

Manuscript *Hell a* – geomagnetic observations in Vardø

This first series of photographs, referred to as “MS *Hell a* 1-14”, depicts the manuscript exclusively concerned with Hell’s geomagnetic observations in Vardø. The originals are presented half a page at a time, but the reader may expect some overlap between pictures. Thus, the last lines on MS *Hell a* 1 can be seen also in the uppermost part of *Hell a* 2. There is no pagination in Hell’s manuscript, so this numbering is our own. We have made no omissions in our reproduction of these sheets.



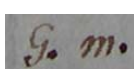
MS *Hell a* contains the long listings of measurements that have formed the basis for our Figures 5, 6 and 7, along with several methodical and theoretical comments which we have commented upon in our text. As an aid to those who wish to examine our interpretations of Hell’s Latin, we have marked below each picture at what page the reader may find our translations or discussions.

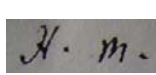
It is beyond the scope of this report to give a discussion of Hell’s Latinity. Some notes on his handwriting, however, may be of help to those already familiar with reading printed texts in Latin, but lacking experience in reading 18th-century manuscripts.

- There is a tendency in Hell’s manuscript of writing the minuscule letters *o* and *a* ambiguously, e.g.:


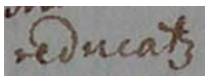
 = *schisto polito*  = *charta alba*

- Abbreviations are not abundant. The few that are used are generally easy to decipher:

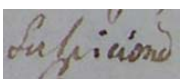

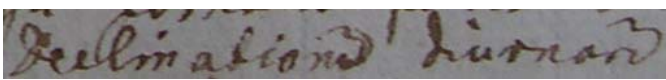
 = *et cetera*  = *primae*  = *Gradus, minuta* (of declination)

 = *Domini Niebuhr*  = *Hora, minutum* (of time)

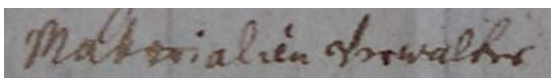
- The enclitic *-que*, and the present passive termination of verbs (*-tur*) may be shortened:

 = *quoque*  = *reducatur*

- Similarly, case endings in *-am*, *-em* and *-um* are sometimes shortened in this way:

 = *suspicionem*  = *indagandum*  = *Declinationum diurnarum*

- In accordance with 18th-century usage, Father Hell writes German in Gothic letters. Thus, in the rare instance when he uses a German or Danish word, his handwriting changes:

 = *Materialien Verwalter* (“caretaker”)

Observationes Declinationum Magnetis
 In Observatorio Waldenbursiano 1789.

Notandum
 Quod pendulum que magnetis artificialis
 magnetismo impata est, et ex parte librata, inclinata est hac aura capsa lignea quadrangula
 cuius latera inferiores arithmetici ex parte disti. sunt in gradibus, et dena minuta, capsula lignea
 que ducere ex parte regulas vitas fremulari mundo, et glutine probe munitis, adeo ut omnino
 ventus vel aura ab aera aereatay pro observatione adhibetur microscopium ligneam
 cuius que singula bina minuta bene distinguere possunt.

In observatorio austru. erectum erat secundarium ex lateribus coccio, cuius
 par. systema lapide quadrato ex schisto pulcho, et chorta alba inducto, termin. abque ad
 libellam exacte collocato, in hoc Lapide signavi lineam meridiana, et
 lineam exacte meridiana. ex parte determinata. et correspondenti. Superne
 lineae ab oriente undique ad 6 pedes semper erat, et a fortasse circa 10 pedes.
 norum secundarium, ut infra referam, et alio in loco exesi remedium erat 10 pedes.
 Obi. Prime observationes, quia quadrans sine fibris astronomis in hac observatorio ad 6
 pedes vicinis erat, ut ad observationes ~~sub. quadrantis~~ ~~sub. quadrantis~~ Educantur, pro defectum
 10 minutarum a vicis non observatorij adhibentur.

4to: Cauda omnes possibiles in his observationibus adhibita sunt, ut omnis aura
 aueretur, observationes et lapsus sensibus, et januis porta sunt, in nocturnis ceraso
 sine candela aut et sine cunctis adhibebatur, imò et sacris clavis, aut certe etc. depon
 edebatur, ne quid serpens velingeretur etc.

Observationes etc. in presentia quadrantis
 declin. Declin.

Aprilis die 27 ^a	hora. 10.	mane	3. 30	2. 50.
28 ^a	8.	mane	3. 30	2. 50.
10.	mane	a. in	2. 30	

Declinatio Declin.	S. m.
3. 24	2. 44
3. 25.	2. 45
3. 25.	2. 45

Majus 2^a h. 8. mane
 9 1/2 m.
 11.

Translations and discussions on pp. 17-20

MS Hell a 2

Observationes		Declin. Reducta		Declin. Reducta	
		S. m.	S. m.	S. m.	S. m.
Spit's die 27 a		h. 8. mane	3. 30	h. 8. mane	3. 24
28 a		8. mane	3. 50	9 1/2 m.	3. 25
		10. mane	3. 10	11. m.	3. 25
		1. Post Me.	3. 30	12. meridie	3. 28
		5. vesp.	3. 20	2. vesp.	3. 29
		10 vesp.	3. 10	3 1/2 vesp.	3. 29
29 ma		h. 8. mane	3. 10	5. vesp.	3. 29
		10. Mane	3. 30	9. vesp.	3. 00
		11. M.	3. 32	10. vesp.	3. 31
		7. V.	3. 30	11. vesp.	3. 31
		9. Vesp.	3. 43		
		12. meridie	3. 22		
30 ma		8. m.	3. 15	h. 8. m.	3. 30
		10. m.	3. 18	11 1/2 m.	3. 25
		12. meridie	3. 20	1. vesp.	3. 25
		1 1/2 vesp.	3. 28	3. vesp.	3. 23
		4. vesp.	3. 29		
		10 1/2 vesp.	3. 30		
Majus. 1 a:		8. mane	3. 20		
		9 1/2 m.	3. 16		
		11 1/2 m.	3. 18		
		2. vesp.	3. 28		
		2 1/2 v.	3. 29		
		4. Vesp.	3. 29		
		5. vesp.	3. 31		
		6 1/2 vesp.	3. 30		
		11. vesp.	3. 30		

Majus. 2 a
 h. 8. mane
 9 1/2 m.
 11. m.
 12. meridie
 2. vesp.
 3 1/2 vesp.
 5. vesp.
 9. vesp.
 10. vesp.
 11. vesp.
 h. 8. m.
 11 1/2 m.
 1. vesp.
 3. vesp.

Maj. die 3 a
 h. 8. m.
 11 1/2 m.
 1. vesp.
 3. vesp.

Post horam 3am clatus sex observatorio quadrans, quo elato, axis latic 40 minutes minus non pariet, ea de causa in ultima columna dictionum mimbres signate sunt 40 minutes.

sequentes omnes observationes factae sunt in abfentia Quadrantis in observatorio Astronomico.

Maj. die 3 a
 4. vesp.
 6 1/2 vesp.
 8. v.
 9 1/2 v.
 11 v.

2. 42 3. 2.
 2. 50 3. 10
 2. 50 3. 10
 2. 50, 3. 10.

Translation on p. 20

Lecturae ad in Observat. Afflu. Ann.		Majus qua		Remota ad non	
S. m.	S. m.	S. m.	S. m.	S. m.	S. m.
Majus 1 ^{ta}	h. 8. m.	2. 35.	2. 55.	3. 20.	3. 40.
	10 m.	2. 35.	2. 55.	3. 40.	4. 0.
	11. m.	2. 35.	2. 55.	3. 20.	3. 40.
	12. m.	2. 40.	3. 0.	3. 5.	3. 25.
	2. Vesp.	2. 40.	3. 0.	3. 10.	3. 30.
	5. Vesp.	2. 40.	3. 0.	3. 30.	3. 50.
	7. Vesp.	2. 40.	3. 0.	3. 0.	3. 20.
	9 $\frac{1}{2}$ Vesp.	2. 42.	3. 2.	2.	0. 2. 20.
	11 Vesp.	2. 46.	3. 6.	1. 58.	2. 18.
	12 noctis	2. 48.	3. 8.	2. 0.	2. 20.
Majus 5 ^{ta}	h. 8. m.	2. 46.	3. 6.	2. 10.	2. 30.
	10 m.	2. 40.	3. 0.	12 noctis	2. 20. 2. 40.
	11 $\frac{1}{2}$ m.	2. 40.	3. 0.	in Scythiam sequuntur aff. circumspedissime offer-	
	12 noctis	2. 40.	3. 0.	rosent adeo, ut praesentem Camulium, et suscipiam	
6 ^{ta}	7. Vesp.	2. 40.	3. 0.	Locamenti alijus Glau. Si abegerim; ventus	
	8 $\frac{1}{2}$ vesp.	2. 50.	3. 10.	Parabat potentissimus ab oriente, qui tanta	
	9 $\frac{1}{2}$ Vesp.	2. 50.	3. 10.	multo nobis ad aciem accedere potuit, sed quae	
	11. Vesp.	2. 50.	3. 10.	torealis nulla, quae aliunde nullum influxum	
7 ^{ma}	8. m.	2. 40.	3. 0.	in magnitudine, habet potest, ut alibi demeritas	
	10 $\frac{1}{2}$ m.	2. 40.	3. 0.	so. quod causa perturbantis affluis, in regard	
	11 m.	2. 40.	3. 0.	Majus 10 ^{ma}	h. 8. m. 2. 10. 2. 30.

Translation on p. 24

MS Hell a 4

7 ^{ma}	8 ^{ma}	9 ^{ma}	10 ^{ma}	11 ^{ma}	12 ^{ma}	13 ^{ma}	14 ^{ma}	15 ^{ma}	16 ^{ma}	17 ^{ma}	18 ^{ma}	19 ^{ma}	20 ^{ma}										
8. m.	h. 8. m.	9 ¹ / ₇ m.	10 ¹ / ₂ m.	10 ¹ / ₂ m.	12 mod.	2 vesp.	3 vesp.	4 vesp.	4 ¹ / ₂ vesp.	5 ¹ / ₂ vesp.	5 ¹ / ₂ vesp.	6 ¹ / ₇ vesp.	7 ¹ / ₇ vesp.	7 ¹ / ₂ vesp.	9 ¹ / ₇ vesp.	9 ³ / ₇ vesp.	10 ¹ / ₂ vesp.	11 ¹ / ₇ vesp.	11 ¹ / ₇ vesp.	11 ¹ / ₂ vesp.	12 noctis		
2	2	2	2	2	2	2	3	4	4 ¹ / ₂	5 ¹ / ₂	5 ¹ / ₂	6 ¹ / ₇	7 ¹ / ₇	7 ¹ / ₂	9 ¹ / ₇	9 ³ / ₇	10 ¹ / ₂	11 ¹ / ₇	11 ¹ / ₇	11 ¹ / ₂	12		
40.	40.	40.	42.	45.	51.	45.	45.	42.	25.	25.	40.	45.	52.	52.	52.	52.	52.	50.	50.	40.	54.	50.	
3.	3.	3.	3.	3.	2.	3.	3.	3.	2.	2.	3.	3.	3.	3.	3.	3.	3.	3.	2.	2.	2.	3.	
0.	0.	0.	2.	5.	5 ¹ / ₂ .	5 ¹ / ₂ .	5 ¹ / ₂ .	2.	45.	45.	0.	0.	12.	12.	12.	12.	12.	10.	10.	22.	38.	50.	
8. m.	h. 8. m.	10. m.	11. m.	1. vesp.	2. vesp.	2 ¹ / ₂ vesp.	4 vesp.	4 ¹ / ₂ vesp.	5 ¹ / ₂ vesp.	6 ¹ / ₂ vesp.	8 ¹ / ₂ vesp.	9 vesp.	10 ¹ / ₂ vesp.	12 noctis	h. 8. mane	11. m.	11 ¹ / ₇ m.	12. Matie	12 ¹ / ₂ p. Matie	1. vesp.	2. vesp.	4 ¹ / ₂ vesp.	
2	2	2	2	2	2	2	3.	2.	2.	2	2	2	2	2	2	2	2	2	2	2	3.	3.	3.
40.	40.	40.	40.	42.	45.	52.	52.	52.	0.	50.	52.	52.	52.	50.	2.	15.	30.	36.	40.	54.	40.	50.	50.
3.	3.	3.	3.	3.	3.	3.	3.	3.	3.	3.	3.	3.	3.	3.	2.	2.	2.	2.	2.	3.	4.	4.	4.
0.	0.	0.	2.	5.	5 ¹ / ₂ .	5 ¹ / ₂ .	5 ¹ / ₂ .	2.	45.	45.	0.	0.	12.	12.	12.	12.	12.	10.	10.	22.	38.	50.	50.

	S. om.	Riducta d. obf. vel. Mbu		Riducta d. obf. vel. Mbu	
Majus 11 ma	1. 50.	h. 8. m.	12 med.	2. 30	2. 50.
	2. 15.	9 $\frac{3}{4}$ m.	2 $\frac{1}{2}$ vesp.	2. 40	3. 0.
	2. 20	10 $\frac{1}{2}$ m.	4 vesp.	2. 40.	3. 0.
	2. 42	12 p. m.	6 vesp.	2. 50.	3. 10.
	2. 42	2 vesp.	6 $\frac{3}{4}$ vesp.	3. 0.	3. 20.
	2. 50.	4 vesp.	7 $\frac{1}{4}$ vesp.	3. 0	3. 20.
	2. 50	6 $\frac{1}{2}$ vesp.	8 $\frac{3}{4}$ vesp.	3. 0	3. 20.
	2. 45.	7. vesp.	9 vesp.	2. 50	3. 10.
	2. 44	9 vesp.	9 $\frac{1}{2}$ vesp.	2. 40.	3. 0.
	2. 40	9 $\frac{1}{2}$ vesp.	10 vesp.	2. 40.	3. 0.
	2. 30	10 $\frac{1}{2}$ vesp.	11 vesp.	2. 40	3. 0
	2. 30.	11 vesp.			
	2. 10	12 noctis			
Majus 12 ma	2. 10	h. 8. m.	12 noctis	2. 10	2. 30
	2. 26	10 $\frac{1}{2}$ m.		2. 25.	2. 45.
	2. 50	12 $\frac{1}{2}$ p. m.		2. 35.	2. 55.
	2. 40	1. vesp.		2. 38	2. 58.
	2. 42.	2 $\frac{1}{4}$ vesp.		2. 40	3. 0.
	2. 52	4 vesp.		2. 48	3. 8.
	2. 45.	11 $\frac{3}{4}$ vesp.		3. 10.	3. 30.
	2. 50.	12 $\frac{3}{4}$ vesp.		3. 5.	3. 05.
		1 $\frac{1}{2}$ vesp.		3. 5.	3. 25.
					3. 22.

MS Hell a 6

30.	2 1/4 vesp.	2. 42.	3. 2.
38.	4 vesp.	2. 52.	3. 12.
48.	4 3/4 vesp.	2. 45.	3. 5.
50.	5 1/4 vesp.	2. 50.	3. 10.
60.	8 vesp.	2. 50.	3. 10.
70.	9 vesp.	2. 45.	3. 5.
80.	9 3/4 vesp.	2. 45.	3. 5.
90.	11 vesp.	2. 40.	3. 0.
100.	13 1/2 h. 8 mane	2. 15.	2. 35.
110.	9 m.	2. 21.	2. 41.
120.	10. m.	2. 21.	2. 41.
130.	10 3/4 m.	2. 22.	2. 42.
140.	11 1/4 m.	2. 30.	3. 10.
150.	11 1/2 m.	2. 30.	2. 50.
160.	11 3/4 m.	2. 40.	3. 0.
170.	1 1/2 vesp.	2. 50.	3. 10.
180.	3 vesp.	3. 0.	3. 20.
190.	5 vesp.	2. 57.	3. 17.
200.	7 vesp.	2. 50.	3. 10.
210.	8 vesp.	2. 45.	3. 5.
220.	8 1/2 vesp.	2. 45.	3. 5.
230.	9 3/4 vesp.	2. 50.	3. 10.
240.			
250.			
260.			
270.			
280.			
290.			
300.			

30.	12 3/4 vesp.	2. 48.	3. 8.
40.	4 vesp.	3. 10.	3. 30.
50.	5 vesp.	3. 5.	3. 25.
60.	5 1/2 vesp.	3. 5.	3. 25.
70.	6 1/2 vesp.	3. 2.	3. 22.
80.	7 vesp.	2. 50.	3. 10.
90.	8 vesp.	2. 55.	3. 15.
100.	9 1/2 vesp.	2. 50.	3. 15.
110.	9 3/4 vesp.	3. 0.	3. 20.
120.	10 vesp.	2. 55.	3. 15.
130.	10 3/4 vesp.	3. 0.	3. 20.
140.	8. m.	2. 15.	2. 35.
150.	9 1/4 m.	2. 20.	2. 40.
160.	10. m.	2. 25.	2. 45.
170.	10 1/2 m.	2. 37.	2. 57.
180.	11 1/2 m.	2. 55.	2. 55.
190.	1 1/2 vesp.	2. 45.	3. 5.
200.	3 1/2 vesp.	2. 42.	3. 2.
210.	5 1/2 vesp.	2. 45.	3. 5.
220.	6 1/2 vesp.	2. 50.	3. 10.
230.	8 vesp.	2. 50.	3. 10.
240.	9 vesp.	2. 40.	3. 0.
250.	9 1/2 vesp.	2. 35.	2. 55.
260.	10 1/2 vesp.	2. 30.	2. 50.
270.	11 1/2 vesp.	2. 30.	2. 50.

Variationes lumen Scintillationum eodem luce
 que in vitro observatio, nam posita aures
 in observatorio efficitur eadem variationes
 exhibebat, que in vitro. Sed semper solum
 20 minutis deficientes. Luce autem in Petre
 sequentes. Reducit ad mmm

Reducto ad
 Naturam.
 g. m. g. m.

Majus 17^{ae} h. 8. m. 2. 45. 2. 45.
 9 1/2 m. 2. 25. 2. 45.
 11 1/2 m. 2. 30 2. 50.
 12 Meridie 2. 30 2. 50.
 1 1/2 Vesp. 2. 42 3. 2.
 2 Vesp. 2. 45. 3. 5.
 3 1/2 Vesp. 2. 45. 3. 5.
 5 Vesp. 2. 50 3. 10.
 6 1/2 Vesp. 2. 50 3. 10.
 8 Vesp. 2. 45. 3. 5.
 9 Vesp. 2. 45 3. 5.
 10 Vesp. 2. 45. 3. 5.
 12 noctis 2. 40 3. 0.

Majus 18^{ae} h. 8 1/4 m. 2. 30 2. 50.
 9 m. 2. 26 2. 46.
 9 1/2 m. 2. 32, 2. 52.
 7. Vesp. 2. 20. 2. 40.
 9 3/4 Vesp. 2. 40 3. 0.
 12 noctis 2. 30 2. 50.
 12 1/2 noctis 2. 25. 2. 45.

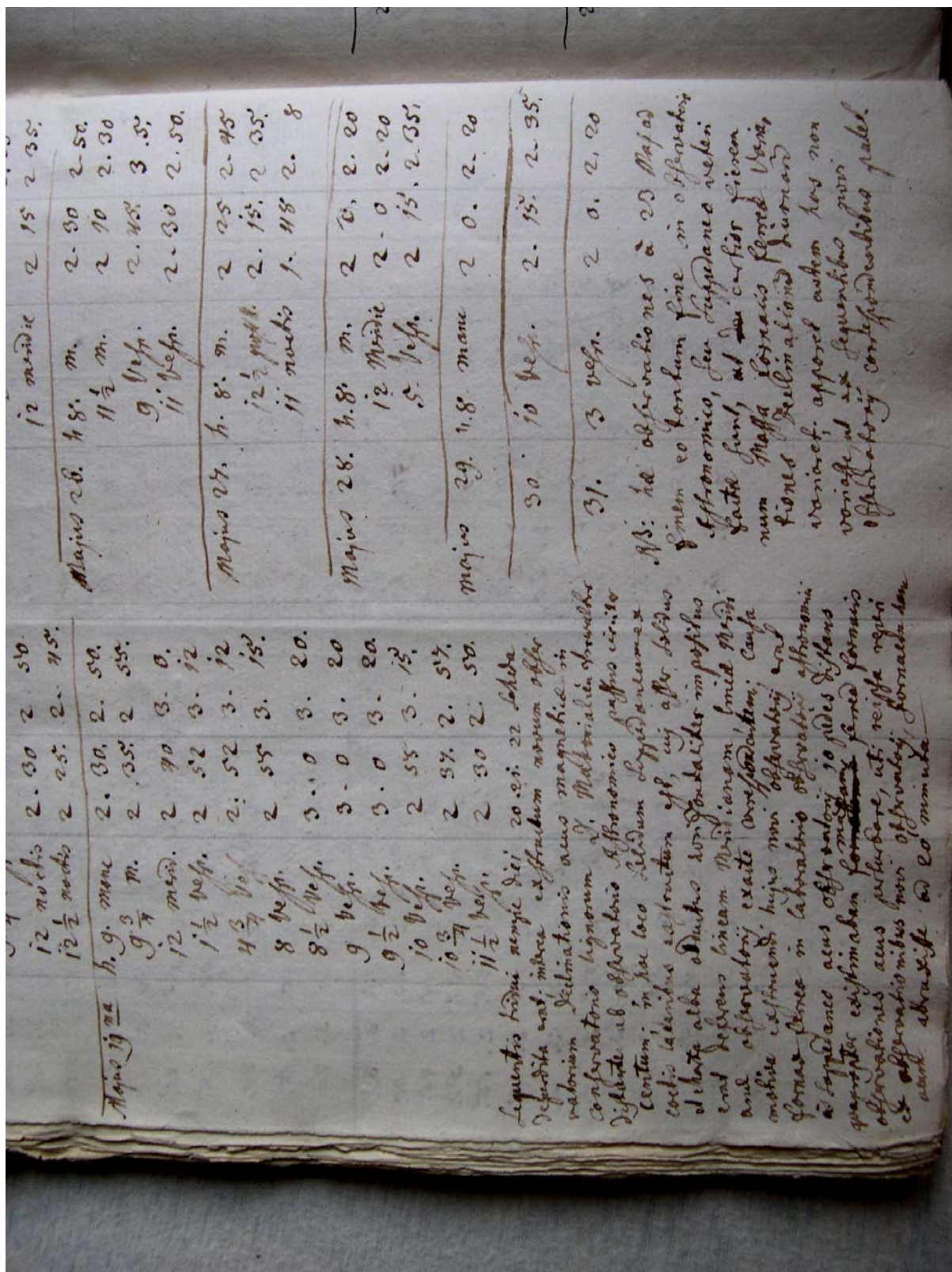
Majus 19^{ae} h. 9. m. 2. 30. 2. 50.

Majus 23. h. 24 Vesp. 2. 30. 2. 50.
 5 Vesp. 2. 40 3. 0.
 6 1/2 Vesp. 2. 45 3. 5.
 7 1/2 Vesp. 3. 0 3. 20.
 9 1/4 Vesp. 2. 45 3. 5.
 10 Vesp. 2. 30 2. 50.
 11 Vesp. 2. 30 2. 50.
 12 noctis 2. 30 2. 50.

Majus 24. h. 8. m. 2. 30 2. 50.
 11. m. 2. 30. 2. 50.
 5 1/2 Vesp. 2. 30 2. 50.
 5 1/4 Vesp. 2. 40 3. 0.
 9 3/4 Vesp. 2. 35. 2. 55.

Majus 25. h. 8. m. 2. 30 2. 50.
 8 1/2 m. 2. 15 2. 35.
 12 meridie 2. 15 2. 35.

Majus 26. h. 8. m. 2. 30 2. 50.



Translations on pp. 20, 21

<p><i>Variationes aëris magneticæ observatæ in observatorio novo supra descripto, que aëris magneticæ Gm. Nicolæi</i></p>		<p><i>Adnotatio Abona</i></p>	
<p>24 May</p>		<p>28 May</p>	
<p>mane</p>	<p>8. 0. 2. 50. 9. 0. 2. 47. 11. 0. 2. 48. 12. 0. 2. 48. 1. 30. 2. 53. 3. 30 3. 7. 6. 15. 3. 10 7. 0 3. 8 8. 0 3. 5.</p>	<p>mane</p>	<p>8. 0. 2. 43. 9. 15. 2. 40. 12. 0. 2. 57. 2. 15. 3. 0. 4. 0. 3. 0 5. 0 3. 0 6. 30. 3. 5. 7. 0. 3. 5. 9. 0 3. 5.</p>
<p>à Meridie</p>	<p>à Meridie</p>	<p>meridie</p>	<p>à meridie</p>
<p>30 May. Vespre-</p>		<p>30 May. Vespre-</p>	

Translation on p. 21

6. 12.	7. 0	8. 8	30 May. Vespere-	7. 0.	3. 0.
7. 0	8. 0	9. 5.		9. 30.	3. 2
10. 0	11. 0	12. 4		11. 30	2. 20.
<hr/>					
25 May mane	8. 0.	2. 48	31 May mane	8. 0.	2. 44
10. 0	10. 0	2. 48		9. 0.	2. 43.
12. 0	12. 0	2. 48		10. 0.	2. 47.
à meridie	5. 0.	3. 30.	à meridie	12. 0.	2. 48.
7. 30.	7. 30.	3. 32	à meridie	1. 0	2. 50.
9. 0	9. 0	3. 20		3. 0	2. 52
10. 0	10. 0	3. 18.		6. 0.	3. 15.
11. 0	11. 0	3. 15.		7. 0.	3. 12
<hr/>					
26 May mane	8. 30.	2. 45.	31 May mane	8. 0.	2. 45.
9. 45.	9. 45.	2. 48.		10. 45.	2. 45.
11. 45.	11. 45.	2. 50.		11. 15.	2. 45.
Vespere	6. 0.	3. 5.		12. 0	2. 50.
8. 30.	8. 30.	3. 18.		1. 30.	3. 0.
11. 0.	11. 0.	3. 15.		3. 0.	3. 2
<hr/>					
27 May.	11. 0.	2. 45.	à meridie	1. 30.	3. 0.
mane.	12. 0.	2. 50.		3. 0.	3. 2
meridie	8. 0.	3. 8.		5. 0.	3. 2
vespere	9. 30.	3. 8		6. 0.	3. 2
				7. 15.	3. 0.
				9. 0.	2. 5.
				10. 30.	2. 5.

Day	Time	Activity	Time	Time	
2. Junij.	mane		8. 0.	9. m.	
	Meditie	à	9. 15.	2. 13.	
			12. 0.	2. 50.	
	Meditie	à	11. 0.	2. 58.	
			12. 0.	3. 20.	
	Meditie	à	1. 0.	3. 28.	
			5. 15.	3. 28.	
	Meditie	à	8. 0.	3. 28.	
			10. 0.	3. 20.	
	Meditie	à	12. 0.	2. 30.	
3. Junij.	mane		9. 0.	2. 35.	
	Meditie	à	11. 0.	2. 40.	
			12. 0.	2. 50.	
	Meditie	à	2. 30.	3. 25.	
			6. 0.	3. 30.	
	Meditie	à	8. 0.	3. 18.	
			10. 0.	3. 20.	
	Meditie	à	11. 0.	2. 52.	
	4. Junij.	mane		8. 30.	2. 0.
Meditie		à	10. 30.	2. 58.	
			11. 0.	3. 22.	
Meditie		à	12. 0.	3. 35.	
			1. 0.	3. 40.	
Meditie		à	3. 0.	4. 23.	
			4. 0.	4. 11.	
5. Junij.		mane		9. 30.	2. 42.
		Meditie	à		
	Meditie	à			
	Meditie	à			
	Meditie	à			
	Meditie	à			
6. Junij.	mane		8. 0.	2. 10.	
	Meditie	à	9. 15.	2. 52.	
			11. 0.	2. 52.	
	Meditie	à	12. 0.	2. 52.	
			1. 0.	2. 55.	
	Meditie	à	2. 30.	2. 58.	
			4. 0.	3. 0.	
	Meditie	à	5. 0.	3. 4.	
			6. 30.	3. 8.	
	Meditie	à	8. 45.	3. 12.	
10. 15.			3. 12.		
Meditie	à	9. 0.	2. 52.		
		10. 30.	2. 52.		
Meditie	à	1. 0.	2. 56.		
		4. 0.	2. 58.		
7. Junij.	mane		12. 0.	2. 59.	
	Meditie	à	1. 30.	2. 59.	
			9. 30.	3. 0.	
	Meditie	à	11. 0.	3. 55.	
	Meditie	à			
	Meditie	à			
	Meditie	à			
Meditie	à				

MS Hell a 12

5 ^e Junij -	mane.	9. 30.	2. 4%	3. 40.
	medie	11. 0.	2. 4%	4. 23.
	à medie	12. 0.	2. 55.	4. 11
		2. 0.	3. 0.	4. 5.
		4. 0.	3. 10.	3. 30.
		6. 0.	3. 52.	3. 30.
		9. 30.	3. 20.	2. 15.
6. Junij	before	7. 0.	3. 15.	2. 34.
		9. 0.	3. 15.	2. 46.
7 Junij	mane	9. 0.	2. 52.	2. 48.
	à medie	11. 0.	3. 0.	2. 55.
		2. 0.	3. 20.	2. 58.
		4. 0.	3. 32.	3. 32.
		4. 15.	3. 38.	3. 40.
		6. 30.	3. 20.	3. 28.
		8. 0.	3. 20.	3. 28.
		9. 0.	3. 0.	3. 10.
12 Junij	mane	8. 30.	2. 38.	2. 38.
	medie	10. 0.	2. 43.	2. 43.
	à medie	12. 0.	2. 45.	2. 45.
		1. 0.	2. 4%	2. 4%
		4. 0.	3. 0.	3. 0.
		6. 0.	3. 0.	3. 0.
		7. 0.	3. 0.	3. 0.
		9. 0.	3. 0.	3. 0.

13 Junij.					
	mane	A. m.	S. m.		
		9. 0.	2. 30.		
		10. 45.	2. 45.		
		11. 30.	2. 49.		
	meridie	12. 0.	2. 50.		
	à meridie	2. 0.	2. 50.		
		5. 0.	2. 50.		
		6. 15.	2. 56.		
		8. 15.	2. 56.		
		9. 0.	2. 58.		
14 Junij.					
	mane	8. 30.	2. 32.		
		11. 30.	2. 43.		
	à meridie	1. 0.	2. 52.		
		3. 30.	3. 12.		
		4. 30.	3. 30.		
		7. 0.	3. 35.		
		10. 0.	3. 30.		
15 Junij.					
	mane	8. 30.	2. 43.		
		9. 45.	2. 47.		
	Meridie	12. 0.	2. 55.		
18 Junij.					
	mane	A. m.	S. m.		
		9. 0.	3. 0.		
		11. 30.	3. 4.		
	vespere	6. 0.	3. 35.		
		9. 0.	3. 35.		
		10. 0.	3. 20.		
19 Junij.					
	mane.	8. 30.	2. 30.		
	à meridie	1. 0.	3. 10.		
		8. 45.	3. 10.		
		9. 30.	3. 5.		
20 Junij.					
	mane.	8. 30.	2. 45.		
	vespere	4. 0.	3. 22.		
	statue cum hac die, qua res m ^{re} pro abitu completæ erant, hæc observæ fiones finiuntur.				

MS Hell a 14

	9. 40.	2. 11.
Mendic	12. 0	2. 55.
à Mendic	5. 0	3. 2
	8. 30.	3. 2
	10. 0.	3. 10
<hr/>		
16 Junij.	8. 15.	2. 50.
mane	10. 0	2. 50.
	11. 30.	2. 53.
à Mendic	1. 0	2. 55.
	2. 0.	3. 8.
	6. 0.	3. 8.
	9. 0.	3. 8.
	9. 30.	3. 8.
	10. 15.	3. 8.
<hr/>		
17 Junij.	8. 30.	2. 35.
mane	10. 0.	2. 40.
	11. 0.	2. 40.
Mendic	12. 0	2. 43.
à Mendic	2. 0	2. 55.
	6. 15.	2. 55.
	9. 30.	2. 55.
<hr/>		
18 Junij.	9. 0.	3. 0.
mane,	11. 00.	3. 4.
vespere	6. 0	3. 35.
	9. 0.	3. 35.
	10. 0.	3. 20.

