium longit.

$L = 840. 58'. 25'', 7$	$\dots \text{tg. } L' = 0.9978211$	$  1.0747178$	$\dots \dots \dots L = 850. 56'. 49'', 1$
$L' = 84. 15. 39, 2$			$L' = 85. 11. 14, 6$
$p = - 2566'', 5$			$p = - 2734'', 5$

99.

## Latitudo lunae apparens.

$\lambda' = -689'', 6$	$\dots \text{tg. } \lambda' = 7.5241720n$	$  7.8433672n$	$\dots \dots \dots \lambda' = -1438'', 1$
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100.

## Semidiameter lunae geocentrica.

$\frac{1}{2}D' = 995'', 92$	$\dots \text{sin. } \frac{1}{2}D' = 7.6837947$	$  7.6819329$	$\dots \dots \dots \frac{1}{2}D' = 991'', 66$
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101.

## Logarith. pro reduct. spatii ad tempus.

$\tau' = 16^h. 41'$	$  17^h. 32'$
$\mu = 34. 18'', 89$	$\dots 34. 19'', 96$
$\log. h' = 0,2426723$	$  0,2424446$

102.

## Solutio trianguli Smn.

$Sn = 1941,95$	$ $	$Sn = 1937,69$
$mn = 680,56$		$mn = 1438,06$
$Sm = 1815,4$	$\dots \log. Sm = 3.2589724$	$  3,1135093$
$p = 2566,4$		$\dots \dots \dots Sm = 1298,7$
$SM = 751,1$		$p = 2734,5$
		$SM = 4033,2$
$SM' = 21'. 53'', 3$	$\dots \log. SM' = 3.1183701$	$  3 8480944$
		$\dots \dots \dots SM' = 1^h. 57'. 28'', 4$

103.

Tempus  $\delta$  incorrectum.

$$\begin{array}{r|l} T = 4^h.36'.14'',2 & 6^h.11'.39'',12 \\ SM' = -21.53, 3 & -1.57.28, 40 \\ \delta = 4^h.14'.20'',9 & 4^h.14'.10'',72 \end{array}$$

104.

Tempus  $\delta$  correctum.

$$\begin{array}{l} \text{Ex init.} = 4^h.14'.20'',9 + 1,8704 \text{ dfn} + 0,6642 \text{ d}\lambda - 1,0590 \text{ d}\pi \\ \text{ex fine} = 4.14.10, 7 - 2,6074 \text{ dfn} - 1,9351 \text{ d}\lambda + 0,5619 \text{ d}\pi \\ \text{Aeq. VIII.} \dots 10'',2 + 4,4778 \text{ dfn} + 2,5993 \text{ d}\lambda - 1,6209 \text{ d}\pi \end{array}$$

105.

Eclipsis solis Kinderhookii, in provincia Albany, Americae septentrionalis a celeberr. Astronomo Ferrer observata. Ex litteris ad me datis:

$$\begin{array}{l} \text{Initium} = 9^h.49'.30'',5 \\ \text{Finis} = 0.33.38, 5 \end{array} \left. \begin{array}{l} 15 \\ 15 \end{array} \right\} \text{Junii} \text{ temp. solar. vero.}$$

106.

Diff. merid. Parisios inter et Kinderhookium = + 5h.04'.43'',0

Elevatio poli = + 42°.03'.53, 0

107.

Tempus solare medium.

Initium.		Finis.
T' = 9h.49'.30'',50	0h.33'.38'',50	
ae = . . + 06, 23	. . + 07, 68	
T Kinderkok. = 9h.49'.36'',73	0h.33'.46'',18	
$\delta$ = + 5.04.43, 00	5. 04. 43, 00	
$\tau$ = 14h.54'.19'',73	17h.38'.29',18	

108.

## Elementa e tabulis desumpta.

Initium.

$l = 840.40'.50'',0$	$840.47'.21'',5$
$A = 84. 10. 48, 2$	$84. 17. 32, 4$
$L = 83. 46. 15, 5$	$85. 26. 38, 6$
$\lambda = .. +24. 40, 5$	$+ 15. 26, 8$
$\pi' = ... 60. 14, 8$	$.. 60. 17, 0$
$\frac{1}{2}D' = .. 16. 26, 59$	$.. 16. 27, 19$
$a = 51. 34. 59, 15$	$92. 44. 05, 1$

Finis.

109.

## Correctio latitudinis.

$$\beta = 410.53'.37'',9 \dots \text{tg. } \beta = 9.9528193$$

110.

Calculi anguli  $\varphi$ .

$$\begin{array}{l} \varphi = 410.08'.05'',1 \dots \text{tg. } \varphi = 9.9412254 | 0.0466859 \dots \dots \varphi = 480.04'.25'',2 \\ \varphi + \varepsilon = 64. 35. 58, 1 \quad \varphi + \varepsilon = 71. 32'.18, 2 \end{array}$$

111.

## Differentia parallaxium longit.

$$\begin{array}{l} L = 830.46'.15'',5 \quad L = 850.26'.38'',6 \\ L' = 84. 08. 46, 2 \dots \text{tg. } L' = 0.9891681 | 1.0879573 \dots \dots \quad L' = 85. 19. 52, 4 \\ p = 1350''7 \quad p = -406'',2 \end{array}$$

112.

## Latitudo lunae apparens.

$$\lambda' = +110'',9 \dots \dots \text{tg. } \lambda' = 6.7303874 | 7.0257563.n \dots \dots \dots \lambda' = 218'',9$$

113.

## Semidiameter lunae geocentrica.

$$\frac{1}{2}D' = 1002''1 \dots \dots \text{sin. } \frac{1}{2}D' = 7.6864734 | 7.6871914 \dots \dots \dots \frac{1}{2}D' = 1003'',7$$

114.

Logarith. pro reductione spatii ad tempus.

Initium.		Finis.
$\tau' = 15^h.42''$	$17^h.04'$	
$\mu = \dots 34.17'',4$	$34.19'',39$	
$\log. h' = 0.2429838$	$0.2425660$	

115.

Solutio trianguli Smn.

$fn = 1948'',13$		$fn = 1949'',73$
$mn = 110, 86$		$mn = 218, 86$
$fm = 1944, 9 \dots \log. fm = 3,2889137$	$3,2872210 \dots \dots \dots$	$fm = 1937, 4$
$p = 1350, 7$		$p = 406, 2$
$SM = 3295,6$	$SM = p + fm$	$SM = 2343, 6$
$SM' = 1h.36'.01'',0 \dots \log. SM' = 3,7605005$	$3,6128673 \dots \dots \dots$	$SM' = 1h.08'20'',8$

116.

Tempus  $\delta$  incorrectum.

$T = 9h.49'.36'',73$	$0h.33'.46'',18$
$SM = +1.36.01,00$	$-1.08.20,80$
$\delta 15^ta \text{ Jun.} = 23h.25'.37'',73$	$23h.25'.25'',38$

117.

Tempus  $\delta$  correctum.

$$\begin{array}{r}
 \text{Ex init.} = 23h.25'.37'',73 + 1,7509 d fn - 0,0996 d \lambda + 0,2220 d \pi \\
 \text{ex fine} = 23.25.25,38 - 1,7609 d fn - 0,1977 d \lambda - 0,6147 d \pi \\
 \hline
 \text{Aeq. IX.} \dots 12'',35 + 3,5118 d fn + 0,0981 d \lambda + 0,8367 d \pi
 \end{array}$$

118.

Eclipsis solis a Simeon de Witt in Fort-Orange, Provinciae Nevyork Americanae septentrionalis observata, ex litteris ad me datis:

$$\left. \begin{array}{l}
 \text{Initium} = 9h.50'.12'' \\
 \text{Finis} = 0.33.08
 \end{array} \right\} \text{temp. sol. vero.}$$

119.

Diff. merid. Parisios inter et Fort-Orange = + 5h.04'.29'',00  
 Elevatio poli = + 42° 30'.39''

120.

Tempus solare medium.

Initium.		Finis.
T' = 9h.50'.12'',09	0h.33'.08'',00	
ae = . . + 06, 24	. . + 07, 67	
T Fort-Orange = 9h.50'.18'',24	0h.33'.15'',67	
δ = +5. 04. 29, 00	+5.04. 29, 00	
τ = 14h.54'.47'',24	17h.37'.44'',67	

121.

Elementa e tabulis desumpta.

l = 84° 40'.51'',1	84° 47'.20'',0
A = 84. 10. 49, 3	84. 17. 30, 8
L = 83. 46. 32, 3	85. 26. 11, 4
λ = +24. 42, 0	+15. 29, 3
π' = 60. 14, 8	60. 17, 0
½D = 16. 26, 59	16. 27, 19
α = 51. 46. 22, 9	92. 36. 25, 85

122.

Correctio latitudinis.

$$\beta = 420.28'.22'',7 \dots \text{tg. } \beta = 9.9616412$$

123.

Calculi anguli φ.

$$\begin{array}{l} \varphi = 400.37'.59'',2 \dots \text{tg. } \varphi = 9.9335414 \mid 0.0379091 \dots \dots \varphi = 470.29'.50'',9 \\ \varphi + s = 64. 05. 52, 2 \qquad \qquad \qquad \varphi + s = 70. 57. 43, 9 \end{array}$$

124.

Diff. parallaxium longit.

Initium.		Finis.
$L = 830.46'.32'',3$		$L = 850.26'.11'',4$
$L' = 84.08.55,3 \dots \text{tg.} L' = 0.9893568$	$1.0874523 \dots$	$L' = 85.10.33,0$
$p = -1343,0$		$p = -398'',4$

125.

Latitudo lunae apparens.

$$\lambda' = +81'',5 \dots \text{tg.} \lambda' = 6.5964173 | 7.0854717.n \dots \lambda' = -251'',1$$

126.

Semidiameter lunae geocentrica.

$$\frac{1}{2}D' = 1001'',3 \dots \sin. \frac{1}{2}D' = 7.6861726 | 7.6871653 \dots \frac{1}{2}D' = 1003'',7$$

427.

Logarith. pro reductione spatii ad tempus.

$$\begin{array}{l|l} r' = 15^h.42' & 17^h.04'' \\ \mu = 34.17,40 & 34'.19'',39 \\ \log. h' = 0.2429838 & 0.2425660 \end{array}$$

128.

Solutio trianguli Smn.

$fn = 1947'',33$		$fn = 1949'',73$
$mn = 81,46$		$mn = 251,06$
$fm = 1945,6 \dots \log fm = 3,2890593$	$3,2863438 \dots$	$fm = 1933,5$
$p = 1303,5$		$p = 398,4$
$SM = 3289,2$		$SM = 2331,9$
$SM = fm + p$		
$SM' = 1^h.35'.54'',4 \log. SM' = 3,37600361$	$3,6102759 \dots$	$SM' = 1^h.07'.56'',4$

129.

Tempus  $\delta$  incorrectum.

Initium.

T = 9h.50'.18",24	oh.33'.15",67
SM' = + 1.35.54, 30	- 1.07.56, 40
$\delta$ 15.Jun. = 23h.26'.12",54	23h.25'.19",27

Finis.

130.

Tempus  $\delta$  correctum.

$$\begin{aligned} \text{Ex init.} &= 23^{\text{h}}.26'.12'',54 + 1,7513 \text{ dfn} + 0,0734 \text{ d}\lambda - 0,2026 \text{ d}\pi \\ \text{Ex fine} &= 23.25.19,27 - 1,7627 \text{ dfn} - 0,2270 \text{ d}\lambda + 0,3617 \text{ d}\pi \\ \text{Aeq. X.} &\dots 53'',27 + 3,5140 \text{ dfn} + 0,1536 \text{ d}\lambda - 0,1591 \text{ d}\pi \end{aligned}$$

131.

Eclipsis solis Amstelodami observata in specula astronomica Societatis Felix  
Meritis. Ex litteris ad me datis:

$$\left. \begin{array}{l} \text{Initium} = 5^{\text{h}}.02'.07'' \\ \text{Finis} = 6.12.31 \end{array} \right\} \text{temp. sol. vero.}$$

132.

Diff. merid. Parisios inter et Amstelodamum = + 10'.09'',5 in temp.  
Elevatio poli = + 52°.22'.05''

133.

## Tempus solare medium.

Initium.

T' = 5h.02'.07'',00	6h.12'.31'',00
ae = + 07, 27	. . + 07, 89
T Amstelod. = 5.02.14, 27	6.12.38, 89
$\delta$ = - 10.09, 5	- 10.09, 50
$\tau$ = 16h.52'.04'',77	18h.02'.29'',39

Finis.

134.

## Elementa e tabulis desumpta.

Initium.

I = 840.45'.30'',9	840.48'.18'',6
A = 84. 15. 38, 3	84. 18. 31, 7
L = 84. 58. 15, 0	85. 41. 20, 7
$\lambda = + 18. 04, 3$	$+ 14. 05, 2$
$a = 159. 49. 12, 35$	177. 28. 15, 05

Finis.

135.

## Correctio latitudinis.

$$\mu = 520.12'.06'',3 \dots \text{tg. } \beta = 0.1103454$$

136.

Calculi anguli  $\varphi$ .

$\varphi = 140.58'.36'',8 \dots \text{tg. } \varphi = 0.4274352$	8.5338920	$\varphi = 10.57'.29'',2$
$\varphi + \varepsilon = 38. 26. 29, 8$		$\varphi + \varepsilon = 25.25.22, 3$

137.

## Diff. parallaxium longit.

$L = 840.58'.15'',0$		$L = 850.41'.20'',7$
$L' = 84. 20. 48, 7$	$\text{tg. } L' = 1.0044262$	$1.0622758$
$p = - 2246'',3$		$L' = 85. 02. 53, 5$
		$p = - 2307,2$

138.

## Latitudo lunae apparens.

$$\lambda' = - 1236'',8 \dots \text{tg. } \lambda' = 7.7778796.n | 7.9263091.n \dots \lambda' = 1740'',7$$

139.

## Semidiameter lunae geocentrica.

$$\frac{1}{2}D' = 994''94 \dots \sin. \frac{1}{2}D' = 7.6833691 | 7.6822697 \dots \frac{1}{2}D' = 992'',43$$

140.

Logarith. pro reduct. spatii ad tempus.

Initium.		Finis.
$z' = 16h.41'$	$17h.17'$	
$\mu = \dots 34'.18'',9$	$\dots 34'.19''66$	
$\log. h' = 0.2426647$	$0.2425076$	

141.

Solutio trianguli SMN.

$Sn = 1940,97$		$Sn = 1938,46$
$mn = 1236,76$		$mn = 1740,66$
$fm = 1495,9 \dots \log. fm = 3,1749096$	$2,9309436 \dots$	$fm = 853,0$
$p = 2246,3$		$p = 2307,2$
$SM = 750,4$		$SM = 3160,2$
$SM' = 21'.52'',0 \dots \log. SM' = 3,1179575$	$3,7422222 \dots$	$SM' = 1h.32'.03'',6$

142.

Tempus  $\delta$  incorrectum.

$T = 5h.02'.14'',27$	$6h.12'.38'',89$
$SM' = -21.52,00$	$- 1.32.03,60$
$\delta = 4h.40'.22'',27$	$4h.40'.35'',29$

143.

Tempus  $\delta$  correctum.

$$\begin{aligned} \text{Ex init.} &= 4h.40'.22'',27 + 2,2686 \text{ dfn} + 1,4455 \text{ d}\lambda - 1,3059 \text{ d}\pi \\ \text{Ex fine} &= 4.40.35,29 - 3,9721 \text{ dfn} - 3,5668 \text{ d}\lambda + 2,5128 \text{ d}\pi \\ \text{Aeq. XI.} &\dots 13'',02 + 6,2407 \text{ dfn} - 5,0123 \text{ d}\lambda + 3,9087 \text{ d}\pi \end{aligned}$$

144.

Eclipsis solis Trajecti ad Rhenum a celeberr. van Beck Calkoen in specula academica observata. Ex litteris ab ipso ad me datis:

$$\left. \begin{array}{l} \text{Initium} = 5h.03'.26'' \\ \text{Finis} = 6.14.06 \end{array} \right\} \text{temp. sol. vero.}$$

145.

Diff. merid. Parisiis inter et Trajectum ad Rhenum =  $-11'.06''6$  in temp.  
Elevatio poli =  $+520.05'.30''$

146.

Elementa e tabulis desumpta.

Initium.

$l = 840.45'.31''5$	$840.48'.20''1$
$\Delta = 84. 15.38, 9$	$84. 18.32, 9$
$L = 84. 58.23, 9$	$85. 41.39, 0$
$\lambda = + 18.03, 4$	$+ 14.03, 4$
$\alpha = 160.07.08, 9$	$177. 50.02, 9$

Finis.

147.

Correctio latitudinis.

$$\beta = 510.55'.29''8 \dots \text{tg. } \beta = 0.1060183$$

148.

Calculi anguli  $\phi$ 

$$\phi = 140.55'.02''9 \dots \text{tg. } \phi = 9.4255446 | 8.4713866 \dots \phi = 10.41'.44''9$$

$$\phi \pm \epsilon = 38. 22. 55, 9 \qquad \phi \pm \epsilon = 25. 09. 37, 9$$

149.

Differentia parallaxium longit.

$$\begin{array}{l} L = 840.58'.23''9 \\ L' = 84. 20. 41, 9 \\ p = - 2622'',0 \end{array} \dots \text{tg. } L' = 1,0042763 | 1.0624074 \dots \dots \dots \begin{array}{l} L = 850.41'.39''0 \\ L' = 85. 02. 58, 9 \\ p = - 2320'',1 \end{array}$$

150.

Latitudo lunae apparens.

$$\lambda' = - 1230'',1 \dots \text{tg. } \lambda' = 7.7755313.n | 7.9255918.n \dots \dots \dots \lambda' = - 1737,9$$

151.

## Semidiameter lunae geocentrica.

Initium.		Finis.
$\frac{1}{2}D' = 994,88 \dots \sin. \frac{1}{2}D' = 7.6833415$	$7.6822306 \dots$	$\frac{1}{2}D' = 992'',34$

252.

## Logarith. pro reduct. spatii ad tempus.

$\tau' = 16^h.41'$	$17^h.17'$
$\mu = 34.18'',9$	$34.19''66$
$\log. h' = 0.2426647$	$0.2425076$

153.

## Solutio trianguli Smn.

$fn = 1940'',91$	$fn = 1938,37$
$mn = 1230,06$	$mn = 1737,86$
$fm = 1501,3 \dots \log. fm = 3.1764850$	$2.9337693 \dots \dots \dots fm = 858,55$
$p = 2262,0$	$p = 2320,10$
$SM = 760,7$	$SM = 3178,65$
$SM' = 22'.10'',0 \dots \log. SM' = 3.1238781$	$3.7447504 \dots \dots \dots SM' = 1^h.32'.35'',8$

154.

Tempus  $\delta$  incorrectum.

$T = 5h.03'.26'',0$	$6h.14'.06'',0$
$SM = -22.10$	$-1.32.35,8$
$\delta = 4h.41'.14'',0$	$4h.41'.30'',2$

156.

Tempus  $\delta$  correctum.

$$\begin{aligned} \text{Ex init.} &= 4^h.41'.14'',0 + 2,2604 \, dfn + 1,4325 \, d\lambda - 1,3945 \, d\pi \\ \text{ex fine} &= 4.41.30,2 - 3,9461 \, dfn - 3,5379 \, d\lambda + 2,4743 \, d\pi \\ \text{Aeq. XII.} &\dots\dots 16'',2 - 6,2065 \, dfn - 4,9722 \, d\lambda + 3,8688 \, d\pi \end{aligned}$$



162.

## Latitudo lunae apparens.

Initium.		Finis.
$\lambda' = -1112'',9$	$\lg. \lambda' = 7.7320371$	$\lambda' = -1678'',8$
	$7.9105438$	

163.

## Semidiameter lunae geocentrica.

$$\frac{1}{2}D' = 993'',85 \quad \sin. \frac{1}{2}D' = 7.6828916 \quad \lg. \frac{1}{2}D' = 990'',89$$

164.

## Log. pro reductione spatii ad tempus.

$r' = 16h.45'$		$17h.24'$
$\mu = 34.18'',98$	...	$34.19'',82$
$\lg. h' = 0.2426495$		$0.2424749$

165.

## Solutio trianguli Smn.

$ln = 1939'',88$		$fn = 1936,92$
$mn = 1112, 86$		$mn = 1678,67$
$fm = 1533, 9$	$\lg. fm = 3.2011029$	$fm = 966, 1$
$p = 2516, 2$		$p = 2518, 0$
$SM = 927, 3$		$SM = 3484, 1$
$SM' = 27'.01''3$	$\lg. SM' = 3.2098698$	$SM' = 1h.41'.29'',2$
	$3.7845655$	

166.

Tempus  $\delta$  incorrectum.

$T' = 5h.22'.06'',5$		$6h.36'.24'',2$
$SM' = -27.01, 3$	-	$1.41.29, 2$
$\delta = 5h.55'.05'',2$		$4h.54'.55'',0$

167.

Tempus  $\delta$  correctum.

$$\begin{array}{r} \text{Ex init.} = 4^{\text{h}}.55'.05'',2 + 2,1346 \text{ d fn} + 1,2245 \text{ d } \lambda - 1,3746 \text{ d } \pi \\ \text{ex fine} = 4.54.55,0 - 3,5038 \text{ d fn} - 3,0368 \text{ d } \lambda + 1,8290 \text{ d } \pi \\ \hline \text{Aeq. XIII.} \dots 10,2 + 5,6384 \text{ d fn} + 4,2613 \text{ d } \lambda - 1,2924 \text{ d } \pi \end{array}$$

168.

Eclipsis solis ab Astronomo celeb. Ryene in specula astronomica Ochsenhusii  
Algoviae observata.

$$\begin{array}{l} \text{Initium} = 5^{\text{h}}.28'.24'' \\ \text{Finis} = 6.39.24 \end{array} \left. \vphantom{\begin{array}{l} \text{Initium} \\ \text{Finis} \end{array}} \right\} \text{temp. sol. med.}$$

169.

Diff. merid. Parisios inter et Ochsenhusium =  $-30'.31'',7$  temp.  
Elevatio poli =  $+48^{\circ}.03'.52'',5$

170.

Elementa e tabulis desumpta.

l = 84 <sup>o</sup> .45'.44'',8	84 <sup>o</sup> .48'.34'',1
A = 84.15.52,6	84.18.47,4
L = 85.01.47,6	85.45.15,0
$\lambda = +17.44,5$	+13.43,4
$\mu = 166.21.52,6$	184.09.47,4

171.

Correctio latitudinis.

$$\mu = 47^{\circ}.53'.37'',5 \dots \text{tg. } \beta = 0,0439437$$

172.

Calculi anguli  $\varphi$ .

$$\begin{array}{l} \varphi = 120.01'38'',6 \dots \text{tg. } \varphi = 9,3284944 \mid 8,8169756.n \dots \varphi = -3^{\circ}.45'.13'',8 \\ \varphi + \varepsilon = 35.29.31,6 \mid \phantom{8,8169756.n} \phantom{\dots} \varphi + \varepsilon = 19.42.39,2 \end{array}$$

173.

Differentia parallaxium longit.

Initium.		Finis.
$L = 850.01'.47'',6$		$L = 850.45'.15'',0$
$L' = 84. 20. 11, 5 \dots \text{tg. } L' = 1.0036233$		$L' = 85. 03. 52, 6$
$p = - 2496'',1$		$p = - 2482'',4$
		$1.0637248 \dots$

174.

Latitudo lunae apparens.

$$\lambda' = -1171'',3 \dots \text{tg. } \lambda' = 7.7542726.n | 7.9182154.n \dots \lambda' = -1708'',5$$

175.

Semidiameter lunae geocentrica.

$$\frac{1}{2}D' = 993'',62 \dots \sin. \frac{1}{2}D' = 7.6827908 | 7.6815637 \dots \frac{1}{2}D' = 990'',8$$

176.

Logarith. pro reduct. spatii ad tempus.

$\tau' = 16'.44'$		$17^h.20'$
$\mu = 34.18'',89$		$34. 19'',73$
$\log. h' = 0,2426693$		$0.2424924$

177.

Solutio trianguli Smn.

$fn = 1939,65$		$fn = 1936,83$
$mn = 1171,26$		$mn = 1708,46$
$fm = 1546,1 \dots \log. fm = 3.1892346$		$3,9601856 \dots fm = 912,4$
$p = 2496,1$		$p = 2482,4$
$SM = 050,0$		$SM = 3394,8$
$SM' = ,72.41''$		$SM' = 1^h.38'.53'',4$

178.

Tempus  $\delta$  incorrectum,

$T = 5^h.28'.24'',0$		$6^h.39'.24'',0$
$SM' = -27.41, 0$		$-1. 38.53, 4$
$\delta = 5^h. 0'.43'',0$		$5^h. 0'.30'',6$

58



185.

Differentia parallaxium longit.

Initium.		Finis.
$L = 850.02'.06'',7$		$L = 850.39'.26'',5$
$L' = 84. 22.48, 9 \dots \text{tg. } L' = 1.0070086$	$1.0588701 \dots \dots \dots$	$L' = 85. 0. 33, 8$
$p = - 2357'',8$		$p = - 2332'',7$

186.

Latitudo lunae apparens.

$$\lambda' = -1350'',1 \dots \text{tg. } \lambda = 7,8159738.n | 7,9398675.n \dots \dots \lambda' = -1795'',9$$

187.

Semidiameter lunae geocentrica.

$$\frac{1}{2}D' = 993'',7 \dots \dots \sin. \frac{1}{2} = 7,6828634 | 7,6817164 \dots \dots \frac{1}{2}D' = 991'',1$$

188.

Logarith. pro reductione spatii ad tempus.

$\tau' = 16^h.44''$	$17^h.14'$
$\mu = 34'. 18'',97$	$34. 19'',60$
$\log. h' = 0.2426571$	$0.2425205$

189.

Solutio trianguli Smn.

$fn = 1939'',73$		$fn = 1937'',13$
$mn = 1350, 06$		$mn = 1795, 86$
$fm = 1392, 8 \dots \log. fm = 3,1438886$	$3,8610533 \dots \dots \dots$	$fm = 726, 2$
$p = 2357, 8$		$p = 2332, 7$
$SM = 965, 0$		$SM = 3058, 9$
$SM' = 28'.07'',2 \dots \log. SM' = 3,2271844$	$3,7280858 \dots \dots \dots$	$SM' = 1^h.29'06'',7$

190.

Tempus  $\zeta$  incorrectum.

$T = 5^h.38'.30'',6$	$6.39'.30'',9$
$SM' = -28.07, 2$	$-1.29.06, 7$
$\zeta = 5^h.10'.23'',4$	$5^h.10'.24'',2$

191.

Tempus  $\zeta$  correctum.

$ex\ init. = 5^h.10'.23'',4$	$= 2,4350\ dfn + 1,6948\ d\lambda - 1,6043\ d\pi$
$ex\ fine = 5.10.24, 2$	$= 4,6625\ dfn - 4,3225\ d\lambda + 3,3095\ d\pi$
$Aeq. XV \dots 0'',8$	$+ 7,0975\ dfn + 6,0173\ d\lambda - 4,9138\ d\pi$

192.

Eclipsis solis Vratislaviae a celeberr. Jungnitz in specula astronomica observata, ex litteris ab ipso ad me datis:

$Initium = 6^h. 0'. 4'',0$	}	temp. solari vero.
$Finis = 6. 54. 15, 0$		

193.

$Diff. merid. Parisios inter et Vratislaviam$	$= -58'.48'',3$	temp.
$Elevatio poli$	$= +510.06'.50''$	

194.

Tempus solare medium.

Initium.		Finis.
$T' = 6^h. 0'. 04'',00$	$6^h. 54'. 15'',00$	
$ae = \dots + 07, 35$	$\dots + 07, 83$	
$T\ Vratisl. = 6^h. 0'. 11'',35$	$6^h. 54'. 22'',83$	
$\delta = -58.48, 3$	$-58.48, 3$	
$T = 17^h. 01'. 23'',95$	$17^h. 55'. 34'',53$	



201.

Logarith. pro reductione spatii ad tempus.

$$\begin{array}{r|l} \tau' = 16^{\circ}.45 & 17^{\text{h}}.13 \\ \mu = 34^{\circ}.18''.98 & 34^{\circ}.19''.58 \\ \log.h' = 0,2426503 & 0,2425356 \end{array}$$

202.

Solutio trianguli Smn.

$$\begin{array}{r|l} \text{fn} = 1938''.33 & \text{fn} = 1936''.53 \\ \text{mn} = 1435, 26 & \text{mn} = 1832, 36 \\ \text{fm} = 1302, 7 \dots \log.\text{fm} = 3,1148647 & 2,7969781 \dots \text{fm} = 626, 6 \\ \text{p} = 2380, 1 & \text{p} = 2316, 5 \\ \text{SM} = 1077, 4 & \text{SM} = 2943, 1 \\ \text{SM}' = 31^{\circ}.23''.7 \dots \log.\text{SM}' = 3,2750273 & 3,7113406 \dots \text{SM}' = 1^{\text{h}}.25^{\circ}.44''.5 \end{array}$$

203.

Tempus  $\delta$  incorrectum.

$$\begin{array}{r|l} \text{T} = 6^{\text{h}}. 0^{\circ}.11''.34 & 6^{\text{h}}.54^{\circ}.22''.83 \\ \text{SM}' = -31. 23, 70 & -1. 25.41, 50 \\ \delta = 5^{\text{h}}.28^{\circ}.47''.64 & 5^{\text{h}}.28^{\circ}.38''.33 \end{array}$$

204.

Tempus  $\delta$  correctum.

$$\begin{array}{l} \text{Ex init.} = 5^{\text{h}}.28^{\circ}.47''.64 + 2,6014 \text{dfn} + 1,9262 \text{d}\lambda - 1,6666 \text{d}\pi \\ \text{ex fine} = 5. 28. 38, 33 - 5,4023 \text{dfn} - 5,1117 \text{d}\lambda + 4,1674 \text{d}\pi \\ \text{Aeq. XVI.} \dots 9'',31 + 8,0037 \text{dfn} + 7,0379 \text{d}\lambda - 5,8340 \text{d}\pi \end{array}$$

205.

Eclipsis solis ab Astronomo celeberr. Taucher in specula Budae Hungariae  
observata, ex litteris ab Illust. Triesnecker ad me datis:

$$\left. \begin{array}{l} \text{Initium} = 6^{\text{h}}.10^{\circ}.12'' \\ \text{Finis} = 7. 09. 22 \end{array} \right\} \text{temp. solar. vero.}$$

206.

Diff. merid. Parisios inter et Budam = - 1h.06'.47'' in temp.  
 Elevatio poli = + 47° 29'.44''

207.

Tempus solare medium.

Initium.

T' = 6h.10'.12'',0	7h.09'.22'',00
ae = . . . 07, 37	. . . 07, 89
T Budae = 6h.10'.19'',37	7h.09'.29'',89
δ = - 1.06.47, 0	- 1.06.47, 0
τ = 17h.03'.32'',37	18h.02'.42'',89

Finis.

208.

Elementa e tabulis desumpta.

l = 84° 45'.58'',3	84° 48'.19'',2
A = 84. 16.06, 6	84. 18.32, 3
L = 85. 05.15, 7	85. 41.28, 9
λ = . . + 17.25, 4	+ 14.04, 4
α = 176.50.57, 15	. . 191.41.0,65

209.

Correctio latitudinis.

$$\beta = 47^{\circ} 19' 27'',6 \dots \operatorname{tg} \beta = 0.0352753$$

210.

Calculi anguli φ.

$$\begin{array}{l} \varphi = 20.54'.03'',8 \dots \operatorname{tg} \varphi = 3.7048050 \mid 9.2711614.n \dots \dots \varphi = 100.34'.32'',8 \\ \varphi + \varepsilon = 26. 21.56, 8 \qquad \qquad \qquad \qquad \qquad \qquad \varphi + \varepsilon = 12. 53'.20, 2 \end{array}$$

## Diff. parallaxium longit.

Initium.		Finis.
L = 850.05'.15",7		L = 850.41'.28",9
L' = 84. 22. 50, 0	tg. L' = 1,0070353	L' = 85. 0. 49, 9
p = -2545,7	1,0592591	p = -2430",0

## Latitudo lunae apparens.

$$\lambda' = -1340'',4 \dots \text{tg. } \lambda' = 7,8128100, n | 7,9385169, n \dots \lambda' = -1790'',3$$

## Semidiameter lunae geocentrica.

$$\frac{1}{2}D' = 991'',59 \dots \sin. \frac{1}{2}D' = 7,6819160 | 7,6809219 \dots \frac{1}{2}D' = 980'',38$$

## Logarith. pro reduction. spatii ad tempus.

$\tau' = 16'.47'$	171.17"
$\mu = 34. 19, 03$	34'.19",67
$\log. h' = 0.2426404$	0.2425053

## Solutio trianguli Smn.

fn = 1937",62		fn = 1935",38
mn = 1349, 36		mn = 1790, 26
fm = 1399, 2	log fm = 3,1458848	fm = 735, 0
p = 2545, 7	2,8663143	p = 2439, 0
SM = 1146, 5		SM = 3174, 0
SM' = 33'.24",5	log. SM' = 3,3020145	SM' = 1h.32'.27",7
	3,7441122	

216.

Tempus  $\delta$  incorrectum.

Initium.

Finis.

$$\begin{array}{r|l}
 T = 6h.10'.19''.37 & 7h.09'.29''.89 \\
 SM' = -33.24, 50 & -1.32.27, 70 \\
 \hline
 \delta = 5h.36'.54''.87 & 5h.37'.02''.19
 \end{array}$$

217.

Tempus  $\delta$  correctum.

$$\begin{array}{l}
 \text{Ex init.} = 5h.36'.54''.87 + 2,4211 d \text{fn} + 1,6748 d \lambda - 1,6780 d \pi \\
 \text{Ex fine} = 5.37.02, 19 - 4,6020 d \text{fn} - 4,2572 d \lambda + 3,3139 d \pi \\
 \text{Aeq. XVII.} \dots 7'',32 + 7,0231 d \text{fn} + 5,9320 d \lambda - 4,9919 d \pi
 \end{array}$$

218.

Eclipsis solis a celeberr. Francisco Kodesch Cracoviae observata, ex literis ad me datis:

$$\left. \begin{array}{l}
 \text{Initium} = 6h.14'.06''.4 \\
 \text{Finis} = 7.05.18, 4
 \end{array} \right\} \text{temp. sol. vero.}$$

219.

$$\begin{array}{l}
 \text{Diff. merid. Parisios inter et Cracoviam} = +10'.10',26'' \quad \text{temp.} \\
 \text{Elevatio poli} = +500.03'.37''.5
 \end{array}$$

220.

Elementa e tabulis desumpta.

Initium.

Finis.

$$\begin{array}{r|l}
 l = 840.45'.58'',7 & 840.48'.0'',8 \\
 A = 84.15.06, 8 & 84.18.13, 0 \\
 L = 85.05.20, 6 & 85.36.41, 0 \\
 \lambda = +17.24, 9 & +14.31, 1 \\
 \alpha = 177.47.42, 8 & 190.37.49, 0
 \end{array}$$



227.

## Solutio trianguli SMN.

Initium.		Finis.
fn = 1937,71		fn = 1935,93
mn = 1457,4		mn = 1826,3
fm = 1276,9 . . . log. fm = 3,1061878 2,7874941 . . . . .		fm = 613,95
p = 2426,3		p = 2338,5
SM = 1149,4		SM = 2951,55
SM' = 33'.29'',6 . . . log. SM' = 3,3031055 3,7125743 . . . . .		SM' = 1h.25'.59'',1

228.

Tempus  $\delta$  incorrectum.

T' = 6h.14'.06'',4	7h.05'.18'',4
SM' = -33.29, 6	- 1.25.59, 1
$\delta$ = 5h.40'.36'',8	5h.39'.19'',3

229.

Tempus  $\delta$  correctum.

$$\text{Ex init.} = 5^{\text{h}}.40'.36'',8 + 2,6519 \text{ d fn} + 1,9940 \text{ d } \lambda - 1,8318 \text{ d } \pi$$

230.

Eclipsis solis a celeberr. Dursack Agriae Hungariae observata, ex litteris ad me datis:

Initium = 6h.16'.30'',4	}	temp. sol. vero.
Finis = 7. 13.59, 8		

231.

Diff. merid. Parisios inter et Agriam = -1h.12',10''  
 Elevatio poli = +47°.53'.54''

232.

## Tempus solare medium.

Initium.		Finis.
T' = Ch. 16'. 30''. 40	7h. 13'. 59''. 80	
ae = . . . . . 07, 38	. . . 07, 89	
T Agriae = 6. 16. 37, 38	7. 14. 07, 69	
$\delta$ = - 1. 12. 10	- 1. 12. 10	
$\tau$ = 17h. 04'. 27''. 38	18h. 01'. 57''. 69	

233.

## Elementa e tabulis desumpta.

l = 84°. 45'. 58''. 9	840. 48'. 17''. 4
A = 84. 16. 08, 8	84. 18. 30, 5
L = 85. 05. 49, 3	85. 41. 01, 3
$\lambda$ = + 17. 22, 3	+ 14. 07, 0
$\mu$ = 178. 25. 29, 5	192. 50. 25, 85

234.

## Correctio latitudinis.

$$\beta = 470.43'.38'',5 \dots \text{tg. } \beta = 0.0414085$$

235.

Calculi anguli  $\phi$ 

$$\phi = 10.25'.53'',1 \dots \text{tg. } \phi = 8.3977329 \mid 9.3054093.n \dots \phi = -110.25'.17'',6$$

$$\phi + \varepsilon = 24. 53. 46, 1 \qquad \phi + \varepsilon = 12. 02. 35, 4$$

236.

## Differentia parallaxium longit.

L = 850.05'.49''.3		L = 850.41'.01''.3
L' = 84. 23. 45. 2	$\dots \text{tg. } L' = 1,0082285$	1.0593554
p = - 2524''.1		L' = 85. 0. 53. 8
		p = - 2407''.5

237.

## Latitudo lunae apparens.

Initium.		Finis.
$\lambda' = -1385'',9$	$\lg. \lambda' = 7.8273191.n   7.9458487.n$	$\lambda' = -1820,8$

238.

## Semidiameter lunae geocentrica.

$$\frac{1}{2}D' = 991,36 \dots \sin. \frac{1}{2}D' = 7.6818019 | 7.6808567 \dots \frac{1}{2}D' = 989'',12$$

239.

## Logarith. pro reduct. spatii ad tempus.

$\tau' = 16^h.47'$	$17^h.17'$	
$\mu = 34.19'',03$	$34.19''67$	
$\log. h' = 0.2426404$	$0.2425053$	

240.

## Solutio trianguli Smn.

$fn = 1937'',39$		$fn = 1935,24$
$mn = 1385,86$		$mn = 1820,76$
$fm = 1353,8 \dots \log. fm = 3.1315661$	$3.8167276 \dots$	$fm = 655,7$
$p = 2524,1$		$p = 2407,5$
$SM = 1170,3$		$SM = 3063,2$
$SM' = 34'.06'',1 \dots \log. SM' = 3.3109376$	$3.7286807 \dots$	$SM' = 1^h.29'.14'',0$

241.

Tempus  $\delta$  incorrectum.

$T = 6^h.16'.37'',38$	$7^h.14'.07'',69$	
$SM = -34.06,10$	$-1.29.14,00$	
$\delta = 5^h.42'.31'',28$	$5^h.44'.53'',69$	

242.

Tempus  $\delta$  correctum.

$$\text{Ex init.} = 5^h.42'.31'',28 + 2,5020 \text{ d fn} + 1,7897 \text{ d } \lambda - 1,7424 \text{ d } \pi$$



249.

Latitudo lunae apparens.

Initium.		Finis.
$\lambda' = -1415'',5$	$\text{tg. } \lambda' = 7.8365011.n \mid 7.9520862.n$	$\lambda' = -1847'',1$

250.

Semidiameter lunae geocentrica.

$\frac{1}{2}D' = 992'',45$	$\text{sin. } \frac{1}{2}D' = 7.6822813 \mid 7.6813652$	$\frac{1}{2}D' = 990'',35$
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251.

Log. pro reductione spatii ad tempus.

$r' = 16h.45'$	$17h.15'$
$\mu = 34'.18'',98$	$34'.19'',62$
$\text{log. } h' = 0.2426503$	$0.2425159$

252.

Solutio trianguli Smn.

$fn = 1938'',48$		$fn = 1936,38$
$mn = 1415,46$		$mn = 1347,06$
$fm = 1324,4$	$\text{log. } fm = 3.1220228 \mid 2.7644178$	$fm = 581,32$
$p = 2392,4$		$p = 2323,4$
$SM = 1063,0$		$SM = 2904,72$
$SM' = 31'.07''3$	$\text{log. } SM' = 3.2712216 \mid 3.7056202$	$SM' = 1h.24'.37'',2$

253.

Tempus  $\delta$  incorrectum.

$T' = 5h.57'.51'',9$	$6h.56'.36'',6$
$SM' = -31.07,3$	$-1.24.37,2$
$\delta = 5h.26'.44'',6$	$5h.31'.59'',4$

167.

Tempus  $\delta$  correctum.

Ex init. =  $5h.26'.44'',6 + 2,0327 d fn + 1,4843 d \lambda - 1,6175 d \star$



261.

## Latitudo lunae apparens.

Initium.		Finis.
$\lambda' = -1399'',5$		$\lambda' = -1824'',0$
$\text{tg. } \lambda' = 7,8315289.n$		$7,9466233.n$

262.

## Semidiameter lunae geocentrica.

$\frac{1}{2}D' = 993'',97$		$\frac{1}{2}D' = 991'',74$
$\text{sin. } \frac{1}{2}D' = 7,6829451$		$7,6320701$

263.

## Logarith. pro reduct. spatii ad tempus.

$r' = 16^h.43'$		$17^h.13'$
$\mu = 34.18'',96$		$34.19'',58$
$\text{log. } h' = 0,2426571$		$0,2425243$

264.

## Solutio trianguli Smn.

$fn = 1940,00$		$fn = 1937,77$
$mn = 1399,46$		$mn = 1823,96$
$fm = 1343,5$		$fm = 654,3$
$\text{log. } fm = 3,1282520$		$2,8157840$
$p = 2219,2$		$p = 2224,5$
$SM = 875,7$		$SM = 2878,8$
$SM' = 25'.31''$		$SM' = 1^h.28'.51''$
$\text{log. } SM' = 3,1805124$		$3,7017357$

265.

Tempus  $\delta$  incorrectum.

$T = 5^h.26'.25'',5$		$6^h.26'.28'',0$
$SM' = -25.31, 1$		$-1.23.51, 9$
$\delta = 5^h. 0'.54'',4$		$5^h.02'.36'',1$

266.

Tempus  $\delta$  correctum.

$$\text{Ex init.} = 5^h.0'.54'',4 + 2,5258 dfn + 1,8223 d\lambda - 1,8292 d\pi$$

267.

Eclipsis solis Luconiae, Volhyniae, observata. Ex litteris ad me datis:

$$\left. \begin{array}{l} \text{Initium} = 6\text{h}.38'.46''.4 \\ \text{Finis} = 7.20.06,8 \end{array} \right\} \text{temp. sol. medio.}$$

268.

Diff. merid. Parisios inter et Luconiam = - 1h.31'.49''.5 temp.

Elevatio poli = + 50o.58'.0''

269.

Elementa e tabulis desumpta.

Initium.		Finis.
A = 84o.16'.14''.9	84o.17'.56''.1	
L = 85.07.20.8	85.32.39.4	
$\lambda = +17.13,9$	$+14.53,4$	
$a = 183.57.50,9$	184.19.88,1	

270.

Correctio latitudinis.

$$\beta = 50o.47'.54''.4 \dots \text{tg. } \beta = 0.0885096$$

271.

Calculi anguli  $\phi$ .

$$\left. \begin{array}{l} \phi = -3o.13'.38''.2 \\ \phi + \epsilon = 20.14.14,8 \end{array} \right\} \text{tg. } \phi = 8.7511750.n \mid 9.3049951.n \dots \left. \begin{array}{l} \phi = -11o.24'.39''.4 \\ \phi + \epsilon = 12.03.13,6 \end{array} \right\}$$

272.

Differentia parallaxium longit.

$$\left. \begin{array}{l} L = 85o.07'.20''.8 \\ L' = 84.28.03,2 \\ p = -2357''.6 \end{array} \right\} \text{tg. } L' = 1.0138537 \mid 1.0509543 \dots \left. \begin{array}{l} L = 85o.32'.39''.4 \\ L' = 84.55.05,1 \\ p = -2254''.8 \end{array} \right\}$$

273.

Latitudo lunae apparens.

Initium.		Finis.
$\lambda' = -1599'', 3$	$\text{tg. } \lambda = 7,8894872.n   7,9644767.n$	$\lambda' = -1900'', 6$

274.

Semidiameter lunae geocentrica.

$$\frac{1}{2}D' = 990'', 76 \dots \sin. \frac{1}{2} = 7,6815046 | 9,6809296 \dots \frac{1}{2}D' = 989'', 37$$

275.

Logarith. pro reductione spatii ad tempus.

$\tau' = 16''. 49''$	$17^h. 09'$
$\mu = 34'. 19'', 07$	$34. 19'', 5$
$\log. h' = 0.2426343$	$0.2425432$

276.

Solutio trianguli Smn.

$fn = 1936'', 70$	$fn = 1935'', 40$
$mn = 1599, 26$	$mn = 1900, 56$
$fm = 1092, 3 \dots \log. fm = 3,0383520$	$2,5629761 \dots \dots \dots fm = 365, 6$
$p = 2357, 6$	$p = 2254, 3$
$SM = 1265, 3$	$SM = 2619, 9$
$SM' = 36'. 52'', 3 \dots \log. SM' = 3,3448278$	$3,6608279 \dots \dots \dots SM' = 1^h. 16' 19'', 6$

277.

Tempus  $\delta$  incorrectum.

$T = 6^h. 38'. 46'', 4$	$7^h. 20'. 06'', 8$
$SM' = -36. 52, 3$	$-1. 16. 19, 6$
$\delta = 6^h. 01'. 54'', 2$	$6^h. 03'. 47'', 2$

278.

Tempus  $\delta$  correctum.

$$\text{ex init.} = 6^h. 01'. 54'', 2 = 3,0998 d fn + 2,5597 d \lambda - 2,1612 d \pi$$

60<sup>2</sup>



285.

Latitudo lunae apparens.

Initium.		Finis.
$\lambda' = -991''{,}5 \dots \text{tg. } \lambda' = 7,6816718.n$	$7,8921770.n$	$\lambda' = -1609''{,}1$

286.

Semidiameter lunae geocentrica.

$\frac{1}{2}D' = 994''{,}5 \dots \sin. \frac{1}{2}D' = 7,6831971$	$7,6817409$	$\frac{1}{2}D' = 991''{,}1$
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287.

Logarith. pro reductione spatii ad tempus.

$r' = 161,42$	$17^h.23$	
$\mu = 34'.18''.88$	$34'.19''.74$	
$\log. h' = 0,2426791$	$0,2424901$	

288.

Solutio trianguli Smn.

$fn = 1940''{,}53$		$fn = 1937''{,}13$
$mn = 991,46$		$mn = 1609,06$
$fm = 1668,1 \dots \log. fm = 3,2222304$	$3,0328614$	$fm = 1078,6$
$p = 2533,1$		$p = 2580,5$
$SM = 865,1$		$SM = 3659,1$
$SM' = 25'.12''.6 \dots \log. SM' = 3,1797454$	$3,8058642$	$SM' = 1^h.46'.35''.3$

289.

Tempus  $\delta$  incorrectum.

$T = 5^h.06'.51''.0$	$6^h.27'.21''.0$	
$SM' = -25.12,6$	$-1.46.35,3$	
$\delta = 4^h.41'.38''.4$	$4^h.40'.45''.7$	

290.

Tempus  $\delta$  correctum.

$$\text{Ex init.} = 4^h.41'.38''.4 + 2,0340 dfn + 1,0392 d\lambda - 1,2655 d\pi$$

291.

Eclipsis solis in Insula Leon, prope Gades. Ex litteris ab Illustri, et mihi amicissimo Bouvard ad me datis:

$$\text{Initium} = 4^{\text{h}}.18'.45'' \text{ temp. solar. vero.}$$

292.

Diff. merid. Parisios inter et Insulam Leon = + 34'.09'' temp.

$$\text{Elevatio poli} = + 360.27'.45''$$

293.

Tempus solare medium.

Initium.

$$\begin{array}{r} T' = 4^{\text{h}}.18'.45''.00 \\ ae = + 7, 28 \\ \hline \text{Insula Leon } T = 4^{\text{h}}.18'.52''.28 \\ \delta = + 34.09 \\ \hline \tau = 16^{\text{h}}.53'.01''.28 \end{array}$$

294.

Elementa e tabulis desumpta.

$$\begin{array}{l} l = 84^{\circ}.45'.33'', 1 \\ A = 84. 15. 40, 6 \\ L = 84. 58. 49, 6 \\ \lambda = + 18. 01, 1 \\ \alpha = 148. 59. 44, 8 \end{array}$$

295.

Correctio latitudinis.

$$\beta = 360.17'.54'', 2 \dots \text{tg. } \beta = 9.8660097$$

210.

Calculus anguli  $\varphi$ .

$$\begin{array}{l} \text{tg. } \varphi = 9,8458832 \dots \dots \varphi = 35^{\circ}.02'.26'', 5 \\ \varphi + \epsilon = 58. 30. 19, 5 \end{array}$$

297.

Diff. parallaxium longit.

$$\begin{array}{r} \text{tg. } L' = 0,9954403 \dots \dots \dots L = 840.58'.49'',6 \\ L' = 84. 13.46, 3 \\ \hline P = -2703'',3 \end{array}$$

298.

Latitudo lunae apparens.

$$\text{tg. } \lambda' = 7,1394560.n \dots \dots \dots \lambda' = - 284'',4$$

299.

Semidiameter lunae geocentrica.

$$\text{sin. } \frac{1}{2}D' = 7,6841048 \dots \dots \dots \frac{1}{2}D' = 996'',4$$

300.

Logarith. pro reduction. spatii ad tempus.

$$\begin{array}{l} \tau' = 16^h.41' \\ \mu = 34. 18, 90 \\ \log. h' = 0.2426723 \end{array}$$

301.

Solutio trianguli S m n.

$$\begin{array}{r} \text{fn} = 1942'',43 \\ \text{mn} = 284, 06 \\ \text{fm} = 3,2836412 \dots \dots \dots \text{fm} = 1921, 5 \\ \hline P = 2703, 3 \\ \text{SM} = 781, 8 \end{array}$$

$$\log. \text{SM}' = 3,1357680 \dots \dots \dots \text{SM}' = 22'.47''0$$

302.

Tempus  $\delta$  incorrectum.

$$\begin{array}{r} T' = 4^h.18'.45'' \\ \text{SM}' = - 22.47 \\ \hline \delta = 3^h.55'.58'',0 \end{array}$$

303.

Tempus  $\delta$  correctum.

$$\text{ex init.} = 3^{\text{h}}.55'.58'',0 + 1,7675 \text{ dfn} + 0,2588 \text{ d}\lambda - 1,0382 \text{ d}\pi$$

304.

Eclipsis solis Montalbani a celeberr. Duc la Chapelle observata. Ex litteris ad me datis:

$$\text{Initium} = 4^{\text{h}}.49'.46'' \text{ temp. sol. medio.}$$

305.

Differentia meridian. Parisios inter et Montalbanum =  $+3'.57''$  temp.

$$\text{Elevatio poli} = +44^{\circ}.0'.56''$$

306.

Elementa e tabulis desumpta.

$$l = 84^{\circ}.45'.34'',9$$

$$A = 84. 15. 42, 4$$

$$L = 84. 59. 15, 1$$

$$\lambda = + 17. 58, 8$$

$$z = 156.42. 12, 4$$

307.

Correctio latitudinis.

$$\beta = 43^{\circ}.50'.31'',9 \dots \text{tg. } \beta = 9,9824433$$

308.

Calculus anguli  $\varphi$ .

$$\text{tg. } \varphi = 9,6146926 \dots \varphi = 22^{\circ}.22'.55'',7$$

$$\varphi + z = 45. 50. 48, 7$$

309.

Differentia parallaxium longitudinis.

$$\text{tg. } L' = 0,9987621 \dots L = 84^{\circ}.59'.15'',1$$

$$L' = 84. 16. 23. 5$$

$$p = -2571'',6$$

310.

Latitudo lunae apparens.

$$\text{tg. } \lambda' = 7,5943022.n \dots \lambda' = -810'',4$$

311.

Semidiameter lunae geocentrica.

$$\text{tg. } \frac{1}{2}D' = 7.6835252 \dots \frac{1}{2}D' = 995'',3$$

312.

Logarith. pro reduct. spatii ad tempus.

$$r' = 16''.42'$$

$$\mu = 34'.18'',92$$

$$\log.h' = 0,2426647$$

313.

Solutio trianguli Smn.

$$fn = 1941'',33$$

$$mn = 810, 36$$

$$\log. fm = 3,2465253 \dots fm = 1764, 1$$

$$p = 2571, 6$$

$$SM = 807, 5$$

$$\log. fm = 3,1498072 \dots SM' = 23'.31'',9$$

314.

Tempus  $\delta$  incorrectum.

$$T' = 4h.49'.46'',0$$

$$SM' = -23.31, 9$$

$$\delta = 4h.26'.14'',1$$

315.

Tempus  $\delta$  correctum.

$$\text{Ex init.} = 4h.26'.14'',1 + 1,9241 d fn + 0,8032 d \lambda - 1,1405 d \pi$$

316.

Eclipsis solis Tolosae a celeberr. Vidal observata, ex litteris ad me datis:

Initium = 4h.50'.29'',0 temp. sol. vero.

317.

Diff. merid. Parisios inter et Tolosam = + 03'.35'' temp.

Elevatio Poli = + 43o.35'.46''

318.

Tempus solare medium.

T' = 4h.50'.29'',0

ae = . . + 07, 29

T Tolosae = 4h.50'.36'',29

r = 16. 54. 11, 29

319.

Elementa e tabulis desumpta.

l = 84o.45'.36'',0

A = 84. 15. 43, 6

L = 84. 59. 32, 4

λ = + 17. 57, 1

α = 156.54.48, 1

320.

Correctio latitudinis.

μ = 43o.25'.28'',3 . . tg. β = 9.9761043

321.

Calculus anguli φ.

tg. φ = 9.6173176 . . . φ = 22o.30'.15'',6

φ + ε = 45. 58. 08, 6

322.

Differentia parallaxium longit.

L = 84o.59'.32'',4

tg. L' = 0.9987163 . . . L' = 84. 16. 21, 4

p = - 2591'',0

323.

Latitudo lunae apparens.

$$\text{tg. } \lambda' = 7.5860190.n \dots \lambda' = -790'',5$$

324.

Semidiameter lunae geocentrica.

$$\text{sin. } \frac{1}{2}D' = 7.6835009 \dots \frac{1}{2}D' = 995'',2$$

325.

Log. pro reductione spatii ad tempus.

$$\tau' = 16^h.44'$$

$$\mu = 34'.18'',96$$

$$\text{log. } h' = 0.2426723$$

326.

Solutio trianguli Smn.

$$fn = 1941'',23$$

$$mn = 790, 46$$

$$\text{log. } fm = 3.2487100 \dots fm = 1773, 0$$

$$p = 2591, 0$$

$$SM = 818, 0$$

$$\text{log. } SM' = 3.1554256 \dots SM' = 23'.50''3$$

327.

Tempus  $\delta$  incorrectum.

$$T' = 4^h.50'.36'',29$$

$$SM' = -23.50, 30$$

$$\delta = 4^h.26'.45'',99$$

328.

Tempus  $\delta$  correctum.

$$\text{Ex init.} = 4^h.26'.45'',99 + 1,9144 d fn + 0,7795 d \lambda - 1,1367 d \pi$$

61<sup>2</sup>

329.

Eclipsis solis a celeberr. Messier in sua specula astronom. Lutetiae Parisiorum  
observata in Diario physico (Journal de Physique) in lucem edita.

$$\left. \begin{array}{l} \text{Initium} = 4h.51'.43'' \\ \text{Ergo initium in specula Caesaris} = 4.51.41 \end{array} \right\} \text{temp. sol. med.}$$

330.

Longitudo geographica speculae Caesaris Lutetiae Parisiorum =  $0h.0'.0''.0$   
Elevatio poli =  $+480.51'.04''$

331.

Elementa e tabulis desumpta.

$$\begin{array}{l} l = 840.45'.30'',1 \\ A = 84.15.37,4 \\ L = 84.57.59,9 \\ \lambda = +18.05,5 \\ \alpha = 157.11.22,4 \end{array}$$

332.

Correctio latitudinis.

$$\beta = 480.40'.50'',8 \dots \text{tg. } \beta = 0,0559539$$

333.

Calculus anguli  $\varphi$ .

$$\text{tg. } \varphi = 0,5325237 \dots \varphi = 180.49'.12'',1 \\ \varphi + \varepsilon = 23.27.53,0$$

334.

Differentia parallaxium longitudinis.

$$\text{tg. } L' = 1,0013208 \dots \begin{array}{l} L = 840.57'.59'',9 \\ L' = 84.18.23,9 \\ p = -2376'',0 \end{array}$$

335.

Latitudo lunae apparens.

$$\text{tg. } \lambda' = 7.7030354.n \quad \dots \quad \lambda' = -1041'',0$$

336.

Semidiameter lunae geocentrica.

$$\text{sin. } \frac{1}{2}D' = 7.6837766 \quad \dots \quad \frac{1}{2}D' = 995'',8$$

337.

Logarith. pro reduct. spatii ad tempus.

$$\tau' = 16^h.42'$$

$$\mu = 34.18'',92$$

$$\text{log. } h' = 0.2426647$$

338.

Solutio trianguli Smn.

$$fn = 1041'',83$$

$$mn = 1040,96$$

$$\text{log. } fm = 3.2146424 \quad \dots \quad fm = 1639,2$$

$$p = 2376,0$$

$$SM = 736,8$$

$$\text{log. } SM' = 3.1100143 \quad \dots \quad SM' = 21'.28'',3$$

339.

Tempus  $\delta$  incorrectum.

$$T = 4^h.51'.43'',0$$

$$SM = -21.28,3$$

$$\delta = 4^h.30'.14'',7$$

340.

Tempus  $\delta$  correctum.

$$\text{Ex init.} = 4^h.30'.14'',7 + 2,0712 dfn + 1,1103 d\lambda - 1,2384 d\pi$$

341.

Eclipsis solis ab Astronomo celeberr. David tubo achromatico 40—45ties augente Pragae observata, ex litteris ab ipso ad me datis:

Initium =  $5^{\text{h}}.48'.13''.5$  temp. sol. vero.

342.

Diff. merid. Parisios inter et Pragam =  $-48'.19''$

Elevatio poli =  $+500.05'.19''$

343.

Tempus solare medium.

$T' = 5^{\text{h}}.48'.13''.5$

$ae = . . + 07, 34$

$T \text{ Pragae} = 5^{\text{h}}.48'.20''.84$

$\delta = -48.19.00$

$\tau = 17^{\text{h}}.0'.01''.84$

344.

Elementa e tabulis desumpta.

$l = 840.45'.49''.9$

$A = 84.15.57, 9$

$L = 85.03.06, 9$

$\lambda = +17.37, 3$

$\alpha = 171.21.10, 5$

345.

Correctio latitudinis.

$\beta = 490.55'.09''.9 \dots \text{tg. } \beta = 0.0749463$

346.

Calculus anguli  $\varphi$

$\text{tg. } \varphi = 9.1021507 \dots \varphi = 70.12'.38''.2$

$\varphi + \varepsilon = 30.40.31, 2$

347.

Differentia parallaxium longit.

$$\begin{array}{r} \text{tg. } L' = 1,0068694 \dots \dots L = 85^{\circ}.03'.06''.9 \\ \text{L}' = 84. 22. 42, 4 \\ \hline p = - 2424'',5 \end{array}$$

348.

Latitudo lunae apparens.

$$\text{tg. } \lambda' = 7.8138373.n \dots \dots \lambda' = - 1343'',5$$

349.

Semidiameter lunae geocentrica.

$$\text{sin. } \frac{1}{2}D' = 7.6824468 \dots \dots \frac{1}{2}D' = 992'',8$$

350.

Logarith. pro reduct. spatii ad tempus.

$$\begin{array}{l} \tau' = 16^h.45'. \\ \mu = 34'.18'',98 \\ \text{log. } h' = 0.2426495 \end{array}$$

351.

Solutio trianguli SMN.

$$\begin{array}{r} \text{fn} = 1938,83 \\ \text{mn} = 1343,46 \\ \text{log. fm} = 3.1454819 \dots \dots \text{fm} = 1397,9 \\ \hline p = 2424,5 \\ \text{SM} = 1026,6 \end{array}$$

$$\text{log. SM}' = 3.2540508 \dots \dots \text{SM}' = 29'.55'',0$$

352.

Tempus  $\delta$  incorrectum.

$$\begin{array}{r} T' = 5^h.48'.20'',84 \\ \text{SM}' = - 29.55, 00 \\ \hline \delta = 5^h.18'.5'',84 \end{array}$$

353.

Tempus  $\delta$  correctum.

$$\text{Ex init.} = 5^{\text{h}}.18'.25''.84 + 2,4253 \text{ dfn} + 1,6806 \text{ d}\lambda - 1,6283 \text{ d}\pi$$

354.

Eclipsis solis ab Astronomo celeberr. Triesnecker in specula Vindobonae  
observata, ex litteris ab ipso ad me datis:

$$\text{Initium} = 5^{\text{h}}.57'.55''.0 \quad \text{temp. sol. med.}$$

355.

Diff. merid. Parisios inter et Vindobonam =  $+56'.10''$  temp.

$$\text{Elevatio poli} = +48^{\circ}.12'.34''$$

356.

Elementa e tabulis desumpta.

$$l = 84^{\circ}.45'.54''.0$$

$$A = 84. 16. 02, 1$$

$$L = 85. 04. 10, 6$$

$$\lambda = + 17. 31, 4$$

$$\alpha = 173. 44. 47, 1$$

357.

Correctio latitudinis.

$$\beta = 480.02'.21'',1 \quad . . . \quad \text{tg. } \beta = 0.0461603$$

358.

Calculus anguli  $\varphi$ .

$$\text{tg. } \varphi = 8.9909838 \quad . . . . \quad \varphi = 5^{\circ}.35'.37''.6$$

$$\varphi + \varepsilon = 29. 03. 30, 6$$

359.

Diff. parallaxium longit.

$$L = 85^{\circ}.04'.10''.6$$

$$\text{tg. } L' = 1.0062960 \quad . . . . \quad L = 84. 22. 15, 8$$

$$p = - 2514'',8$$

360.

Latitudo lunae apparens.

$$\text{tg. } \lambda' = 7,8034082.n \dots \dots \lambda' = -1311'',7$$

361.

Semidiameter lunae geocentrica.

$$\text{sin. } \frac{1}{2}D' = 7,6823900 \dots \dots \frac{1}{2}D' = 992'',7$$

362.

Logarith. pro reduction. spatii ad tempus.

$$\tau' = 16^h.46'$$

$$\mu = 34.19,01$$

$$\text{log. } h' = 0.2424521$$

363.

Solutio trianguli Smn.

$$\begin{array}{r} \text{fn} = 1938'',73 \\ \text{mn} = 1311,66 \\ \text{fm} = 3,1546257 \dots \dots \text{fm} = 1427,6 \\ \quad \quad \quad \text{p} = 2514,8 \\ \hline \text{SM} = 1087,2 \end{array}$$

$$\text{log. SM}' = 3,2787615 \dots \dots \text{SM}' = 31'.40''0$$

364.

Tempus  $\delta$  incorrectum.

$$T' = 5^h.57'.55''$$

$$\text{SM}' = -31.40$$

$$\delta = 5^h.26'.15''$$

365.

Tempus  $\delta$  correctum.

$$\text{ex init.} = 5^h.26'.15'',0 + 2,3743 \text{ dfn} + 1,6063 \text{ d}\lambda - 1,6203 \text{ d}\pi$$

356.

Eclipsis solis ab Astronomo celeberr. Bessel in specula astronomica celeberr.  
Schröter Lilienthalii observata, ex litteris ab Illustr. Olbers ad me datis;

Initium =  $5^h.21'.14''.1$  temp. solar. med.

367.

Diff. merid. Parisios inter et Lilientalium =  $+ 26'.16''$ . temp.  
Elevatio poli =  $+ 53^o.08'.25''$

368.

Elementa e tabulis desumpta.

$$l = 84^o.45'.37''.9$$

$$A = 84. 15. 45, 5$$

$$L = 84. 0. 01, 0$$

$$\lambda = + 17. 54, 4$$

$$\alpha = 164. 34. 17, 0$$

369.

Correctio latitudinis.

$$\beta = 52^o.58'.30''.7 \dots \text{tg. } \beta = 0.1224948$$

370.

Calculus anguli  $\varphi$ .

$$\text{tg. } \varphi = 9,3024485 \dots \dots \varphi = 110.20'.45''.5$$

$$\varphi + \epsilon = 34. 48. 38, 5$$

371.

Diff. parallaxium longit.

$$\text{tg. } L' = 1,0066572 \dots \dots \begin{array}{l} L = 85^o. 0'.01''.0 \\ L' = 84. 22. 32, 5 \\ p = -2248''.5 \end{array}$$

372.

Latitudo lunae apparens.

$$\text{tg. } \lambda = 7,8150162 \dots \lambda' = -1347'',2$$

373.

Semidiameter lunae geocentrica.

$$\text{sin. } \frac{1}{2}D' = 7,6830292 \dots \frac{1}{2}D' = 994'',3$$

374.

Logarith. pro reductione spatii ad tempus.

$$\tau' = 16^h.43''$$

$$\mu = 34'.18'',94$$

$$\text{log. } h' = 0.2426647$$

375.

Solutio trianguli Smn.

$$fn = 1940'',13$$

$$mn = 1347,16$$

$$\text{log. } fm = 3,144935 \dots fm = 1396,1$$

$$p = 2248,5$$

$$SM = 852,4$$

$$\text{log. } SM' = 3,1733081 \dots SM' = 24'.50'',4$$

376.

Tempus  $\delta$  incorrectum.

$$T = 5^h.21'.14'',1$$

$$SM' = -24.50,4$$

$$\delta = 4^h.56'.23'',7$$

377.

Tempus  $\delta$  correctum.

$$\text{ex init.} = 4^h.56'.23'',7 + 2,4297 \text{ dfn} + 1,6871 \text{ d}\lambda - 1,5550 \text{ d}\pi$$

378.

Eclipsis solis Reikevici Islandiae a celeberr. Wetlesen, Discipulo celeberrimi  
Astronomi Bugge observata, ex litteris ab illustri Collega et Amico Bug-  
ge ad me datis:

$$\text{Finis} = 4^h.02.39,7 \quad \text{temp. sol. vero.}$$

379.

Diff. merid. Parisios inter et Reikevicum = + 1h.36'.56" temp.  
Elevatio poli = + 64° 08'.23",8

380.

Tempus solare medium.

$$\begin{array}{r} T' = 4^h.02'.39'',7 \\ ae = + 07, 56 \\ \hline \text{Reikev. T} = 4^h.02'.47'',26 \\ \delta = + 11. 36. 56,0 \\ \hline \tau = 17^h.39'.43'',3 \end{array}$$

381.

Elementa e tabulis desumpta.

$$\begin{array}{l} A = 840.17'.35'',7 \\ L = 85. 37. 24. 8 \\ \lambda = + 15. 22. 6 \\ \alpha = 144.59. 25, 2 \end{array}$$

382.

Correctio latitudinis.

$$\beta = 640.0'.17'',4 \dots \text{tg. } \beta = 0.3119113$$

383.

Calculi anguli  $\varphi$ .

$$\begin{array}{l} \text{tg. } \varphi = 9.4467848 \dots \dots \varphi = 150.37'.46'',0 \\ \varphi + \varepsilon = 39. 05. 39, 0 \end{array}$$

384.

Differentia parallaxium longit.

$$\begin{array}{r} L = 850.12'.56'',7 \\ \text{tg. } L' = 1.0772997 \dots \dots L' = 85. 37.24, 8 \\ p = - 1468'',1 \end{array}$$

385.

Latitudo lunae apparens.

$$\text{tg. } \lambda' = 7,0189596 \dots \dots \lambda' = - 1707'',9$$

386.

Semidiameter lunae geocentrica.

$$\sin. \frac{1}{2}D' = 7.6843317 \dots \dots \frac{1}{2}D' = 997'',1$$

387.

Logarith. pro reductione spatii ad tempus.

$$\begin{array}{l} \tau' = 17^h.06 \\ \mu = 34'.19'',43 \\ \log. h' = 0,2425584 \end{array}$$

388.

Solutio trianguli Smn.

$$\begin{array}{r} \text{fn} = 1943'',13 \\ \text{mn} = 1707, 86 \\ \log. \text{fm} = 2,9669886 \dots \dots \text{fm} = 926, 8 \\ p = 1467, 9 \\ \text{SM} = 2394,7 \end{array}$$

$$\log. \text{SM}' = 3,6218095 \dots \dots \text{SM}' = 1^h.09'.46'',1$$

389.

Tempus  $\delta$  incorrectum.

$$\begin{array}{l} T = 4^h.02'.47'',26 \\ \text{SM}' = -1,09.46, 10 \\ \delta = 2^h.53'.01'',20 \end{array}$$

390.

Tempus  $\delta$  correctum.

$$\text{Ex fine} = 2\text{h}.53'.01'',20 - 3,6649 \text{ d } \delta - 3,2211 \text{ d } \lambda + 2,6244 \text{ d } \pi$$

391.

Eclipsis solis Gottingae observata.

$$\text{Finis obs. a celeberrimis: Mayer} = 6\text{h}.31'.28'',83$$

$$\text{--- --- --- Thibaut} = \text{--- --- } 17, 33$$

$$\text{--- --- --- Harting} = \text{--- --- } 14, 84 \quad \text{quae infra sup-}$$

putatur, ex litteris ad me datis.

392.

Diff. merid. Parisios inter et Gottingam =  $-30'.21''.0$  temp. ex observationi-Elevatio poli =  $510.32'.05'',0$  bus olim a me habitis definita.

393.

Elementa e tabulis desumpta.

Finis.

$$l = 840.48'.15'',2$$

$$A = 84. 18. 27, 8$$

$$L = 85. 40. 21, 1$$

$$\lambda = + 14. 10, 6$$

$$\alpha = 182.07.09, 4$$

394.

Correctio latitudinis.

$$\beta = 510.32'.02'',1 \dots \text{tg. } \beta = 0,0973305$$

395.

Calculus anguli  $\varphi$ .

$$\varphi = -10.41'.34'',4 \dots \text{tg. } \varphi = 8,4706357n$$

$$\varphi + \varepsilon = 21. 46. 18, 6$$

396.

Differentia parallaxium longitudinis.

Finis.

$$L = 850.40'.21'',1$$

$$L' = 85.01.27.4 \dots \text{tg. } L' = 1,0601734$$

$$p = -38.53,7$$

397.

Latitudo lunae geocentrica.

$$\lambda' = 1776'',1 \dots \text{tg. } \lambda' = 5,9350487$$

398.

Semidiameter lunae apparens.

$$\frac{1}{2}D' = 991'' 5 \dots \sin \frac{1}{2}D' = 7,6818832$$

399.

Logarith. pro reductione spatii ad tempus.

$$r' = 17h.46'$$

$$\mu = 34'.20'',27$$

$$\log. h = 0.2423838$$

400.

Solutio trianguli Smn.

$$fn = 1937'',53$$

$$mn = 1776,06$$

$$fm = 774,3 \dots \log. fm = 2,8889428$$

$$p = 2333,7$$

$$SM = 3108,0$$

$$SM' = 1h.30'.30'',8 \dots \log. SM' = 3,7348648$$

401.

Tempus  $\delta$  incorrectum.

$$T = 6h.31'.14'',84$$

$$SM' = -1.30.30,8$$

$$\delta = 5h.00'.44'',04$$

402.

Eclipsis selis Neapolis observata, ex litteris ad me datis:

Initium = 5h.51'.18'',6 temp. sol. medio.

403.

Diff. merid. Parisios inter et Neapolim = -47'.26'',0 temp.

Elevatio poli = 400.50'.15''

404.

Elementa e tabulis desumpta.

Initium.

I = 840.45'.59'',1

A = 84. 16. 07, 4

L = 85. 05. 28, 7

 $\lambda = + 17. 24, 2$  $\alpha = 172.05. 46, 4$ 

405.

Correctio latitudinis.

 $\beta = 400.0'.03'',2 \dots \dots \text{tg. } \beta = 9.9340698$ 

406.

Calculus anguli  $\varphi$ . $\delta = 90.05'.35'',7 \dots \dots \text{tg. } \varphi = 9.2042643$  $\varphi + \epsilon = 32. 33. 28, 7$ 

407.

Differ. parallaxium longit.

L = 850.05'.28'',7

L' = 84. 18. 24, 4  $\dots \dots \text{tg. } L' = 1.0013320$ 

P = - 28'.24'',3

408.

Latitudo lunae apparens.

$$\lambda' = -967'',4 \dots \dots \dots \text{tg. } \lambda' = 7,6711706.n$$

409.

Semidiameter lunae geocentrica.

$$\frac{1}{2}D' = 991'',9 \dots \dots \dots \text{tg. } \frac{1}{2}D' = 7,6820773$$

410.

Logarith. pro reduct. spatii ad tempus.

$$\begin{aligned} \tau' &= 17^h.33' \\ \mu &= 34'.20'',0 \\ \text{log. } h' &= 0,2424370 \end{aligned}$$

411.

Solutio trianguli Smn.

$$\begin{aligned} fn &= 1937'',93 \\ mn &= 967,36 \\ fm &= 1679,2 \dots \dots \text{log. } fm = 3,2251082 \\ \frac{p}{SM} &= \frac{2824,3}{1145,1} \\ SM' &= 33'.21'',6 \dots \dots \text{log. } fm = 3,3012804 \end{aligned}$$

412.

Tempus  $\delta$  incorrectum.

$$\begin{aligned} T' &= 5^h.51'.18'',6 \\ SM' &= -33.21,6 \\ \hline \delta &= 5^h.17'.57'',5 \end{aligned}$$

413.

Eclipsis solis Brinae observata, ex litteris ad me datis:

$$\text{Finis} = 6^h.58'.06''.3 \quad \text{temp. sol. med.}$$

414.

Diff. merid. Parisios inter et Brinam =  $-570.05'.2''$  temp.

$$\text{Elevatio poli} = +490.11'.28''$$

415.

Elementa e tabulis desumpta.

$$l = 840.48'.15'',6$$

$$A = 84. 13. 28, 3$$

$$L = 85. 40. 29, 9$$

$$\lambda = -14. 09, 9$$

$$\alpha = 188.50. 02, 8$$

416.

Correctio latitudinis.

$$\beta = 490.01'.15'',8 \dots \text{tg. } \beta = 0,0611594$$

417.

Calculus anguli  $\varphi$ .

$$\varphi = 70.35'54'',4 \dots \text{tg. } \varphi = 9,1251591$$

$$\varphi + \epsilon = 13. 51. 58, 6$$

418.

Differentia parallaxium longitudinis.

$$L = 850.40'.29'',9$$

$$L' = 85. 0. 34, 6 \dots \text{tg. } L' = 1,0588890$$

$$p = -2395'',0$$

419.

Latitudo lunae apparens.

$$\lambda' = -1799'', 1 \dots \text{tg. } \lambda' = 7.9406228.n$$

420.

Semidiameter lunae geocentrica.

$$\frac{1}{2}D' = 990'', 10 \dots \text{sin. } \frac{1}{2}D' = 7.6812466$$

421.

Logarith. pro reduct. spatii ad tempus.

$$\begin{aligned} \tau' &= 18''. 12' \\ \mu &= 34''. 21' \\ \log. h' &= 0.2422245 \end{aligned}$$

422.

Solutio trianguli Smn.

$$\begin{aligned} fn &= 1936'', 13 \\ mn &= 1799, 06 \\ fm &= 715, 5 \dots \log. fm = 3.8546275 \\ p &= 239, 3 \\ \hline SM &= 3110, 8 \end{aligned}$$

$$SM' = 1^h.30'.33''.7 \dots \log. SM' = 3.7350966$$

423.

Tempus  $\delta$  incorrectum.

$$\begin{aligned} T &= 6^h.58'.06'', 3 \\ SM &= 1.30.33, 7 \\ \hline \delta &= 5^h.27'.32'', 6 \end{aligned}$$

424.

Eclipsis solis Berolini observata ab illustr. et mihi amicissimo Bode mecum communicata:

Finis observ. a celeberr. Bode	= 6°. 39'. 40'', 5	} temp. sol. med.
- - - - Humbold	= 6. 39. 40, 8	
- - - - Tralles	= 6. 39. 45, 0	

Locus observationis de Humbold fuit = + 1'', 2 tempore occidentalior  
 - - - - Tralles vero = - 1'', 5 temp. orientalis spec. Regis.

425.

Diff. merid. Parisios inter et Berolinum = - 44'. 10'', 0 temp.

Elevatio poli = 49°. 0'. 57''

426.

Elementa e tabulis desumpta.

$l = 840.48'.02'',4$

$A = 84. 18. 14, 6$

$L = 85. 37. 05, 3$

$\lambda = - 14. 28, 8$

$\alpha = 184. 13. 44, 6$

427.

Correctio latitudinis.

$\beta = 520.21'.32'',2 \dots \text{tg. } \beta = 0.1128073$

428.

Calculus anguli  $\varphi$ .

$\varphi = 30.15'.18'',6 \dots \text{tg. } \varphi = 8.7549190$

$\varphi + \epsilon = 20. 12. 34, 4$

429.

Diff. parallaxium longit.

$L = 850.37'.05'',3$

$L' = 84. 59. 09, 2 \dots \text{tg. } L' = 1.0568163$

$p = - 2276'',1$

430.

Latitudo lunae apparens.

$$\lambda' = -1824''{,}5 \dots \text{tg. } \lambda' = 7.9467367n$$

431.

Semidiameter lunae geocentrica.

$$\frac{1}{2}D' = 991''{,}2 \dots \sin. \frac{1}{2}D' = 7.6817644$$

432.

Logarith. pro reduct. spatii ad tempus.

$$\tau' = 17^h.14'$$

$$\mu = 34'.19''{,}60$$

$$\log. h' = 0.2425205$$

433.

Solutio trianguli SMN.

$$fn = 1937,23$$

$$mn = 1824,46$$

$$fm = 651,31 \dots \log. fm = 2.8137883$$

$$p = 2276,10$$

$$SM = 2927,41$$

$$SM' = 1^h.25'.16''{,}9 \dots \log. SM' = 3.7090041$$

434.

Tempus  $\delta$  incorrectum.

$$T' = 6^h.39'.42''{,}0$$

$$SM' = 1.25.16,9$$

$$\delta = 5^h.14'.25''{,}1$$

435.

Eclipsis solis Ratisbonae a celeberr. Heinrich observata, ex litteris ad me  
datis :

$$\text{Finis} = 6\text{h}.44'.37'',00 \quad \text{temp. solar. med.}$$

436.

Diff. merid. Parisios inter et Ratisbonam =  $-30'.11''.4$  temp.  
Elevatio poli =  $49^{\circ}.0'.57''$

437.

Elementa e tabulis desumpta.

$$i = 84^{\circ}.48'.26'',0$$

$$A = 84. 18. 39, 0$$

$$L = 85. 43. 08, 6$$

$$\lambda = + 13.55, 2$$

$$\alpha = 185. 27. 54, 0$$

438.

Correctio latitudinis.

$$\beta = 48^{\circ}.50'.44'' \quad \dots \quad \text{tg. } \beta = 0.0584747$$

439.

Calculus anguli  $\varphi$ .

$$\varphi = -40.45'.30'',0 \quad \dots \quad \text{tg. } \varphi = 8,9203341.n$$

$$\varphi + \varepsilon = 18. 42. 23, 0$$

440.

Differentia parallaxium longitudinis.

$$L = 85^{\circ}.43'.08'',6$$

$$L' = 85. 02. 37. 5 \quad \dots \quad \text{tg. } L' = 1,0618847$$

$$p = - 2431, 1$$

441.

Latitudo lunae apparens.

$$\lambda' = -1753'',3 \dots \text{tg. } \lambda' = 7,9294472.n$$

442.

Semidiameter lunae geocentrica.

$$\frac{1}{2}D' = 990'' 6 \dots \sin \frac{1}{2}D' = 7,6815048$$

443.

Logarith. pro reductione spatii ad tempus.

$$\begin{aligned} r' &= 17h. 18' \\ \mu &= 34'. 19'',68 \\ \log. h &= 0.2425053 \end{aligned}$$

444.

Solutio trianguli Smn.

$$\begin{aligned} fn &= 1936'',63 \\ mn &= 1753, 26 \\ fm &= 822, 56 \dots \log. fm = 2,9151708 \\ p &= 2431, 10 \\ SM &= 3253, 66 \end{aligned}$$

$$SM' = 1h. 34'. 47'',1 \dots \log. SM' = 3.7548975$$

445.

Tempus  $\delta$  incorrectum.

$$\begin{aligned} T &= 6h. 44'. 37'',0 \\ SM' &= -1. 34. 47, 1 \\ \hline \delta &= 5h. 09'. 49'',9 \end{aligned}$$



452.

Latitudo lunae apparens.

Initium.		Finis.
$\lambda' = -1265'',5$	$\text{tg. } \lambda' = 7,7878406.n   7,9296239.n$	$\lambda' = -1754'',0$

453.

Semidiameter lunae geocentrica.

$\frac{1}{2}D' = 992'',69$	$\text{sin. } \frac{1}{2}D' = 7,6823863   7,6812869$	$\frac{1}{2}D' = 990'',17$
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454.

Logarith. pro reduct. spatii ad tempus.

$\tau' = 16^h.46'$	$17^h.18'$
$\mu = 34.19'',01$	$34.19'',68$
$\text{log. } h' = 0,2426442$	$0,2425030$

455.

Solutio trianguli Smn.

$fn = 1938,72$		$fn = 1936,20$
$mn = 1265,46$		$mn = 1753,96$
$fm = 1468,7$	$\text{log. } fm = 3,1669499   2,9138444$	$fm = 820,0$
$p = 2517,9$		$p = 2457,0$
$SM = 1049,2$		$SM = 3277,0$
$SM' = 30'.34'',4$	$\text{log. } SM' = 3,2635025   3,7579794$	$SM' = 1^h.35'.27'',4$

456.

Tempus  $\delta$  incorrectum.

$T = 5^h.48'.33'',7$	$6^h.53'.02'',2$
$SM' = -30.34,4$	$-1.35.27,4$
$\delta = 5^h.17'.59'',3$	$5^h.17'.34'',8$

Ex quibus conjunctionum calculis, illa methodo, errores tabularum lunarium eliminandi cum cautione atque provisione adhibita, hae quidem mihi prodierunt correctionum aequationes:

Monachii	I.	$12,23 + 6,1031 \text{ dfn} + 4,8430 \text{ d}\lambda - 3,7727 \text{ d}\pi = 0$
Romae	II.	$3,79 - 5,1281 \text{ dfn} - 3,5814 \text{ d}\lambda + 2,5991 \text{ d}\pi = 0$
Romae	III.	$7,51 + 5,1293 \text{ dfn} + 3,5839 \text{ d}\lambda - 2,6017 \text{ d}\pi = 0$
Pataviae	IV.	$9,26 + 5,6066 \text{ dfn} + 4,2206 \text{ d}\lambda - 3,1834 \text{ d}\pi = 0$
Mediolani	V.	$11,60 + 5,3866 \text{ dfn} + 3,9321 \text{ d}\lambda - 2,8943 \text{ d}\pi = 0$
Madriti	VI.	$3,42 + 4,2364 \text{ dfn} + 2,1690 \text{ d}\lambda - 1,2447 \text{ d}\pi = 0$
Aranjuetii	VII.	$9,58 + 4,2158 \text{ dfn} + 2,1294 \text{ d}\lambda - 1,2141 \text{ d}\pi = 0$
Pampelonae	VIII.	$10,20 + 4,4778 \text{ dfn} + 2,5993 \text{ d}\lambda - 1,6209 \text{ d}\pi = 0$
Kinderhookii	IX.	$12,35 + 3,5118 \text{ dfn} + 0,0981 \text{ d}\lambda + 0,8367 \text{ d}\pi = 0$
Fort Orange	X.	$53,27 + 3,5140 \text{ dfn} + 0,1536 \text{ d}\lambda - 0,1591 \text{ d}\pi = 0$
Amstelodami	XI.	$13,02 + 6,2407 \text{ dfn} - 5,0123 \text{ d}\lambda + 3,9087 \text{ d}\pi = 0$
Trajecti ad Rhenum	XII.	$16,2 - 6,2065 \text{ dfn} - 4,9722 \text{ d}\lambda + 3,8688 \text{ d}\pi = 0$
Turigi	XIII.	$10,2 + 5,6384 \text{ dfn} + 4,2613 \text{ d}\lambda - 1,2924 \text{ d}\pi = 0$
Oehsenhusii	XIV.	$12,4 + 5,9038 \text{ dfn} + 4,5973 \text{ d}\lambda - 3,5300 \text{ d}\pi = 0$
Lipsiae	XV.	$0,8 - 7,0975 \text{ dfn} - 6,0173 \text{ d}\lambda + 4,9138 \text{ d}\pi = 0$
Vratislaviae	XVI.	$9,31 + 8,0037 \text{ dfn} + 7,0379 \text{ d}\lambda - 5,8340 \text{ d}\pi = 0$
Budae	XVII.	$7,32 - 7,0231 \text{ dfn} - 5,9320 \text{ d}\lambda + 4,9919 \text{ d}\pi = 0$

Et methodum cum cautione, et omnium aequationum momenta diligentissime perpendenti mihi providentius videbatur, sequentes tantum inferre conclusiones ex conjunctionibus:

$$\begin{aligned}
 \text{I.} & \dots \text{d}\pi = 3,2417 + 1,6177 \text{ dfn} + 1,2837 \text{ d}\lambda \\
 \text{V.} & \dots \text{d}\pi = 4,0078 + 1,8611 \text{ dfn} + 1,3585 \text{ d}\lambda \\
 \text{IX.} & \dots \text{d}\pi = 99,8384 - 28,3898 \text{ dfn} - 0,7930 \text{ d}\lambda \\
 \text{I et V.} & \dots 0 = 0,7661 + 0,2434 \text{ dfn} + 0,0748 \text{ d}\lambda \dots \text{A} \\
 \text{I et IX.} & \dots 0 = 103,0801 + 30,0075 \text{ dfn} + 2,0767 \text{ d}\lambda \dots \text{B} \\
 \text{A.} & \dots \text{d}\lambda = -10,2419 - 3,2540 \text{ dfn} \\
 \text{B.} & \dots \text{d}\lambda = -49,6365 - 14,4496 \text{ dfn} \\
 \text{A et B.} & \dots 0 = 39,3946 + 11,1956 \text{ dfn} \dots \text{C} \\
 \text{C.} & \dots \text{dfn} = -3,5184 \\
 \text{A seu B.} & \dots \text{d}\lambda = +1,2081 \\
 \text{Denique} & \dots \text{d}\pi = -0,8998
 \end{aligned}$$

Ex cognito igitur errore latitudinis lunae  $d\lambda = +1,1081$  (quem quidem celeberrimus et mihi amicissimus Humboldt, Voyage etc. tantum  $0'',04$  majorem ex occultationibus Madriti et Ultrajecti habitis statuit) atque ad calculos omnium revocato colligitur:

I.	$18,08 + 6,1031 \text{ dfn} - 3,7727 \text{ d}\pi = 0$
II.	$-0,53 - 5,1281 \text{ dfn} + 2,5991 \text{ d}\pi = 0$
III.	$11,84 + 5,1293 \text{ dfn} - 2,6017 \text{ d}\pi = 0$
IV.	$14,36 + 5,6066 \text{ dfn} - 3,1834 \text{ d}\pi = 0$
V.	$16,35 + 5,3866 \text{ dfn} - 2,8943 \text{ d}\pi = 0$
VI.	$6,04 + 4,2364 \text{ dfn} - 1,2447 \text{ d}\pi = 0$
VII.	$12,15 + 4,2158 \text{ dfn} - 1,2141 \text{ d}\pi = 0$
VIII.	$13,34 + 4,4778 \text{ dfn} - 1,6209 \text{ d}\pi = 0$
IX.	$12,47 + 3,5118 \text{ dfn} - 0,8367 \text{ d}\pi = 0$
X.	$53,45 + 3,5140 \text{ dfn} - 0,1591 \text{ d}\pi = 0$
XI.	$7,00 - 6,2407 \text{ dfn} + 3,9807 \text{ d}\pi = 0$
XII.	$10,19 - 6,2065 \text{ dfn} + 3,8688 \text{ d}\pi = 0$
XIII.	$15,36 + 5,6384 \text{ dfn} - 3,2036 \text{ d}\pi = 0$
XIV.	$17,96 + 5,9038 \text{ dfn} - 4,5973 \text{ d}\pi = 0$
XV.	$-6,47 - 7,0975 \text{ dfn} + 4,9138 \text{ d}\pi = 0$
XVI.	$17,82 + 8,0037 \text{ dfn} - 5,8340 \text{ d}\pi = 0$
XVII.	$0,15 - 7,0231 \text{ dfn} + 4,9919 \text{ d}\pi = 0$

Ex conjunctionibus tandem:

I et VII	sequitur $\text{dfn} = -2,8288$	$\text{d}\pi = +0,1419$
VII et XIV	$\text{dfn} = -2,7199$	$\text{d}\pi = +0,5215$
IV et VI	$\text{dfn} = -2,6903$	$\text{d}\pi = +0,6246$
Omnium medium	$\text{dfn} = -2,746$	$\text{d}\pi = +0,429$

Substitutis denique valoribus

$$\begin{aligned} d\lambda &= +1,2081 \\ \text{dfn} &= -2,746 \\ d\pi &= +0,429 \end{aligned}$$

correcta conjunctionis tempora prodeunt:

I.	Monachii . . .	5 <sup>h</sup> .07'.07",57	+ 1',2	= 5 <sup>h</sup> .07'.08",8	medium.
II.	Romae Coll. . .	5. 10. 48, 86	- 4,8	= 5. 10. 44,	i eclipsis initium.
III.	— — . . .	5. 10. 52, 65	+ 5,8	= 5. 10. 58,	4 defectionis finis.
IV.	Patavii . . . .	5. 08. 22,	5 + 0,7	= 5. 08. 23,	2 medium.
V.	Mediolani . . .	4. 57. 30,	1 + 0,6	= 4. 57. 30,	7 - -
VI.	Madriti . . . .	4. 06. 05,	5 + 0,0	= 4. 06. 05,	5 - -
VII.	Aranjuctii . . .	4. 06. 25,	1 + 0,0	= 4. 06. 25,	1 - -
VIII.	Pampelonaë . .	4. 14. 15,	8 + 0,2	= 4. 14. 16,	0 - -
IX.	Kinderhookii .	11. 25. 28,	5 - 2,8	= 11. 25. 31,	3 - -
X.	Fort Orange . .	11. 25. 45,	9 - 0,1	= 11. 25. 45,	8 - -
XI.	Anstelodami . .	4. 40. 22,	3 - 5,0	= 4. 40. 17,	3 initium.
		4. 40. 35,	3 + 7,5	= 4. 40. 42,	8 finis.
XII.	Ultrajecti . . .	4. 41. 14,	0 - 5,0	= 4. 41. 09,	0 initium.
		4. 41. 30,	2 + 7,6	= 4. 41. 37,	8 finis.
XIII.	Turigi . . . .	4. 55. 09,	1 + 0,9	= 4. 55. 01,	0 medium.
XIV.	Ochsenhusii . .	5. 0. 36,	8 + 0,8	= 5. 0. 37,	6 medium.
XV.	Lipsiæ . . . .	5. 10. 23,	4 - 5,0	= 5. 10. 18,	4 initium.
		5. 10. 24,	2 + 9,0	= 5. 10. 33,	2 finis.
XVI.	Vratislaviæ . .	5. 28. 42,	5 + 2,9	= 5. 28. 45,	4 medium.
XVII.	Budæ . . . .	5. 36. 54,	9 - 5,3	= 5. 36. 49,	6 initium.
		5. 37. 07,	2 + 8,9	= 5. 37. 11,	1 finis.
XVIII.	Cracoviæ . . .	5. 40. 37,	7 - 6,0	= 5. 40. 31,	1 initium.
XIX.	Agriæ . . . .	5. 42. 31,	3 - 5,5	= 5. 42. 25,	8 - -
XX.	Snidnitii . . .	5. 26. 44,	6 - 4,4	= 5. 26. 40,	2 - -
XXI.	Hamburgi . . .	5. 0. 44,	4 - 5,4	= 5. 0. 39,	0 - -
XXII.	Luconiaë . . .	6. 01. 54,	2 - 6,2	= 6. 01. 48,	0 - -
XXIII.	Burgi . . . .	4. 41. 38,	4 - 4,9	= 4. 41. 33,	5 - -
XXIV.	In insula Leon .	3. 55. 58,	0 - 5,0	= 3. 55. 53,	0 - -
XXV.	Montalbani . .	4. 26. 14,	1 - 3,5	= 4. 26. 10,	6 - -
XXVI.	Tolosæ . . . .	4. 26. 46,	0 - 4,6	= 4. 26. 41,	4 - -
XXVII.	Lutet. Paris. . .	4. 30. 14,	7 - 4,9	= 4. 30. 09,	8 - -
XXVIII.	Pragæ . . . .	5. 18. 26,	8 - 5,2	= 5. 18. 21,	6 - -
XXIX.	Vindobonæ . . .	5. 26. 15,	0 - 4,9	= 5. 26. 10,	1 - -
XXX.	Lilienthalii . .	4. 56. 23,	7 - 5,0	= 4. 56. 18,	7 - -
XXXI.	Reikevici . . .	2. 53. 01,	2 + 7,3	= 2. 53. 08,	5 finis.

Comparatis caute tantum iis conjunctionibus cum nostra, quas ex observationibus eorum locorum, quorum positio geographica jam pridem certius fuerat definita, effecimus, differentiam meridianorum speculae Caesaris astronomi-

caae Lutetiae Parisiorum et speculae Regis astronomicae Monachii constitueris ex observationibus habitis :

Romae (collegio romanorum) = . . . . .	37'.02''7	medium.
Mediolani = . . . . .	03, 1	- -
Ochsenhusii = . . . . .	03, 2	- .
Vratislaviae = . . . . .	12, 4	- -
Vindobonae = . . . . .	08, 8	initium
Lilienthalii = . . . . .	37.06, 1	- -
Burgi = . . . . .	09, 3	- -
Amstelodami = . . . . .	02, 3	- -
Ultrajecti = . . . . .	06, 9	- -
Suidnitii = . . . . .	07, 8	- -
Budae = . . . . .	06, 2	- -
Pragae = . . . . .	07, 6	- -
In insula Leon = . . . . .	06, 8	- .
Cracoviae = . . . . .	0, 5	- -
Patavii = . . . . .	36.55, 6	medium
Montalbani = . . . . .	37.01, 2	initium

Quorum omnium medium efficitur = 37'.05'',0 totque observationum una Patavina neglecta redit = 37'.05,6 tempore, specula quidem Regis, quae Monachii est, a Parisiorum specula Caesaris, versus orientem distante. Ex nostris igitur defectionibus solis revolveris eodem; meridianorum enim differentia conficitur ipsa, quae in priori commentatione (Denkschriften der königl. Akademie für 1808 p. 374) ex occultationibus siderum inerrantium ad calculos revocatis fuit definita, in qua denique standum putamus. Quam quidem longitudinem Monachii tandem et nunc primum a nobis definitam tanto majoris operae pretii esse confidimus, cum ab illa totius regni Boariae, quod mensi sumus, delineatio proximo semestri ab instituto regio statistico topographico impensis augustissimi Regis in lucem edenda, totius baseos 21653,5 metrorum, triangulorumque omnium aequae ac  $\pi$  Azimuth Schäflariensis, super quo commentationem huic ipsi volumini paratam habuimus, quam vero in proximo Academiae volumine legeris, directio, atque situs unice pendeant. Observationes Lutetiae Parisiorum, Lipsiae, Madriti, Tolosae et Aranjuetii habitas, quamvis inde, si momentum et indolem, certitudinisque gradus observationum solis deficientis spectas, haud adeo abluens differentia meridianorum 37'.02'',7 prodiret, in complexionem non inferre religioni habui. Observationis enim Parisinae tempus, isto modo ut fuit, forsitan per scripturae mendam editum, uno minuto primo in calculis nostris ex ingenio correximus; positiones vero Madriti, Tolosae, Aranjuetii jamjam stabilitas esse confidentias haud statuerim.

Efficitur igitur ex conjunctionibus, si differentiam meridianorum tempore spectas:

I. Monachium, specula Regis astronomica =  $-37'.05'',6$

II. Madritum =  $+24'.0'',6$

de Humboldt =  $+24.04, 5$

Triesnecker =  $+24.08, 9$

Quae quidem positiones quod inter se  $9''$  differant, haud mirere, cum viri illustres et alias solis lunaeque tabulas adhibuerint, aliasque conjunctiones conjugaverint; conjunctionis enim tempora prodierunt

mihi =  $4^h.06'.05'',4$

de Humboldt =  $4.06.12, 0$

Triesnecker =  $4.06.02, 4$

Ceterum, et quod caput est, Madriti positio etiam nunc vacillare mihi videtur, cum ipsae de Humboldtii conclusiones inter se discrepant, ut videre est in libro celeberrimo: Voyage d'Alexandre de Humboldt etc. quatrième part Astronomie etc.

III. Aranjectium ad meos calculos =  $+23'.38'',1$

de Humboldt ex eadem eclipsi solis =  $+23.46, 3$

ex observationibus chronometri =  $+23.20, 6$

Ex eadem eclipsi solis prodit differentia meridianorum Madritum (Plaza-Major) inter et Aranjectium ad meos calculos =  $22'',6$   
secundum de Humboldt =  $18, 3$

IV. Hinderhookium =  $+5^h.04'.37'',7$

collegit conjunctionem Lalande ex eadem observatione  $4'',6$  serius, ergo differentiam meridianorum =  $+5^h.04'.33'',1$

V. Fort Orange mihi prodit =  $+5^h.04'.20'',3$

Simeoni de Witt ex aliis observationibus =  $+5.04.29, 0$

VI. Amstelodamum =  $-10'.11'',2$

Triesnecker collegit ex aliis observationibus =  $-10.09, 5$

VII. Trajectum ad Rhenum ad meos calculos =  $-11'.03'',9$

secundum Triesnecker =  $-11.12, 5$

ex litteris celeb. Van Beek ad me datis =  $-11.06, 5$

Celeb. Van Beck Calkoen ex eadem defectionis observatione ad calculos revocata (in connaissance des tems 1811 p. 428) longitudinis differentiam efficit  $+11'.06'',4$ . Tempora conjunctionis a nostris calculis discrepare, haud mirere, si celeb. Calkoen, quamvis acutum alias astronomum, locum lunae ex connaissance des tems collegisse, quintum adeo terminum aequationum correctionis

neglexisse, et quod caput est, ex quinque tantum comparationibus observationum tantum quatuor locorum suam effecisse longitudinem perspexeris, cum quidem nostra, quam effecimus, Ultrajecti longitudo ex omnibus certissimisque observationibus fuit definita. Equidem, quod terminum quintum in correctionis aequationem haud invexerit astronomus, tantos errores tabb. lunae, quos invenit, longitudinis  $-27''$ , latitudinis  $+6''$ , (qui quidem ex nostris calculis multo minores  $-7''8$  et  $+1''2$  prodierunt) haud temere attribuerim.

VIII. Vratislavia  $= -58.38'',6$   
 $= -58.51, 0$  Connoissance de tems 1809.  
 $= -58.48, 3$  ex litteris a celeb. Jungnitz ad me datis.

IX. Laconia ex initio  $= 11.31'.41'',9$   
 Triesnecker  $= 1. 31. 49, 5$

X. Insula Leon  $= +34'.10'',0$   
 $= +34.08, 5$  secundum Triesnecker ex eadem solis defectione.  
 $= +34.09, 0$  de Humboldt ex aliis observationibus.

XI. Montalbanum  $= +3'.55'',5$   
 $= +3.57, 0$  Connoissance de temps 1809.  
 $= +3.45, 7$  Triesnecker ex eadem solis defectione.

XII. Tolosa  $= +3'.25'',2$   
 $= +3.35, 0$  Connoissance de tems 1809.  
 $= +3.22, 8$  Triesnecker ex eadem solis defectione.

XIII. Lunae incursionem Amstelodami, Romae in collegio romano, Lipsiae, Ultrajecti, Budae et Burgi; excursionem vero Vratislaviae, Romae in specula Caetani, et in America in munimento Fort Orange nuncupato accuratius fuisse observatam ex meridianorum differentiis aliunde cognitis conjecerim, neque dicere fugerim, observationes Parisiis (unum minutum primum deduximus), Suidnitii, Luconiae et Hamburgi habitas in finis notatione aliquid scripturae mendicatas esse, neque fere idem alienum putaverim ab observationum Gottingae et Gabromagi habitarum notatione, cum hujus meridiani differentia aliunde illiusque positio olim a me occultationibus siderum inerrantium ( $= 30'.21''$  Parisiis orientior) satis accurate fuit definita; observationes Mediolani, Ochsenhusii habitas cum nostra apprime consentire patet. Differentiam meridianorum Ochsenhusium et Monachium inter mihi olim contigit constituere per duo, ab Augustissimi Regis munificentia accepta chronometra anglica, per Arnoldinum in capsula

argentea  $+ 6'.31'',9$ , per Emeryanum in thecula aurea  $+ 6'.32'',5$  concentus admirabilis, at ex machinarum praestantia intellectu proclivis.

Haec fere habui dicere de natura et observationum et calculorum. Longitudinem denique lunae, cum latitudo supra sit excussa, ex tabulis effeci  $= 84^{\circ}.44'.46'',4$ , tempore quidem  $5^h.07'.08'',8$  Monachii; at ex eclipsi id temporis eandem collegi  $= 84^{\circ}.44'.38'',6$ . Ergo error longitudinis tabularum conficitur  $= - 07'',8$ .

Postremo de tabula, quae ad calcem cum decursum sit, omnium calculorum *ἐπιχειρήματα* ante oculos statuatur, monuerim, lunae longitudinem errore, quem supra detexi  $- 7'',8$  fuisse correctam, atque in calculos latitudinis lunae ad tempora conjunctionis subductos errorem  $+ 1'',2$  itidem fuisse inductum. Quae quidem latitudo, cum ex observationibus Mediolani, Ochsenhusii, Monachii habitis omnino eadem eruatur, phasium eclipsis intervallum accurate observatum fuisse intelligitur.

	Phases observatae.	Conjunctio.	Longitudo	Latitudo	Differentia merid.		
			lunae tempore conjunct.		ex eclipsi.	ex aliis observ.	
<i>Monachii</i>	I. 5b.35'.58", 69	5. 07'.08", 84		+19'.19", 5	0b.0'.0", 0		
<i>Seyffer.</i>	F. 6. 44. 29. 76	5. 07. 08, 84					
<i>Romae</i>	5. 42. 49, 26	5. 10. 44, 1	 9", 88', 47", 048	19. 19, 6	- 3. 35, 3	-3'.32", 4	
<i>Conti et Calandrelli.</i>	7. 01. 0, 95	5. 10. 58, 4			- 3. 49, 6		
<i>Romae</i>	5. 43. 02, 36	5. 11. 03, 5			19. 19, 0	- 3. 54, 7	-3. 31, 9
<i>Scarpellini.</i>	7. 01. 0, 55	5. 10. 47, 3				- 3. 38, 5	
<i>Patavii</i>	5. 38. 34, 15	5. 08. 22, 1			19. 19, 6	- 1. 13, 3	-1. 04, 4
<i>Chiminello.</i>	6. 51. 38, 89	5. 08. 24, 3				- 1. 15, 5	
<i>Mediolani</i>	5. 25. 58, 6	4. 57. 30, 9			19. 19, 7	+ 9. 37, 9	+9. 40, 6
<i>Oriani.</i>	6. 42. 41, 7	4. 57. 30, 5				+ 9. 38, 3	
<i>Madriti Don</i>	4. 27. 56, 29	4. 06. 08, 5			19. 19, 9	+1.1. 0, 3	+1.1. 12, 9
<i>Felipe Bauza.</i>	6. 09. 16, 67	4. 06. 02, 5				+1.1.06, 3	
<i>Aranjuetii</i>	4. 28. 40, 83	4. 06. 24, 7		19. 19, 4	+1.0.44, 1	+1.0.54, 4	
<i>Mégnié et Don Pedro Giraldo.</i>	6. 10. 14, 78	4. 06. 25, 5			+1.0.43, 3		
<i>Pampelona.</i>	4. 36. 14, 2	4. 14. 16, 1		19. 18, 8	+52. 52, 7	+53.16, 6ad Vegae tabb. log. vol. II.	
	6. 11. 39, 12	4. 14. 15, 9			+52. 52, 9		
<i>In America, Kinderhooki</i>	9. 49. 36, 73	23. 25. 32, 9		19. 18, 3	+5.41.35, 9		
<i>de Ferrer.</i>	0. 33. 46, 18	23. 25. 29, 7			+5.41.39, 1		
<i>In America, Fort-Orange</i>	9. 50. 18, 24	23. 26. 07, 8		19. 19, 4	+5.41.01, 0	+5.41.34, 6 ad Simeonis de Witt alias observation.	
<i>Simeon deWitt.</i>	0. 33. 15, 67	23. 25. 23, 9			+5.41.34, 9		
<i>Amstelodami</i>	5. 02. 14, 27	4. 40. 17, 3		19. 18, 9	+26. 51, 5	+26.56, 1	
	6. 12. 38, 89	4. 40. 42, 8			+26. 26, 0		

	Phases observatae.	Conjunctio.	Longitudo	Latitudo	Differentia merid.	
			lunae tempore conjunct.		ex eclipsi.	ex aliis observat.
<i>Ultrajecti</i>						
van Beck Cal- koen.	I. 5 <sup>h</sup> .03'.26	4 <sup>h</sup> .41'.09",0			+25'.59",8	+25'.59",0
van Beck Cal- koen, de Uten- hoven, Riems- dyk, Merkus.	F. 6. 14. 06	4. 41. 37, 8		19'.19"2	+25. 31. 0	
<i>Turigi</i>						
Feer.	5. 22. 06, 5	4. 55. 0, 2			+12. 08, 6	+12. 15, 6
	6. 36. 24, 2	4. 55. 01, 8		19. 19, 4	+12. 07, 0	
<i>Ochsenhusii</i>						
Kyene.	5. 28. 24	5. 0. 38, 0			+ 6. 30, 8	+ 6. 33, 9
	6. 39. 24	5. 0. 37, 3		19. 19, 6	+ 6. 31, 5	
<i>Lipsiae</i>						
Rüdiger.	5. 38. 30",6	5. 10. 18, 4			- 3. 09, 6	- 3. 02, 4
	6. 39. 30, 9	5. 10. 33, 2		19. 19, 2	- 3. 24, 4	
<i>Vratislaviae</i>						
Jungnitz.	6. 0. 11, 35	5. 28. 42, 1			-21. 33, 3	+21. 42, 7
	6. 54. 22, 83	5. 28. 48, 8		19. 19, 9	-21. 40, 0	
<i>Budae</i>						
Taucher.	6. 10. 19, 37	5. 36. 49, 6			-29. 40, 8	-29. 40, 4
	7. 09. 29, 89	5. 37. 11, 1		19. 19, 2	-30. 09, 6	
<i>Cracoviae</i>						
Kodesch.	6. 14. 06, 4	5. 40. 31, 1			-33. 22, 3	-33. 20, 4
	7. 05. 18, 4	5. 39. 19, 3		19. 24. 6	-32. 18, 2	
<i>Agriae</i>						
in specula Ly- cei. Dursack.	6. 16. 37, 38	5. 42. 25, 8			-35. 17, 0	-35. 04, 4
	7. 14. 07, 69	5. 44. 53, 69		19. 21, 5	-37. 52, 2	
<i>Sutdnitii Sile- siae de Linde- ner, de Forell.</i>						
	5. 57. 51, 9	5. 26. 40, 2			-19. 31, 4	-19. 25, 3
	6. 56. 36, 6	5. 31. 59, 4		19. 02, 2	-24. 57, 9	
<i>Hamburgi</i>						
Eimble.	5. 26. 25, 5	5. 0. 39, 0			+ 6. 29, 8	+ 6. 33, 6
	6. 26. 28, 0	5. 02. 36, 1		19. 13, 7	+ 4. 25, 4	
<i>Lueoniae.</i>						
	6. 38. 46, 4	6. 01. 48, 0			-54. 39, 2	-54. 43, 9
	7. 20. 06, 8	6. 03. 47, 2		19. 13, 3	-56. 45, 7	

	Phases observatae.	Conjunctio.	Longitudo	Latitudo	Differentia merid.	
			lunae tempore conjunct.		ex eclipsi.	ex aliis observat.
<i>In Foro Sebu-</i>	L. 5 <sup>b</sup> .06'.51'',0	4 <sup>b</sup> .41'.33'',5		19'.19'',7	+25'.35'',3	+25'.31'',6
<i>siuno.</i>						
Michalet.	F.6. 27. 21, 0	4. 40. 45, 7		19. 23, 5	+26. 15, 8	
<i>In specula regia</i>	4. 18. 45	3. 55. 53, 0		19.19, 1	+1.11.15,8	+1.11.14, 6
<i>Insulae Leon</i>						
Julian Canelas.	---	---		---	---	
Montalbani	4. 49. 46	4. 26. 10, 6		19.19, 2	+ 40.53, 2	+ 41.02, 6
<i>Duc - la - Cha-</i>	---	---		---	---	
<i>pelle.</i>						
Tolosae	4. 50. 29	4. 26. 41, 4		19.18, 2	+ 40.27, 6	+ 40.40, 6
Vidal.	---	---		---	---	
<i>Lutetiae Pa-</i>	4. 51. 41	4. 30. 09, 8		19.19, 0	+ 36.59, 0	+ 37.05, 6
<i>risiornm</i>						
Messier.	---	---		---	---	
Pragae	5. 48. 20, 84	5. 18. 21, 6		19.19, 2	- 11.12, 8	- 11.13, 4
David.	---	---		---	---	
<i>Vindobonae</i>	5. 57. 55, 0	5. 26. 10, 1		19.19, 7	- 19.01, 3	- 19.04, 4
<i>Triesnecker.</i>	---	---		---	---	
<i>Lilienthalii</i>	5. 21. 14, 1	4. 56. 18, 7		19.19, 3	+ 10.50, 1	+ 10.55, 6
Bessel.	---	---		---	---	
<i>Reikevici</i>	---	---		---	---	
<i>Wetlescn.</i>	4. 02. 47, 26	2. 53. 08, 5		19.20, 5	-2.14. 0, 3	
<i>Gottingae</i>	---	---		---	---	
Mayer, Thie-	6. 31. 14, 84	5. 0. 44, 0		19.19, 4	+ 6.17, 5	+ 6.44, 6
baud, et Har-						
ding.						
<i>Neapolis</i>	5. 51. 18, 6	5. 17. 57, 5		19.17, 4	- 10.43, 8	- 10.20, 4
<i>Cassela.</i>	---	---		---	---	

	Phases observatae.	Conjunctio.	Longitudo	Latitudo	Differentia merid.	
			lunae tempore conjunct.		ex eclipsi.	ex aliis observat.
<i>Brinae</i>	—	—		—	—	—
Dr. Schindler, et Knittelmayer.	6 <sup>h</sup> .58'.06'',3	5 <sup>h</sup> .27'.32'',6		19',19'',0	—20'.31'',1	—19'.59'',6
<i>Berolini</i>	—	—		—	—	—
Bode, Olbers, de Humboldt, Tralles.	6. 39.40, 5	5. 14.25, 1		19. 19, 9	—07. 11, 4	—07. 04, 4
<i>Ratisbonae</i>	—	—		—	—	—
Placid.Heinrich	6. 44.37, 0	5. 09.49, 9		19. 18, 6	— 2.36, 2	— 2. 05, 8
<i>Gabromagi</i>	5. 48.33, 7	5. 17.59,3		19.18,0	—10.46, 2	—10.06, 4
Derflinger.	6. 53.02, 2	5. 17.34,8				

