

KG

11365

127

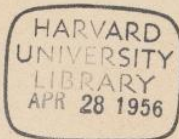
E.6

*New Wires.
Transit Circle,
from Feb 9th - 1857.
to
Scrap Book. ♀*

*Observations on the Planet
Venus
in
Declination
April 24th to June 12
1857.*

KG 11365,127

KG 11365.127



*This Book commences with observations
by the new group of wires.*

Vide another Book

1857. Feb. 17/18

Illumination West

Assumed from marks &
 Level — $\alpha_2 = 0.20$
 $b_2 = 0.24$
 $c_2 = 0.05$

W.C.B	W.C.B	W.C.B
Antares	Moon. 11 dimb	α Lyra
16..20..23.0	16..54..46.2	lost.
27.0	50.3	lost.
30.7	54.3	lost.
34.8	58.2	18..32..01.3
38.7	02.5	32..06.0
1542	2115	
30.84	4230	
16..20..30.84	16..54..34.30	18..31..56.60
α_1 — .21		— .02
β — .10		— .31
γ — .05		— .06
16..20..30.48		18..31..56.21
38.76		32..04.85
EE slow 8.28		— 8.64
8.64		
92		
8.46		

Transits in this Book
 have been copied into another.

1857. Feb. 7. 22nd

Illumination West

$\alpha_2 = .24$

$b_2 = .29$

$c_2 = .03$

Super R.F.B.	R.F.B.	R.F.B.	25 th R.F.B.	R.F.B.
57 Lephei.	α Can. Maj.	ϵ Can. Maj.	α^2 Geminorum	α Can. Min.
4 .. 29 .. 52.2	6 .. 38 .. 33.9	6 .. 52 .. 43.0	7 .. 25 .. 09.3	7 .. 31 .. 31.0
31 .. 08.0	37.4	47.0	13.6	34.5
32 .. 20.1	41.0	50.8	17.4	38.0
33 .. 31.0	44.5	54.8	21.9	41.3
<u>34 .. 46.2</u>	<u>48.4</u>	<u>58.9</u>	<u>25.8</u>	<u>45.0</u>
1575	2052	2545	8.80	1898

6 .. 32 .. 19.50	6 .. 38 .. 41.04	6 .. 52 .. 50.90	7 .. 25 .. 17.60	7 .. 31 .. 37.96
$\alpha_2 + 2.94$	$-.18$	$-.22$		
$b_2 - 3.55$	$-.13$	$-.09$		
$c_2 - 1.04$	$-.05$	$-.06$		
6 .. 32 .. 17.85	6 .. 38 .. 40.68	6 .. 52 .. 50.53		
<u>27.40</u>	<u>8.57.77</u>	<u>52.61.53</u>		
E.C. 9.55	11.09	11.00		

1857.
Feb. 27th

Illumination West.

<i>m c n</i> α Ceti.	<i>m c n</i> α Persei.	<i>m c n</i> γ Tauri.			
2.. 54.. 28.3	3.. 13.. 43.3	3.. 38.. 38.4			
31.7	48.9	42.5			
35.0	54.3	46.2			
38.5	59.7	50.0			
<u>42.1</u>	<u>5.0</u>	<u>53.9</u>			
1756	2112	2310			
	42.24				
..35.12	3 ..13 ..54.24	3 ..38 ..46.20			
- .15	+ .04	- .08			
- .23	- .44	- .30			
<u>- .03</u>	<u>- .05</u>	<u>- .03</u>			
2 ..54 ..34.71	3 ..13 ..53.79	3 ..38 ..45.79			
<u>48.30</u>	14 ..07.44	59.38			
E.C. Slow. 13.59	.13.65	13.59			

1857. March 3.

Illumination West.

 $a_2 = .24$ $b_2 = .29$ $c_2 = .03$

m c 13

+18.51

+16.56

α Ceti.	α Persei.	γ Tauri	ϵ Tauri.	α Tauri.	B.A.C. 1526.
2.. 54.. 26.8	3.. 13.. 42.1	3.. 38.. 37.2	4.. 19.. 54.5	4.. 27.. 21.5	4.. 48.. 45.4
30.5	47.6	41.2	58.3	25.2	49.2
33.9	52.8	44.9	1.9	28.9	52.9
37.2	58.0	48.6	5.6	32.5	56.4
<u>40.9</u>	<u>3.6</u>	<u>52.5</u>	<u>9.2</u>	<u>36.2</u>	<u>00.1</u>
1693	2041	2244	1295	1443	2040
3386	40.82	4488	2590	2886	4080
2.. 54.. 33.86	3.. 13.. 52.82	3.. 38.. 44.88	4.. 20.. 01.90	4.. 27.. 28.86	4.. 48.. 52.80
- .15	+ .04	- .08	- .10	- .11	- .11
- .23	- .44	- .25	- .28	- .27	- .27
<u>- .03</u>	<u>- .05</u>	<u>- .03</u>	<u>- .03</u>	<u>- .03</u>	<u>- .03</u>
2.. 54.. 33.45	3.. 13.. 52.37	3.. 38.. 44.52	4.. 20.. 01.49	4.. 27.. 29.45	4.. 48.. 52.39
54.. 48.21	14.. 07.35	38.. 59.32	20.. 16.47	27.. 43.43	49.. 07.38
14.96	14.98	14.80	14.98	14.98	14.99

March 3rd

+24.04						+27.34	
103 Tauri.	Capella.	Moon, 1 st limb	Spot. 1 Mysier	Spot. 2 Mysier.	136 Tauri.		
4. 58. 02.3	5. 05. 43.7	5. 28. 54.4	5. 29. 18.4	5. 29. 19.0	5. 43. 58.7		
6.1	49.1	58.6	22.7	23.2	2.9		
10.0	53.7	2.5	26.8	27.4	6.6		
13.7	58.7	6.5	30.5	31.3	10.5		
<u>17.5</u>	<u>4.0</u>	<u>10.6</u>	<u>34.8</u>	<u>35.4</u>	<u>14.5</u>		
496	2092	1326	1332	1363	932		
9.92	4184	2652	2664	2726	1864		
4. 58. 09.92	5. 05. 53.84	5. 29. 02.52	5. 29. 26.64	5. 29. 27.26	5. 43. 06.64		
-1.09	+ .02				-1.08		
-1.30	- .41				-1.32		
<u>-1.03</u>	<u>-1.03</u>				<u>-1.03</u>		
4. 58. 09.50	5. 05. 53.42				5. 43. 06.21		
<u>24.39</u>	<u>6.08.49</u>				<u>21.31</u>		
14.89	15.07				15.10		

Illumination West.

1857.

March 3^d.

W.C.B. F.P.J.

" 16^h 31'

"

"

" -15^h 25'

39 Tauri.	μ Geminorum	γ Geminorum	Sirius.	ϵ Can. Major.	γ Can. Major.
5..48..45.9	6..13..57.4	6..29..06.3	6..38..29.7	6..52..38.9	6..56..56.7
50.0	1.4	10.0	33.6	43.0	0.3
53.7	5.0	13.6	37.0	46.8	3.7
57.3	8.7	17.0	40.6	50.5	7.5
<u>1.3</u>	<u>12.5</u>	<u>20.7</u>	<u>44.3</u>	<u>54.7</u>	<u>11.2</u>
2082	850	676	4852	2339	794
4164	1700				
5..48..53.64	6..14..05.00	6..29..13.52	6..38..37.04	6..52..46.78	6..57..03.88
-.08	-.09	-.10	-.21	-.26	-.20
-.33	-.30	-.27	-.11	-.11	-.27
<u>-.03</u>	<u>-.03</u>	<u>-.03</u>	<u>-.03</u>	<u>-.03</u>	<u>-.03</u>
5..48..53.20	6..14..04.58	6..29..13.12	6..38..36.69	6..52..46.38	6..57..03.38
<u>8.32</u>	<u>19.55</u>	<u>28.12</u>	<u>51.85</u>	<u>53.01.38</u>	<u>18.89</u>
15.12	14.97	15.00	15.16	15.00	15.01

March 3 -

Illumination West.

 $a_2 = .24$ $b_2 = .29$ $c_2 = .03$

δ Geminorum	α Geminorum	Procyon.	H.P.V.
γ 11.14.1	γ 25. 6.9	γ 31.28.5	γ 36.12.5
17.9	11.2	32.2	17.0
21.7	15.0	35.7	20.6
25.3	19.1	39.0	24.5
<u>29.2</u>	<u>23.3</u>	<u>42.6</u>	<u>28.5</u>
1082	755	1780	1031

γ 11.21.64	γ 25.15.10	γ 31.35.60	γ 36.20.62
-.09	-.05	-.14	-.07
-.29	-.33	-.23	-.32
-.03	-.02	-.03	-.01
γ 11.21.23	γ 25.14.70	γ 31.35.20	γ 36.20.22
.36.17	29.83	50.12	35.22
14.94	15.13	14.92	15.00

857.

March 4th

W.C.B.

Lamp West.

μ Geminorum	D's 1 Limb	Spot 1A Mupier	Spot 2 Mupier	Spot No 3	Spot No 4-
6..13..56.9	6..33..01.9	6..33..26.8	6..33..27.5	6..34..17.6	6..34..41.0
10.8	6.0	30.9	31.6	21.7	45.3
04.3	9.9	35.0	35.5	25.7	49.5
08.0	14.1	38.9	39.5	29.6	53.1
<u>.12.0</u>	<u>18.2</u>	<u>43.1</u>	<u>43.8</u>	<u>33.7</u>	<u>57.2</u>
820	501	1747	1779	1283	2461
1640	10.02	3494	3558	2566	4922
6..14..04.40	6..33..10.02	6..33..34.94	6..33..35.58	6..34..25.66	6..34..49.22
-.09					
-.30					
<u>-.03</u>					
6..14..03.98					
14..19..54					
15.56					
3 14.97					
24/59/.02					

<i>Sirius</i>	<i>ϵ Can. Maj.</i>	<i>δ Geminorum</i>	<i>α^2 Geminorum</i>	<i>Polaris</i>	<i>β Geminorum</i>
6..38..29.3	6..52..38.5	7..11..13.3	7..25..06.3	7..31..28.2	7..36..12.1
33.0	42.6	17.2	10.3	31.8	16.2
36.7	46.5	20.9	14.4	35.0	20.1
40.3	50.3	24.6	18.6	38.6	24.0
<u>44.0</u>	<u>54.3</u>	<u>28.4</u>	<u>22.7</u>	<u>42.2</u>	<u>28.0</u>
1833	2322	1044	723	1758	1004
3666	4644	2088	1446	3516	2008
6..38..36.66	6..52..46.44	7..11..20.88	7..25..14.46	7..31..35.16	7..36..20.08
-.21	-.26	-.09	-.05	-.24	-.07
-.16	-.11	-.29	-.33	-.23	-.32
<u>-.02</u>	<u>-.03</u>	<u>-.03</u>	<u>-.03</u>	<u>-.02</u>	<u>-.03</u>
6..38..36.27	6..52..46.04	7..11..20.47	7..25..14.05	7..31..34.77	7..36..19.66
<u>51.83</u>	<u>53.01.37</u>	<u>36.15</u>	<u>29.82</u>	<u>50.09</u>	<u>35.20</u>
15.56	15.33	15.68	15.77	15.32	15.54

Continued
in
Another Book

1857

April 23/24

Transit Circle - Lamp West

Therm^o 44⁺

30

 α Cygni. on horizontal fixed wire.A. $\left| \begin{array}{c} 1 \\ 1 \\ 1 \end{array} \right|$

Pointer reading $267^{\circ} 38'$ A. $1^{\circ} 43.5$ B. $2^{\circ} 08.8$
 C. $2^{\circ} 00.0$ D. $2^{\circ} 06.2$
 E. $2^{\circ} 08.7$ F. $2^{\circ} 25.0$
 G. $2^{\circ} 12.5$ H. $2^{\circ} 24.5$

(8) A. $48^{\circ} 0.0$, Pointer $267^{\circ} 0.0$ - set to zero of micrometer A = 60. two spaces
 less than 30°

(8) A. $48^{\circ} 0.0$
 (8) B. $0.27.9$
 (8) C. 17.7
 (8) D. 21.5
 (8) E. 46.5
 (12) F. 43.0
 (2) G. 56.5
 (2) H. 67.0

Pointer $267^{\circ} 00'$ A. $48^{\circ} 00' 0.0$ (2) E. $42^{\circ} 0.47.0$
 (8) A. $48^{\circ} 0^{\circ} 00.0$ (2) F. $132^{\circ} 0.42.8$
 (8) B. $138^{\circ} 0.27.3$ (2) G. $222^{\circ} 0.53.0$
 (8) C. $228^{\circ} 0.17.5$ (2) H. $312^{\circ} 1.06.2$
 (8) D. $318^{\circ} 0.21.3$

Polaris, above Pole - Therm^o 46

Pointer $223^{\circ} 52' 30''$ Transit over the middle wires, on fixed horizontal
 wire

A. 91° Micrometer. 14.3 rough reading. -A. $\left| \begin{array}{c} 1 \\ 1 \\ 1 \end{array} \right|$

(0) A. $1^{\circ} 54.3$
 (1) B. $2^{\circ} 1.7$
 (1) C. $2^{\circ} 50.2$
 (1) D. $2^{\circ} 00.2$
 (9) E. $2^{\circ} 17.6$
 (9) F. $1^{\circ} 55.7$
 (9) G. $2^{\circ} 21.5$
 (9) H. $3^{\circ} 12.2$

or
 $2^{\circ} 47.8$

1857
April 24th

Transit Circle.

Dec ♀ N.A. +25° 17' 24".8
 R. 3^h 33^m 49^s ~ 312.23
 Pointer reading - 287.06

Observed. Venus, South limb on the horizontal fixed wire, unsteady.

Pointer 287° 06' 30" - Set all the microscopes

- (8) A ~ 1.10.3 ~ 28° and one 5th space or 0.49.7
 (8) B ~ 1.12.6 ~ 118 ~ " ~ "
 (8) C ~ 1.15.2 ~ 208 ~ " ~ "
 (8) D ~ 1.15.5 ~ 298 ~ " ~ "
 (2) E ~ 1.42.5 ~ 62 ~ " ~ "
 (2) F ~ 1.38.3 ~ 152 ~ " ~ "
 (2) G ~ 1.45.2 ~ 242 ~ " ~ "
 (2) H ~ 1.32.3 ~ 332 ~ " ~ "

α Tauri on hor. fixed wire - very well.

Pointer ~ 296° 10' - Set all the microscopes.

- (9) A ~ 0.49.6 ~ 19 ~ 2 spaces to the left, above.
 (9) B ~ 0.45.0 ~ 109 ~ 2 ~ " ~ " ~ right above.
 (9) C ~ 0.51.0 ~ 199 ~ 2 ~ " ~ " ~ right, below.
 (9) D ~ 0.48.8 ~ 289 ~ 2 spaces to the left, below.
 (1) E ~ 0.06.5 ~ 71 ~ 2 ~ " ~ " ~ right, below.
 (1) F ~ 0.08.5 ~ 161 ~ 2 ~ " ~ " ~ quite below.
 (1) G ~ 0.05.5 ~ 251 ~ 2 ~ " ~ " ~ left, above.
 (1) H ~ 0.18.6 ~ 341 ~ 2 ~ " ~ " ~ right, above.

Stars to be observed with Venus.

Q. R. B.

ϵ Geminorum	Mag. 3	Pointer reading	$287^{\circ}.07'$	R	$6^m.35$
δ " "	3	" "	290.08	"	7.11
ϵ Leonis	3	" "	287.57	"	9.37
μ Leonis	3	" "	285.42	"	9.44
ζ Leonis	$4\frac{1}{2}$	" "	288.15	"	10.02

M. E. B.

η Tauri	3	" "	288.44	"	3.38
α Tauri	1	" "	296.10	"	4.27
ι Aurigae	3	" "	279.27	"	4.47
α Aurigae	1	" "	266.32	"	5.06
β Tauri	2	" "	283.54	"	5.17
μ Geminorum	3	" "	289.48	"	6.14
α^2 Geminorum	2-1	" "	280.11	"	7.25
β Geminorum	1-2	" "	284.00	"	7.36
α Leonis	1, 2	" "	299.43	"	10.00
γ^1 Leonis	2	" "	291.49	"	10.12
α Urs. Maj	2	" "	299.43	"	10.54
δ Leonis	2-3	" "	291.04	"	11.06
β Leonis	2	" "	297.00	"	11.41

1857, April $\frac{24}{25}$ Am.

Lamp West.

 α Cygni.Therm. 42.0

after uncrawing

Pointer reads - $267^{\circ} 38'$ A - $48^{\circ} 40' - 1^{\circ} 42.6$ B - $138^{\circ} 40' - 2^{\circ} 07.5$ C - $228^{\circ} 40' - 2^{\circ} 1.3$ D - $318^{\circ} 40' - 2^{\circ} 4.5$ E - $42^{\circ} 40' - 2^{\circ} 6.5$ F - $132^{\circ} 40' - 2^{\circ} 1.2$ G - $222^{\circ} 40' - 2^{\circ} 13.0 \approx 1^{\circ} 47' - \text{nearest } \Sigma \text{ by the comb}$ H - $112^{\circ} 40' - 2^{\circ} 24.2$ $267^{\circ} 38'$ $48^{\circ} 40' - 1^{\circ} 42.5$ $2^{\circ} 07.5$ $2^{\circ} 59.5$ $1^{\circ} 46.3$ $1^{\circ} 25.6$ $1^{\circ} 10.7$ $1^{\circ} 13.0$ $2^{\circ} 22.0$ Value of κ when pointer is on $267^{\circ} 38'$ A - $48^{\circ} 40' - 1^{\circ} 42.6$ $1^{\circ} 42.5 - 1^{\circ} 42.5$ $360 = 0$

	A	B	C	D	E	F	G	H	
$\leftarrow$	$6^{\circ} 48.7$							A	$0^{\circ} 0' - 0^{\circ} 0'$
	$6^{\circ} 44.2$							B	$0^{\circ} 0' - 0^{\circ} 0'$
	$6^{\circ} 47.0$							C	$0^{\circ} 0' - 0^{\circ} 0'$
								D	$0^{\circ} 0' - 0^{\circ} 0'$
								E	$0^{\circ} 0' - 2.5$
								F	$0^{\circ} 0' - 0^{\circ} 0'$
								G	$0^{\circ} 0' - 0^{\circ} 0'$
								H	$0^{\circ} 0' + 1.3$
$\rightarrow$	$3^{\circ} 38.5$								
	$3^{\circ} 39.5$								
	$3^{\circ} 39.6$								
	$3^{\circ} 38.5$								
	$3^{\circ} 39.5$								
	$3^{\circ} 39.6$								

Examined on the N.W. at 13-

The readings made at 13

Quickest towards 13 - at 35° Pointer read 357.
Begins bending at 7° - greatest 30° to 50°
Bent back - 50° to 60° - at 70° .

The circle is ^{not} ~~very~~ ^{not} nearly round

April 25th

Unscrewed one of the arms of
the circle - Perhaps affecting the
collimation error.

There has been no opportunity
for observing Venus & the neighboring
stars for one or two weeks past from
stormy & cloudy weather - excepting
on the and 24th - on which occasions
Venus was very unsteady.

TC Ill. West
April 25th

mer. Marks.	South	North	Zero
	1.030	.663	.150
	1.030	.660	.150
	1.028	.662	.157
	88	5	7
	1.029	.662	15.2
	152	152	
	.877	.510	
	2.004		
	1.165		
	3.169		
	839		

$$1.584 - 1.417 = +.167 \text{ col.}$$

$$419 - .732 = -.313 \text{ az.}$$

after replacing the
connecting bar of transit
circle.

Cross-bar of the Transit Circle taken out for trial
of the circle

April 25th 1857.
restored the same day.

Coll. Altered?

in consequence.

April 26th Lamp with Ther 47°

♀ R-3.1 31.39 ♂ 25.02.2.8

312.23

-25.02

Printer 287.21

Observed transit, pretty shades.
South limb. $\frac{1}{2}$

|1*

Printer 287.22

Venus

A	28.40	2.52.7	= -2.07.3	28	37	52.7
B	108.	1.06.0	= 1.54	117	38	6.0
C	208	2.41.7		207	37	41.1
D	298.	1.59.5		297.	37	59.5
E	622	2.03.0		62	22	3.0
F	152.	2.09.5		152	22	9.5
G	242	2.19.0		242	2	19.0
H	332	2.23.8		332	2	23.8

Cloudy for & Tauri

Capella - 5.6

Ther 47.5

Printer 296.32.1

A	3.02.7
B	2.25.7
C	3.57.8
D	3.12.2
E	3.52.0
F	2.58.0
G	2.8.8 = 2.51.2
H	2.33.2

Clouds obscured β Tauri

1857

April 27/28[±] α Cygni.

Transit

Pointer 267-37-45

Ther 42°

2° marks

18 marks

A 111
womp

¹⁰ zero The error is between the two measures

A	3. 55.8	ϕ 2. 055.7 = 1. 55.7 or 2. 04.3
B	2. 17.7	2. 21.8
C	2. 47.5	2. 50.0
D	3. 6.2	2. 9.3
E	3. 3.1	2. 10.3
F	3. 3.7	2. 11.8
G	3. 26.4	2. 26.0
H	2. 42.5	3. 43.7

mer. transit at Washington

$$28^{\text{th}} \text{ AR } 3. 28. 52.63 \text{ W}$$

$$\delta + 24^{\circ} 41' 52'' .44$$

$$312.23$$

287.41 Pointer.

$$D - 4. 24 \text{ m solar}$$

$$28.12$$

312.23

284.11

.10

Pointer D 284.21

in Cygni

April 29th Venus - unsteady - jumps 3" Int Ther 49.5 Exp. 50.5

♀ Painter 287.53

7*

A - 27.5 + 1.52.8 = 52.8
 B - 1.09.7
 C - 1.48.9 - 45.0
 D - 1.58.7
 E 3 1.9.0
 F 1.12.0
 G 1.18.5
 H 333.5 1.11.2

2.9.7

α Tauri
 Painter 296.10'

9
 1X
 6

A - 19 - 0.46.5
 B - 109 0.60.0
 C - 199 0.42.2
 D - 289 0.55.6
 E - 71 0.9.5
 F - 161 0.14.2
 G - 251 0.17.2
 H - 341 0.43.6

8/2888/36.1
 24/45

mean 0.36.1

22 Gemmae, unsteady.

Painter - 280.11

A 35 - 1.12.8

B 1.33.7

C 1.8.0

D 1.23.5

E 1.39.0

F 1.43.6

G 2.01.8

H 0.35.0

8/1971

1.24.6

γ Geminae
 Painter 295.52

9
 1X
 6

A 19 + 2.43.0 Exp. 51.5

B 109 - 2.52.5

C 199 - 2.39.6

D 289 - 2.58.5

E 71 - 2.10.5

F 161 - 2.16.5

G 251 - 2.24.2

H 341 - 2.50.8

B Geminae

Painter 284.01

A 31 - 1.30.0 = 1.30.0

B 121 - 1.48.5

C 211 - 1.28.2

D 301 - 1.40.3

E 51 - 1.25.1

F 149 - 1.28.2

G 239 - 1.44.2

H 329 - 0.26.2

8/2707

1.33.8

Int Th 57.3 Sept 55.8

1857.

April 30 - W

K unsteady - jumps 3" to 5"

Q. A. - dec.

3.25.32 - 24° 16.50.9 Pointer - 288° 06'

Q
11X

[*] 9

Q Pointer - 288° 6.30

α Jauri Pointer 296.10

A-27 - 2.42.7 = 2.17.3

A-19 - 0.45.0

B-117 2.57.0

B-109 - 0.59.2

C-207 2.33.7

C-199 - 0.39.3

D-297 2.47.5

D-289 - 0.52.5

E-63 2.12.5

E-71 - 0.12.1

F-153 2.17.6

F-161 - 0.17.0

G-243 2.27.5

G-257 - 0.19.0

H-333 - 1.32.8

H-341 - 0.46.7
8) 2908 136.3

δ Geminorum

Pointer 290.08

11* 5 in Th 49.2 Sept 50.2 5' δ Jauri

A-25 - 3/4 - 03.8 (next to 5) 3.03.8 = 3.56.2

A-25 - 1.06.5

B-115 - 3/4 - 12.5

B-115 - 1.20.1

C-205 - 3/4 - 58.3

D-295 - 4.09.8

E-65 - 1.56.0 = 3/4 - 47.8

F-155 - 3.52.6

G-245 - 3.9.2

H-335 - 3.21.3

β Geminorum steady

Pointer - 284.01

A-31 - 1.32.1

B- 1.48.0

C- 1.27.5

D- 1.41.0

E- 1.25.5

F- 1.28.2

G- 1.43.5

H- 1.26.3

4) 2721

1.34.0

The greatest difficulty arises from the unsteadiness of Venus

1857. May 1st

Venus

 $\frac{11}{12}$ AL 3.23.41
 Int. 72 53.0 Ext. 54.0

Dec. 24. 02. 32

$$\begin{array}{r} 312.23 \\ 288.21 \\ \hline A. \quad | * | \end{array}$$

Q Pointin 288.21
 A-27-40 -- 1.26.3 = -1.33.7
 B-117- 1.39.2
 C-207- 1.19.5
 D-297- 1.32.3
 E-67- 1.31.0
 F-153 1.32.8
 G-243- 1.44.8
 H-333- 1.46.8

Clouds P.M.

Cloudy, 2 and 5

1857. May. 3rd

♀ Pointer -

Clouds

~~Dec. 31. 17. 31~~~~Dec. 23. 12. 42~~~~312.23~~~~288.10~~

Dec. 3. 19

Dec. 23. 30. 25

312.23

288.53

Cloudy. 2 & 3
4.55

6 th	a June - 0.34.9	8) 2790
30	.36.3	21
24	.36.1	39
	<u>1073</u>	70
	35.77	

1857

May 6thMc. West
unus

Ther Ex 74 Int 65.2

$$\begin{array}{c} 5 \\ A \text{ } \overline{1} \text{ } \overline{1} \end{array}$$

Pointer - 289.49

pretty steady

 β Gemminorum

$$A_{-25} \text{ } \overline{1} \text{ } \overline{1} + \overline{0.13.5}$$

$$B_{-115} \text{ } \overline{0.24.1}$$

$$C_{-205} \text{ } \overline{0.12.0}$$

$$D_{-295} \text{ } \overline{0.10.3}$$

$$E_{-65} \text{ } \overline{0.57.5}$$

$$F_{-155} \text{ } \overline{0.44.5}$$

$$G_{-245} \text{ } \overline{0.03.0}$$

$$H_{-335} \text{ } \overline{0.02.2}$$

 β Gemminorum Pointer 284.1 β G 1

$$A_{-31} \text{ } \overline{1.31.1}$$

$$B_{-} \text{ } \overline{1.44.2}$$

$$C_{-} \text{ } \overline{1.33.5} \text{ } \overline{\text{Int Th. } 62.0}$$

$$D_{-} \text{ } \overline{1.32.5} \text{ } \overline{\text{Ext Th. } 68.5}$$

$$E_{-} \text{ } \overline{1.28.8}$$

$$F_{-} \text{ } \overline{1.17.0}$$

$$G_{-} \text{ } \overline{1.46.2}$$

$$H_{-} \text{ } \overline{0.22.3}$$

$$\overline{8/2556}$$

$$\overline{1.32.0}$$

 α Geminorum - steady

Pointer -

$$A_{-19} \text{ } \overline{0.45.2} \pm 0.15.5 \text{ } \overline{1} \text{ } \overline{1} \text{ } \overline{9}$$

$$B_{-109} \text{ } \overline{0.54.1}$$

$$C_{-199} \text{ } \overline{0.47.0}$$

$$D_{-289} \text{ } \overline{0.45.3}$$

$$E_{-71} \text{ } \overline{0.14.2}$$

$$F_{-161} \text{ } \overline{0.06.7}$$

$$G_{-251} \text{ } \overline{0.23.7}$$

$$H_{-341} \text{ } \overline{0.42.8}$$

$$\overline{8/2790}$$

$$\overline{0.34.9}$$

Int Ther - 64.5 Ext Ther - 72.8

 α^2 Geminorum~~Int - 72.8~~

Pointer 280.11

$$A_{-} \text{ } \overline{1.13.3}$$

$$B_{-} \text{ } \overline{1.29.2}$$

$$C_{-} \text{ } \overline{1.15.7}$$

$$D_{-} \text{ } \overline{1.17.6} = \overline{2.17.6}$$

$$E_{-} \text{ } \overline{1.43.0}$$

$$F_{-} \text{ } \overline{1.31.0}$$

$$G_{-} \text{ } \overline{1.15.8}$$

$$H_{-} \text{ } \overline{1.31.3}$$

$$\overline{8/1969}$$

$$\overline{1.24.6}$$

1857.

May 7th ♀ steady

Pointer 290.10 5

A-25 - 0.35.4 |*| = -24.6

B-115 - 0.46.4

C-205 - 0.41.8

D-295 - 0.40.0

E-65 - 0.22.5

F-155 - 0.14.2

G-245 - 0.37.5

H-335 - 0.41.5

Cloudy for stars

Ex. Th. 64.2 Int. Th. 62.5

8^h
 ♀ AC 3.08
 Dec ——— 21.52
 312.23
 290.31

1857 May 8thPointer - 290.31 $\frac{1}{4}$

Venus

$$A-24 - 1.13.5 = -1.46.5$$

$$B-113 \quad 1.24.3$$

$$C-203 \quad 1.14.7$$

$$D-293 - 1.18.5$$

$$E-65 \quad 1.42.6$$

$$F-155 - 1.33.6$$

$$G-245 - 1.59.3$$

$$H-335 - 1.06.2$$

 α Capriopode in N. 50 - E. 58.8.
Pointer - 256.38 $\frac{1}{2}$

$$A-58 - +0.41.0$$

$$B-148 - 1.11.2$$

$$C-238 - 0.39.0$$

$$D-328 - 0.55.6$$

$$E-81^{(2)} \quad 0.22.7$$

$$F-121 - 1.05.2$$

$$G-221 - 1.38.8$$

$$H-301 - 2.21.1$$

30
|*|

Int Mer. 58.5 Ext. 64°

very good

Int Th. 54.5 Ex 65

 α Tauri

Pointer 296.10

$$A - 0.42.2$$

$$B \quad 0.52.4$$

$$C \quad 0.45.3$$

$$D \quad 0.48.2$$

$$E \quad 0.14.0$$

$$F \quad 0.5.0$$

$$G \quad 0.22.7$$

$$H \quad 0.45.3$$

$$\frac{4}{2771}$$

$$0.34.6$$

9

} α Geminorum A

Pointer 295.52 in Th 61.024 67.0

$$A-19 - +2.42.5$$

$$B-109 - 2.55.8$$

$$C-199 - 2.47.0$$

$$D-289 - 2.49.5$$

$$E-71 \quad 2.19.7$$

$$F-161 \quad 3.13.0$$

$$G-257 \quad 2.29.5$$

$$H-341 \quad 2.44.8$$

1857. May $\frac{8}{9}$ *in west*

α andromedae

Pointer - 284.54 * |

A-81-	- 0.15.4 = -44.6
B-121-	0.28.0
C-211-	0.16.3
D-301-	0.21.8
E-59-	0.45.0
F-149-	0.33.2
G-239-	0.2.3
H-329-	0.39.5

Ther - Int 58.5 - Exp 64.8 -

α Capriopae -

Pointer 256.38 ?

A-58-	+ 0.41.7
B-	1.10.0
C-	0.23.8
D-	0.59.5
E-32-	0.20.5
F-	1.02.7
G-	0.38.2
H-	2.18.3

Polaris above pole

Pointer 223.52

A-91.5	+ 3.2.7
B-181-	3.5.5
C-271-	3.14.2
D-361-	2.54.3
E-359-1	2.32.7
F-89-	3.4.0
G-179-	2.46.0
H-269-	4.27.5

Ther - 56.5 Exp - 67.2

Venus

Pointer - 290.53

A-24-	+ 1.11.8
B-114-	1.23.0
C-204-	1.13.7
D-294-	1.14.7
E-66-	1.57.3
F-156-	1.42.8
G-246-	1.01.0
H-336-	1.09.3

rather united 4 A

α Tauri

Ther Int 582.24.73°

Pointer 296.9.45

A-19-	- 0.44.5 = -15.5
B-	0.52.8
C-	0.48.0
D-	0.49.5
E-	0.12.6
F-	0.4.8
G-	0.21.3
H-	0.44.4
	8) 279.9
	0.34.9

May 9/94
Runs of reading microscopes

Int Ther 56.5

A		B	C	D	E	F	G	H
R	L	R-L	R-L	R-L	R-L	R-L	R-L	R-L
03.5	3.5							
5 - 0.0	7.2							
5 - 3.5	+3.7							

A Lit. 91°

Point 224

0.0	0.0
62.3	55.0
63.5	54.5
63.4	55.4
63.0	55.6
63.2	55.3

Point 289.591

0.0	0.0	115.13.7	13.7	74.8	14.8	5.5	5.5	58.8	58.8	
59.5	55.3	5.20.5	5.6.4	11.0	0.7	2.2	7.5	3.7	57.7	11.0
59.7	5.0	20.2	7.0	10.8	0.7	1.6	7.7	3.2	57.7	11.5
59.5	4.6	20.7	7.0	10.5	0.5	3.0	8.0	3.2	52.0	11.2
59.7	5.0	20.8	6.3	11.0	1.2	2.5	7.5	4.2	52.0	11.2
59.9	5.7	20.5	6.2	10.7	0.6	2.5	8.0	3.3	57.8	11.5

The declination of Venus ranges from $24^{\circ}30'$ - $25^{\circ}36'$ - $18^{\circ}00'$
 A.P.D. - $65^{\circ}30'$ - $64^{\circ}24'$ - $72^{\circ}00'$

Pointer reading - $287^{\circ}53'$ - $286^{\circ}47'$ - $294^{\circ}23'$

May 9th WLM

2 Leonis

Pointer - $287^{\circ}57'$

A - $27 - +2^{\circ}20.0$

B - $117 - 2^{\circ}30.8$

C - $207 - 2^{\circ}22.5$

D - $297 - 2^{\circ}21.0$

E - $63 - 2^{\circ}43.6$

F - $153 - 2^{\circ}33.7$

G - $243 - 2^{\circ}54.0$

H - $333 - 2^{\circ}48.4$

2740

2 $^{\circ}$ 34.3

Then Int 60.2

Ex - 62.5

2 Leonis WLM

Pointer - $291^{\circ}49'$

A - $+0^{\circ}18.5$

B - $0^{\circ}27.4$

C - 21.2

D - $0^{\circ}21.5$

E - $0^{\circ}42.5$

F - $0^{\circ}32.8$

G - $0^{\circ}52.7$

H - $0^{\circ}06.0$

222.6

0 $^{\circ}$ 27.8

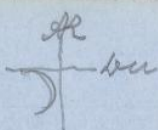
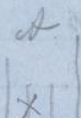
May 9th 1855

G.P.B.
 α^2 Gemma

Pointing 280.11	
A	1 .. 14.0 = $34^{\circ} 45' 00'' + 3'' + 46^d$
B	1 .. 30.0
C	1 .. 14.2 = $215^{\circ} 0' 10'' - 1 .. 14.2$
D	1 .. 20.0
E	1 .. 45.8
F	1 .. 32.4
G	1 .. 02.4
H	0 .. 33.0
	<u>5191.8</u>
	1 .. 24.0

These were measured to the nearest division throughout, the readings of the Micrometer microscope are given, & the readings of the pointer for whole revolutions.

On circle A all the measures were from the circle graduation 50' but on circle B they were from 10' as the two are complementary.

1857- May-11thVenus R 3.01^m Dec 20.44♀ Pointer 291.39 Then. Int-52 Ext-46.5
not very distinct, blurry312.23
291.39

A-23- +0.30.5
 B-113- 0.41.9
 C-203- 0.28.0
 D-293- 0.34.4
 E-68- 0.33.0
 F-156- 0.23.5
 G-246- 0.43.2
 H-236- 0.56.6

 α^2 Gemma

Pointer 280.11"

A-25- 1.13.3-1.46.7
 B- 1.30.0
 C- 1.10.5
 D- 1.21.3
 E- 1.43.2
 F- 1.32.7
 G- 1.02.3
 H- 1.35.0
1883
 1.23.5

 β Gemma 1. Then Int 49.8 Ext 47.0

Pointer 284.1

A-31- 1.31.0-1.29.0
 B- 1.44.5
 C- 1.29.2
 D- 1.36.7
 E- 1.28.8
 F- 1.20.7
 G- 1.47.6
 H- 0.26.3
8/2648
 1.33.1

May 11th

ε Leonis Ther Int - 48.0 Ext - 44.8

Pointer - 287.57
 A - 27 - + 2.19.0
 B - 2.32.8
 C - 2.16.5
 D - 2.23.7
 E - 2.46.2
 F - 2.37.8
 G - 2.54.8
 H - 2.57.3
 8/282.1
 2.35.26

γ Leonis

Pointer - 291.49

A - 23 + 0.18.4
 B - 0.29.0
 C - 0.15.5
 D - 0.24.6
 E - 0.43.0
 F - 0.36.4
 G - 0.52.5
 H - 0.07.3
 8/226.7
 0.28.3

Th. Int 48
 Ext 43.2

1857

Mean of the 8 microscopes

	α Tauri	α^2 Geminorum	β Geminorum	ϵ Leonis	γ^1 Leonis
Apl. 29 th	0..36.1	1..24.6	1..33.8		
30	0..36.3		1..34.0		
May 6	0..34.9	1..24.6	1..32.0		
8	0..34.6				
9	0..34.9	1..24.0 G.P.B.		2..34.3	0..24.1*
11		1..23.5	1..33.1	2..35.3	0..28.3
12			1..33.9	2..35.7	0..28.5
13		1..23.2	1..32.6	2..35.2	0..28.4

* For the observation of γ^1 Leonis on the 9th May - there was not sufficient light to read off accurately.

The 9th was the day of inf. conj. of γ
 Venus has been observed for declinations on
 April - 24th - 26th - 29th - 30th - May 1st - 6 - 7th - 8 - 9 - 11 -

1857. May. 12thM. West -
Venus♀ R - 2^m.59 - Dec. 20.21
312.23
292.02

Painter mis took the time and lost the transit

B. Geminorum
Painter 284.00³⁴A. Then Int - 51° Exp^t - 57-

Edenris -

Painter - 287^m.57A - 31° - 1^m.29.8 = 1^m.30.2B - 1^m.46.1C - 1^m.27.2D - 1^m.39.5E - 59 - 1^m.32.5F - 1^m.23.8G - 1^m.45.5

H - 6.27.3

8/271.7

1^m.33.9A - 27 + 2^m.18.3. Then Int 50B - 2^m.34.7 Exp 54C - 2^m.15.0D - 2^m.24.0E - 63 - 2^m.48.2F - 2^m.38.8G - 2^m.54.0H - 2^m.52.5

8/285.5

2^m.35.7

♂' Leonis

Painter 291.49

A - 23 + 0^m.16.0B - 0^m.29.0C - 0^m.12.6D - 0^m.23.7E - 0^m.46.3F - 0^m.38.4G - 0^m.52.2H - 0^m.10.0

8/228.2

0.28.5

13 On examining the microscopes this morning no difference could be discovered.

14th on examining the microscopes which were set for yesterday's observation of ♀' Leonis - could see no alteration.

1857 May 13^t Lamp West
 Venus

R2.56 Dec. 19.57

312.23

292.26

♀ Pointer - 292.26

Ther. Int 53 East - 59

A-22 - $\bar{1}.30.3 = 1.28.7$

B-112 - $1.41.7$

C-202 - $1.24.0$

D-292 - $1.36.8$

E-67 - $1.28.9$

F-157 - $1.23.7$

G-247 - $1.37.3$

H-337 - $1.58.5$

Lines

M53

24162.7

Pointer - 328.54

A-346 - $+1.21.2$

B-76 - $1.20.0$

C-166 - $1.30.0$

D-256 - $1.23.3$

E-104 - $1.40.5$

F-194 - $1.24.0$

G-284 - $2.27.3$

H-14 - $1.22.6$

α^2 Semino

Pointer 280.11 1/4

A- - $1.12.5 = 1.47.5$

B- $1.30.2$

C- $1.09.2$

D- $1.21.3$

E- $1.44.5$

F- $1.34.2$

G- $2.07.0$

H- $1.32.8$

185.7

1.23.2

B Semino

Ther Int 53 Eq 63

Pointer 284.0

A-31 - $\bar{1}.30.0 = -1.30.0$

B- $1.45.7$

C- $1.27.5$

D- $1.37.5$

E- $1.31.0$

F- $1.20.3$

G- $1.44.2$

H- $1.25.0$

261.2

1.32.6

Stars to be observed with Venus

BAL mag.	α		
3522 - 6	10.11	pointer	292.09
3523 - 2	10.12	"	291.47 γ Leonis
3641 - 6	10.38	"	292.48
3331 - 3	9.37	"	287.57 ϵ Leonis

May 13

 ϵ Leonis

Pointer	-287.57
A-27	+2.18.1
B-	2.33.4
C-	2.16.0
D-	2.24.0
E-	2.47.6
F-	2.37.3
G-	2.53.2
H-	2.57.8
	<u>8/281.4</u>
	2.35.2

X
X
XMer Int. 53.5
Exp - 58.0
 γ Leonis

Pointer	-291.49
A-23	+0.16.8
B-	0.24.7
C-	0.15.8
D-	0.23.2
E-	0.45.3
F-	0.36.2
G-	0.52.7
H-	0.07.3
	<u>8/227.0</u>
	0.28.4

3

|X|

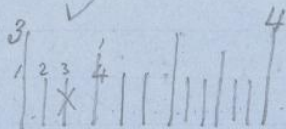
$$\epsilon - 27 + 2.24.0$$

$$23 + 10.0 = 23.2$$

$$27.02 = 24.0$$

$$23.10 = 23.2$$

$$3.52 = 00.8$$

May 15th cloudy-microscope. AInt Ther - 50
15
Transit circle. Letter A

Reading 17 10 24.3 = 35.7
 2 + 5 20.9 = 39.1 3.4 5.3.2
 3 + 0 18.0 = 41.9 1.9 5.1.9
 4 + 4 16.2 = 43.8 2.8 5.2.8
 15.07.9

23⁰ to 23.15 - 15.07.9

" 23.30 - 15.08.6

" 23.45 - 15.07.0

24⁰ " 24.00 - 15.08.5

15 - 15.07.9

30 - 15.09.2

45 - 15.09.9

25 00 - 15.06.2

25 00 - 15.07.0

16th Ther 4.9

4	3	1	2
26.3	17.8	16.2	24.8
24.5	20.8	18.5	23.5
21.0	24.5	21.5	20.5
18.5	26.3	24.8	17.8
7.8	8.5	8.6	7.0
5.0	6	7	8
18.5	27.7	17.8	24.0
21.9	25.3	20.7	22.7
24.2	21.8	22.8	20.0
27.7	17.8	24.0	17.0 - 25
9.2	9.9	6.7	7.0

25	9	10	11	12	13
16.9	26.6	18.0	27.6	16.6	
19.7	23.7	21.4	23.8	20.0	
23.1	21.0	24.5	20.0	22.7	
26.6	18.0	27.6	16.6	25.8	
9.7	8.6	9.6	11.0	9.2	

back	forward	16	17
25.8	29.8	31.0	22.0
25.8	24.0	29.0	26.0
22.0	26.9	25.7	29.0
19.8	31.0	22.0	32.2
6.0	11.2	9.0	10.3 to 27

$$\begin{array}{r} 47.37 \\ 20.33 \\ \hline 68.10 \end{array} \begin{array}{l} \text{Ref} \\ \text{alt} \end{array} \begin{array}{r} 47.37 \\ 24.25 \\ \hline 72.02 \end{array}$$

Ant. May. 13th

ϵ Leonis - Dec - $24^{\circ} 25' 53.4''$

η Leonis - " - $20^{\circ} 33' 48.0''$

Diff. Dec. ϵ & η - $3^{\circ} 52' 05.4''$

$$\epsilon 27^{\circ} 0.0 + 2.18.1$$

$$\eta 23 + 10' + 0.16.8$$

$$3.50$$

$$27.02.18.1$$

$$23.10.16.8$$

$$\text{obs. } 3.52.01.3$$

$$\text{N.A. } 3.52.05.4$$

$$3.52.04.1$$

A measure of middle spaces.

$$23^{\circ} \quad 5'' 03.5$$

$$5'' 3.7$$

$$5'' 3.0$$

$$5'' 3.0$$

$$5'' 2.3$$

$$5'' 3.5$$

$$5'' 2.1$$

$$5'' 2.7$$

$$5'' 3.4$$

$$5'' 2.7$$

$$5'' 3.1$$

$$5'' 3.8$$

$$5'' 2.7$$

$$5'' 3.8$$

$$5'' 2.9$$

$$5'' 3.3$$

$$27^{\circ} \quad 5'' 3.0$$

$$\begin{array}{r} 2) 525 \\ \hline 1050 \\ 36 \end{array} \quad 3.09 \text{ } 0.6$$

From 23° to 27°

Run of mic. A

$$15 \text{ --- } 15'' 7.8$$

$$8.5$$

$$8.6$$

$$7.0$$

$$9.2$$

$$9.9$$

$$6.4$$

$$7.0$$

$$9.7$$

$$8.6$$

$$9.6$$

$$11.0$$

$$9.2$$

$$6.0$$

$$11.2$$

$$9.0$$

$$10.3$$

$$17) 1490 \quad | \quad 8.96 = 5'' 2.92$$

$$136$$

$$130$$

$$119$$

$$110$$

Refraction

$$\text{Error} = 4.7$$

$$3) 8.76 \quad | \quad 2.92$$

Result; the value of runs of the reading microscope. A Temp. 50°

By - 17 measures of the middle spaces - 1 space = $5'' 03.09$ middle spaces

By - 17 - " - of 3 spaces = $15.876 =$ 1 space = $5'' 02.92$ mean of 2 -

Examination of Transit Circle continued.
1857 - May. 16th

1857 Microscope D. Pointer - $287^{\circ}.57' - A - 27^{\circ} - 2^{\circ}.18.1$

2971 + 2.23.5
began at 21.5

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>299</u>
21.5	30.6	23.2	31.5	23.4	30.8	22.0	31.0	21.5	30.0	
25.5	28.2	26.9	29.0	25.3	29.8	26.4	29.5	26.2	27.5	
28.2	26.1	29.2	27.2	28.0	27.0	28.7	26.0	28.0	26.0	
<u>30.6</u>	<u>23.2</u>	<u>31.5</u>	<u>23.3</u>	<u>30.8</u>	<u>22.0</u>	<u>30.1</u>	<u>21.5</u>	<u>30.0</u>	<u>23.8</u>	
15.09.1	7.4	8.3	8.2	7.4	8.8	8.1	9.5	8.5	06.2	

When Pointer reads $287^{\circ} 57'$ - A reads $27^{\circ} - 2'' 18.1$

11. — " — — — — " — — — — D. reads - 297 - 2.11.5

$$\begin{array}{r} 360 \\ 12 \\ \hline 720 \\ 360 \\ \hline 34 \overline{) 4320} \\ 34 \\ \hline 92 \\ 68 \\ \hline 240 \\ 12 \end{array}$$

301⁰

In clif

D

large	small	nearest Zero of the comb.	15°
5.2.4	5.4.0	5.2.7	9.1
5.2.4	5.2.9	5.2.2	7.4
5.2.3	5.3.7	5.2.3	8.3
5.2.5	5.3.9	5.1.8	8.2
5.2.8	5.1.9	5.2.7	7.4
5.1.0	5.5.0	5.2.8	8.8
5.1.4	5.4.4	5.2.3	8.1
5.1.5	5.4.5	5.3.5	9.5
5.2.0	5.4.7	5.1.8	8.5
5.2.5	5.2.2	5.1.5	6.2
5.1.5	5.2.4	5.4.1	8.0
5.3.3	5.3.4	5.2.3	9.0
5.3.2	5.2.8	5.1.9	7.9
5.2.9	5.3.0	5.2.1	8.0
5.3.2	5.2.9	5.1.6	7.7
5.3.4	5.2.3	5.1.8	7.5
5.2.0	5.3.5	5.3.0	8.5
5.3.3	5.3.0	5.1.7	8.0
18) 436 (2.4	18) 605 (3.3	18) 421 (2.3	18) 1261 (8.12
36	54	36	144
76	65	61	21
92			
024			

Therm° 50°

Result of measures for runs of microscope D from A 27 to 23-15

nearest the zero or middle of the comb - one span (5') = 5.2.3 18 measures

highest number from middle. gave " " = 5.2.4

lowest " " " " " " = 5.3.3

15' gave 15.8.12 ÷ 3 one span = 5.2.7

Mean
Therm° 50°27
= 5.2.67

Examination of East Circle

Therm Int 50 Ext 57.5

1857.

May. 18th

Pointer at commencement - 287.57

A - 27 - 2.18.1 B - 117 - 2.36.3 C 207 - 2.12.2 D 297 - 2.24.6

Back (5) 2.16.5 2.30.0 2.7.5 2.21.7
n - (10) 7.13.5 22.5 3.2 17.18

A

B

C

D

I now set on A 27.15 and measure back to 27.0 over three spaces.

	A	B	C	D
Forward	18.5	23.7	3.2	17.7
increasing numbers	17.2 - 1.3	30.5 6.8	8.3 5.1	21.3 3.6
	20.8 + 3.6	38.8 8.3	14.0 5.7	25.5 4.2
	22.8 + 2.0	44.9 6.1	18.8 4.8	7. 27.0 - 1.8
	4.3 + 1.4	21.2 7.1	15.6 5.2	9.3 3.1

advanced by the Hook's joint 15 set on A 27.30 and measured back to 27.15

	A	B	C	D
Back	22.9	44.3	20.7	27.0
decreasing numbers.	20.6 - 2.3	36.6 7.7	16.7 4.0	25.2 1.8
	18.3 2.3	30.0 6.6	11.5 5.2	22.0 3.2
	15.0 3.3	23.5 6.5	5.5 6.0	19.0 3.0
	7.9 2.6	20.9 6.9	15.2 5.1	8.0 2.7

Am 19th Ther Int 44. Ext 37-

advanced 15.2 by the Hook's joint to 27.30 and measuring forward to 27.45

	A	B	C	D
	15.0	22.0	5.4	21.7
	17.0 2.0	29.0 7.0	10.3 4.9	24.0 2.3
	20.8 3.8	36.5 7.5	15.6 5.3	28.3 4.3
28	23.7 2.9	44.0 7.5	20.7 5.1	30.2 2.2
	8.7 2.9	22.0 7.3	15.3 5.1	8.5 2.8

Set on 27.45 and measured 3 spaces to 28.00

	A	B	C	D
	23.7	44.8	20.7	30.3
	21.0 2.7	38.7 6.1	17.2 3.5	29.3 1.0
	17.2 3.8	30.0 8.7	11.2 6.0	27.0 2.3
28	15.6 1.6	23.0 7.0	6.5 4.7	23.0 4.0
	8.1 2.7	21.8 7.3	14.2 4.7	7.3 2.4
				2.8
				2.7
				3.7
				8.6
				2.87

1.4
2.6
2.9
2.7
19.6
2.4

west circle

	E	F	G	H
Σ 63-2..48.7 $\mathcal{H}$	153-2..42.0 $\mathcal{G}$	243-2..51.0 $\mathcal{H}$	333-2..52.3	
For - 1	2..42.8	2..36.2	2..53.0	2..53.0
increasing numbers	36.3	28.7	56.3	57.2

Back 63 -
decreasing
numbers

36.3		25.5		56.4		57.3	
41.2	4.9	39.0	7.5	53.3	3.1	53.3	4.0
42.3	6.1	36.8	3.8	49.8	3.5	50.0	3.3
57.8	3.5	44.0	7.2	48.0	1.8	45.0	5.0
15.5	5.2	18.5	6.2	8.4	2.8	12.3	4.1
	h.4						

forward
increasing
numbers

54.3		44.0		48.0		44.7	
49.4	4.9	37.5	6.5	50.8	2.8	48.3	3.6
42.8	6.6	31.7	5.8	53.9	3.1	57.2	2.9
36.7	6.1	27.0	4.7	57.3	3.4	52.5	1.3
17.6	5.9	17.0	5.7	9.3	3.1	7.8	2.6

35.0		26.8		57.4		54.5	
41.3	6.3	32.3	5.5	52.2	3.2	57.6	2.9
46.6	5.3	38.6	6.3	57.0	3.2	47.3	4.3
54.0	7.4	44.3	5.7	49.1	1.9	45.5	1.8
19.0	6.3	17.5	5.8	8.3	2.8	9.0	3.0

53.2		44.3		49.2		45.2	
46.5	6.7	37.8	6.5	57.0	1.8	45.8	0.6
41.0	5.5	31.5	6.3	54.5	3.5	50.0	4.2
34.0	7.0	26.6	4.9	56.5	2.0	57.5	1.5
19.2	6.4	17.7	5.9	7.3	2.4	6.3	2.1

Temp - 45-

The worst part of the Transit circle is where
 Microscope A reads about 20 to 30- & H-

Runs of microscope from A	23° to 27°	$5.2.7$
" 16 "	20	5.1.94

Examination of East Circle

May 18th Ther 50 - ~ all the 8 microscopes read off.
 A reading from 27° to 28°

	A	B	C	D	E	F	G	H	
Ther 50 A. 27°	5.1.4	5.7.1	5.5.2	5.3.1	5.5.2	5.6.2	5.2.8	5.4.1	
	2.6	6.9	5.1	2.7	5.8	5.7	3.1	2.6	
	2.9	7.3	5.1	2.8	6.3	5.8	2.8	3.0	
Ther 44	2.7	7.3	4.7	2.4	6.4	5.9	2.4	2.1	
Mean	5.2.40	5.7.15	5.5.02	5.2.75	5.5.52	5.5.90	5.2.77	5.2.95	

May 19th Eastern Circle, Illumination West.Commencing, Pointer - $298^{\circ}.55'$ Ther 45°

Runs of A B C D Microscopes.

16 $^{\circ}.5$ 16 $^{\circ}.5$ began 0 $^{\circ}.49.3$ back 16 $^{\circ}.0$ - 5.49.3 - commenced crop wires on 16 $^{\circ}$ and then measured two spaces, by a backward motion of the screw.Set all the four microscopes of the Eastern Circle on 6 $^{\circ}$, five of the comb, up, and advanced by two spaces, meaning each space separately.

49.8	5.8	49.1	58.3	
mid. of comb - 49.1	0.7	58.6	7.2	46.2 2.9 55.1 3.2
<u>45.5</u>	<u>3.6</u>	<u>57.3</u>	<u>7.3</u>	<u>39.7</u> <u>6.5</u> <u>52.5</u> <u>2.6</u>
43	<u>2.4</u>	14.5	<u>7.2</u>	9.4 <u>4.7</u> 5.8 <u>2.9</u>

forward

The last measure was X on 6 $^{\circ}.10$ - then advanced two spaces by H. Joint which from 6 $^{\circ}.20$ on X wires - then measure back to 6 $^{\circ}.10$

6.45.5	51.3	39.7	52.5	
47.0	1.5	58.5	7.2	43.8 4.1 55.5 3.0
<u>49.2</u>	<u>2.2</u>	<u>6.3</u>	<u>7.8</u>	<u>49.8</u> <u>6.0</u> <u>57.8</u> <u>2.3</u>
3.7	<u>1.8</u>	15.0	<u>7.5</u>	10.1 <u>5.0</u> 5.3 <u>2.6</u>

forward

44.2	6.3	49.8	59.8	
48.4	0.8	58.5	7.8	46.0 3.8 56.0 1.8
<u>45.9</u>	<u>2.5</u>	<u>52.3</u>	<u>6.2</u>	<u>40.3</u> <u>5.7</u> <u>54.0</u> <u>2.0</u>
3.3	<u>1.1</u>	14.0	<u>7.0</u>	9.5 <u>4.7</u> 3.8 <u>1.9</u>
45.8	50.5	40.4	52.3	
46.4	0.6	58.6	8.1	44.0 3.6 52.5 2.2
<u>47.5</u>	<u>1.1</u>	<u>65.9</u>	<u>7.3</u>	<u>49.0</u> <u>5.0</u> <u>57.7</u> <u>3.2</u>
1.7	<u>0.8</u>	15.4	<u>7.7</u>	8.6 <u>4.3</u> 5.2 <u>2.6</u>

backward

47.5	63.6	48.2	57.0	
45.1	2.4	56.7	6.9	42.5 5.7 52.5 4.5
<u>42.0</u>	<u>3.1</u>	<u>49.7</u>	<u>7.0</u>	<u>36.3</u> <u>6.2</u> <u>50.3</u> <u>2.2</u>
55	<u>2.7</u>	13.9	<u>6.9</u>	11.9 <u>5.9</u> 6.7 <u>3.3</u>

Ther 49

May-19 Mer 49

17° A				B				C				D			
42.0				47.7				35.2				49.0			
44.4	2.4			53.0	7.3			40.0	4.8			57.7	2.7		
<u>44.6</u>	<u>0.2</u>			<u>2.0</u>	<u>7.0</u>			<u>47.0</u>	<u>7.0</u>			<u>53.0</u>	<u>3.3</u>		
2.6	<u>1.3</u>			14.3	<u>7.1</u>			11.8	<u>5.9</u>			<u>6.0</u>	3.0		
44.6				0.5				45.4				53.0			
42.1	2.5			52.7	7.8			39.5	5.9			57.0	2.0		
<u>39.6</u>	<u>2.5</u>			<u>45.8</u>	<u>6.9</u>			<u>34.3</u>	<u>5.2</u>			<u>47.4</u>	<u>3.6</u>		
5.0	<u>2.5</u>			14.7	<u>7.1</u>			11.1	<u>5.5</u>			5.6	<u>2.8</u>		
39.7				45.7				34.3				47.4			
41.0	1.3			53.3	7.6			37.5	3.2			57.0	3.6		
<u>43.5</u>	<u>2.5</u>			<u>60.0</u>	<u>6.7</u>			<u>44.6</u>	<u>7.1</u>			<u>53.3</u>	<u>2.3</u>		
3.8	<u>1.9</u>			14.3	<u>7.1</u>			10.3	<u>5.1</u>			5.9	<u>2.9</u>		
43.5				60.0				44.7				53.3			
39.3	4.2			52.0	8.0			37.0	7.7			48.3	5.0		
<u>38.5</u>	<u>0.8</u>			<u>44.0</u>	<u>8.0</u>			<u>32.0</u>	<u>5.0</u>			<u>45.3</u>	<u>3.0</u>		
5.0	<u>2.5</u>			16.0	<u>8.0</u>			12.7	<u>6.3</u>			8.0	<u>4.0</u>		
38.5				44.0				31.8				45.4			
38.9	0.4			53.0	9.0			37.7	5.9			49.7	4.3		
<u>42.8</u>	<u>3.4</u>			<u>60.3</u>	<u>7.3</u>			<u>42.0</u>	<u>4.3</u>			<u>57.7</u>	<u>2.0</u>		
4.3	<u>2.2</u>			16.3	<u>8.1</u>			10.2	<u>5.1</u>			6.3	<u>3.1</u>		
42.8				60.3				41.9				57.7			
40.0	2.8			53.1	7.2			36.7	5.2			48.8	2.9		
<u>39.0</u>	<u>1.0</u>			<u>45.8</u>	<u>7.3</u>			<u>33.0</u>	<u>3.7</u>			<u>46.2</u>	<u>2.2</u>		
3.8	<u>1.9</u>			14.5	<u>7.2</u>			8.9	<u>4.4</u>			5.5	<u>2.7</u>		
39.0				45.7				32.8				46.2			
41.0	2.0			52.5	6.8			38.0	5.2			57.0	4.8		
<u>43.5</u>	<u>2.5</u>			<u>60.0</u>	<u>7.5</u>			<u>42.7</u>	<u>4.7</u>			<u>53.2</u>	<u>2.2</u>		
4.5	<u>2.2</u>			14.3	<u>7.1</u>			9.9	<u>4.9</u>			7.0	<u>3.5</u>		

forward

Mer 49
left off at 18° Circle
Pointer 296.55

857. May 20thIllumination West
East Circle

	A		B		C		D		
18°	43.5		60.0		42.7		53.2		Ther - 46.2
	39.6	3.9	52.5	7.5	38.8	3.9	50.0	3.2	Backward
	<u>38.0</u>	<u>1.6</u>	<u>44.3</u>	<u>8.2</u>	<u>31.7</u>	<u>7.1</u>	<u>47.8</u>	<u>2.2</u>	Dark
	5.5	1.8	15.7	7.8	11.0	5.5	5.4	2.7	
	38.0		44.5		31.7		46.3		
	39.0	1.0	57.0	6.5	35.3	3.6	49.7	3.4	
	40.8	1.8	58.0	7.0	40.8	5.5	<u>52.8</u>	<u>3.1</u>	
	2.8	0.9	13.5	6.7	9.1	4.5	6.5	3.3	
18.30	40.8		58.1		40.8		52.8		
	39.2	1.6	49.5	8.6	35.6	5.2	49.0	3.8	
	<u>36.7</u>	<u>2.5</u>	<u>44.3</u>	<u>5.2</u>	<u>31.5</u>	<u>4.1</u>	<u>45.0</u>	<u>4.0</u>	Ther 46.8
	4.1	2.0	13.8	6.9	9.3	4.6	7.8	3.9	
	36.7		42.7		30.5		45.0		
	37.5	0.8	49.6	6.9	34.7	4.2	46.7	1.7	forward
	<u>39.5</u>	<u>2.0</u>	<u>57.4</u>	<u>7.8</u>	<u>39.8</u>	<u>5.1</u>	<u>50.2</u>	<u>3.5</u>	
	2.8	1.4	14.7	7.3	9.3	4.6	5.2	2.6	
	39.5		56.5		39.8		49.6		
	37.6	1.9	48.9	7.6	34.0	5.8	46.3	3.3	Backward
	<u>35.4</u>	<u>2.2</u>	<u>42.0</u>	<u>6.9</u>	<u>28.8</u>	<u>5.2</u>	<u>43.4</u>	<u>2.9</u>	
	4.1	2.0	14.5	7.2	11.0	5.5	6.2	3.1	
	35.3		43.0		29.0		45.0		
19.0	36.6	1.3	50.7	7.7	34.8	5.8	47.0	2.0	1
	<u>39.7</u>	<u>3.1</u>	<u>58.2</u>	<u>7.5</u>	<u>37.8</u>	<u>3.0</u>	<u>49.8</u>	<u>2.8</u>	
	4.4	2.2	15.2	7.6	8.8	4.4	4.8	2.4	
	39.7		59.4		40.5		57.3		
	39.6	-0.1	52.7	6.7	37.3	3.2	49.5	1.8	6
	<u>37.6</u>	<u>2.0</u>	<u>45.0</u>	<u>7.7</u>	<u>32.5</u>	<u>4.8</u>	<u>47.0</u>	<u>2.5</u>	
	2.1	1.0	14.4	7.2	8.0	4.0	4.3	2.2	
	37.6		45.0		32.5		47.0		
	41.0	3.4	53.3	8.3	37.0	4.5	50.2	3.2	f
	<u>42.2</u>	<u>1.2</u>	<u>60.8</u>	<u>7.5</u>	<u>43.5</u>	<u>6.5</u>	<u>53.6</u>	<u>3.4</u>	
	4.6	2.3	15.8	7.9	11.0	5.5	6.6	3.3	

Illumination West
East Circle.

	A		B		C		D.		
	42.3		00.0		43.6		53.6		
	40.7	1.6	52.6	7.4	38.3	5.3	50.4	3.2	b
	38.5	<u>2.2</u>	46.2	<u>6.4</u>	32.0	<u>6.3</u>	46.6	<u>3.8</u>	
	3.8	1.4	13.8	6.9	11.6	5.8	7.0	3.5	
	38.5		47.7		33.3		47.9		
	42.0	3.5	55.3	7.6	39.2	5.9	57.0	3.1	fa
	43.8	<u>1.8</u>	3.8	<u>8.5</u>	43.7	<u>4.5</u>	52.9	<u>3.9</u>	
	5.3	2.6	16.1	<u>8.0</u>	10.4	5.2	7.0	3.5	
	43.8		3.2		43.6		54.8		
	42.7	1.1	54.6	8.4	39.7	3.9	52.3	2.5	b
	40.6	<u>2.1</u>	48.1	<u>6.5</u>	33.7	<u>6.0</u>	48.0	<u>4.3</u>	
	3.2	1.6	15.1	7.5	9.9	4.9	6.8	3.3	
	40.5		48.5		33.7		49.6		
20.0	43.2	2.7	52.6	<u>6.8</u>	40.0	6.3	52.9	3.3	f
	44.4	<u>1.2</u>	1.5	<u>6.0</u>	44.2	<u>4.2</u>	55.5	<u>2.6</u>	
	3.9	1.9	13.0	6.5	10.5	5.2	5.9	2.9	
	44.4		1.5		44.3		52.0		b
	42.0	2.4	54.3	7.2	39.0	5.3	52.2	0.8	
	39.7	<u>2.3</u>	46.2	<u>8.1</u>	33.8	<u>5.2</u>	48.0	<u>4.2</u>	
	4.7	2.3	15.3	7.6	10.5	5.2	6.0	3.0	
	39.6		46.1		34.0		47.2		f
	42.3	2.7	53.8	7.7	38.0	4.0	50.5	3.3	
	43.0	<u>0.7</u>	00.7	<u>6.9</u>	42.8	<u>4.8</u>	52.7	<u>2.2</u>	
	3.4	1.7	14.6	7.3	8.8	4.4	5.5	2.7	
	43.0		00.7		42.8		52.7		B
	40.7	2.3	54.1	6.6	38.5	4.3	50.3	2.4	
	39.0	<u>1.7</u>	46.0	<u>8.1</u>	32.8	<u>5.7</u>	47.4	<u>2.9</u>	
	4.0	2.0	14.7	7.3	10.0	5.0	5.3	2.6	
	39.1		46.0		32.8		47.5		f
20.30	43.8	4.7	53.7	7.7	38.3	5.5	50.6	3.1	
	44.0	<u>0.2</u>	61.4	<u>7.7</u>	42.7	<u>4.4</u>	53.5	<u>2.9</u>	
	5.9	2.4	15.4	7.7	9.9	4.9	6.0	3.0	then 46.8

1857. May 20.

Illumination West,
East Circle.

	A		B		C		D		
	44.0		1.5		42.6		52.5		B
	43.4	0.6	54.8	6.7	39.0	3.6	57.0	1.5	
	40.4	3.0	48.0	6.8	33.0	6.0	48.0	3.0	
	3.6	1.8	13.5	6.7	9.6	4.8	4.5	2.2	
	40.3		49.2		33.1		48.0		f
	44.7	4.4	55.3	6.1	38.7	5.6	57.4	3.4	
21.00	45.7	1.0	2.5	7.2	44.8	6.1	54.8	3.4	
	5.4	2.7	13.3	6.6	11.7	5.8	6.8	3.4	
	45.7		3.5		44.7		53.9		b
	43.5	2.2	55.7	7.8	39.0	5.9	57.3	2.6	
	41.5	2.0	48.3	7.4	33.3	5.7	48.2	3.1	
	4.2	2.1	15.2	7.6	11.4	5.7	5.7	2.8	
	41.5		48.3		33.5		48.2		f
	42.8	3.3	55.8	7.5	39.2	5.7	57.0	2.8	
	45.7	0.9	2.4	6.6	43.7	4.5	55.2	4.2	
	4.2	2.7	14.1	7.0	10.2	5.1	7.2	3.6	x
	45.7		2.4		43.7		52.3		b
	43.6	2.1	55.4	7.0	39.0	4.7	57.3	3.0	
	42.3	0.3	48.9	6.5	33.4	5.6	48.3	3.0	
	3.4	1.7	13.5	6.7	10.3	5.1	6.0	3.0	
	42.2		49.0		33.4		48.3		f
	44.5	2.3	54.2	5.2	37.3	3.9	57.0	2.7	
	46.6	2.1	2.3	8.1	43.0	5.7	54.2	3.2	
	4.4	2.2	13.3	6.6	9.6	4.8	5.9	3.0	
	46.6		2.4		43.1		52.1		b
	45.6	1.0	55.8	6.6	38.5	4.6	52.0	2.1	
22.0	41.0	4.6	47.9	7.9	33.0	5.5	48.5	3.5	
	5.5	2.7	14.5	7.2	10.1	5.0	5.6	2.8	
	41.0		47.9		33.0		47.5		f
	45.2	4.2	55.0	7.1	38.3	5.3	57.4	3.9	
	45.6	0.4	1.9	6.9	43.3	5.0	53.2	1.8	
	4.6	2.3	14.0	7.0	10.3	5.2	5.7	2.8	

May. 22

e Leonis

Lamp West

Ther. 62.2

Painter - 299.43

5 A

A - 15° + 1.31.9

B - 1.39.0

C - 1.36.6

D - 1.36.8

E - 1.33.4

F - 1.19.8

G - 1.35.0

H - 1.04.3

8/2368/29.6

16
26
42

23 -

Ther 66.5

Ex 70.5

e Leonis

Painter

A - 25.30 + 1.36.6

B - 1.37.7

C - 1.34.0

D - 1.30.3

E - 1.33.3

F - 1.19.2

G - 1.38.0

H - 1.02.1

8/2312/28.9

16
26
42

May. 23 -

e Leonis Ther. 66. Ex 71.7

Painter - 287.57 1/4

A - 27 + 2.21.6

B - 2.29.8

C - 2.20.0

D - 2.19.2

E - 2.48.0

F - 2.35.2

G - 2.56.5

H - 2.57.1

e Leonis Ther 65.5 Ex 69.5

Painter - 291.49

A - 23.60 + 0.21.0

B - 0.26.0

C - 203.10 0.17.0

D - 243.10 0.17.2

E - 0.47.0

F - 0.45.0

G - 0.55.0

H - 0.5.8

2340/29.2

16
26
42

1857 May 20thRuns of Microscopes on East Circle
Illumination West.

Temp. 46.8

A		B		C		D	
45.6		1.8		43.3		52.1	6
43.0	2.6	54.8	7.0	36.5	6.8	50.0	2.1
41.2	<u>1.8</u>	47.5	<u>7.3</u>	31.4	<u>5.1</u>	45.6	<u>4.4</u>
4.4	2.2	14.3	7.1	11.9	5.9	6.5	3.2
41.2		47.5		31.4		47.0	f
45.0	3.8	55.2	7.7	38.3	6.9	50.0	3.0
46.3	<u>1.3</u>	2.5	<u>7.3</u>	42.0	<u>3.7</u>	52.2	<u>2.2</u>
5.1	2.5	15.0	7.5	10.6	5.3	5.2	2.6
46.3		2.6		42.0		53.3	6
45.0	1.3	56.7	5.9	38.0	4.0	57.0	2.3
41.5	<u>3.5</u>	48.7	<u>8.0</u>	31.3	<u>6.7</u>	46.1	<u>4.9</u>
4.8	2.4	13.9	7.0	10.7	5.3	7.2	3.6
41.4		47.6		31.4		46.1	f
44.6	3.2	55.1	7.5	36.8	5.4	49.6	3.5
45.7	<u>1.1</u>	2.0	<u>6.9</u>	41.0	<u>4.2</u>	52.0	<u>2.4</u>
4.3	2.1	14.4	7.2	9.6	4.8	5.9	2.9
46.0		1.5		40.6		52.0	6
42.6	3.4	54.0	7.5	35.0	5.6	48.7	3.3
40.5	<u>2.1</u>	46.2	<u>7.8</u>	30.0	<u>5.0</u>	45.8	<u>2.9</u>
5.5	2.7	15.3	7.6	10.6	5.3	6.2	3.1
40.4		46.3		30.0		45.8	f
42.6	2.2	54.4	8.1	36.1	6.1	49.3	3.5
23.0	45.8	<u>3.2</u>	<u>1.6</u>	<u>7.2</u>	41.3	<u>5.2</u>	52.0
5.6	2.7	15.3	7.6	11.3	5.6	6.2	3.1
45.7		2.8		41.3		52.0	6
43.5	2.2	54.2	8.6	36.0	5.3	50.0	2.0
39.5	<u>4.0</u>	46.6	<u>7.6</u>	30.0	<u>6.0</u>	46.1	<u>3.9</u>
6.2	3.1	16.2	8.1	11.3	5.6	5.9	2.9
39.5		45.8		30.0		44.0	f
42.3	2.8	53.1	7.3	33.8	3.8	46.9	2.9
44.5	<u>2.2</u>	59.5	<u>6.4</u>	39.3	<u>5.5</u>	50.3	<u>3.4</u>
5.0	2.5	13.7	6.8	9.3	4.6	6.3	3.1

Left off. Pointer 291.45

Began 298.55
Left off 291.4516.2
237.10
11.00

Examination of the East Transit Circle, by four microscopes
 Microscope A 16° to 23° — Pointer-reading from $298^{\circ}.55'$ to $299^{\circ}.45'$
 Illumination West.
 Includes runs of Microscopes.

	A	B	C	D		A	B	C	D	
Ther 45° A 16°	$5^{\circ}.2.4$	$5^{\circ}.7.2$	$5^{\circ}.4.7$	$5^{\circ}.2.9$		$5^{\circ}.1.7$	$5^{\circ}.6.7$	$5^{\circ}.5.1$	3.0	
	$18^{\circ}.1.8$	7.5	5.0	2.6		2.2	6.6	4.8	3.0	
	1.1	7.0	4.7	1.9		2.7	7.2	5.0	2.8	
	0.8	7.7	4.3	2.6		2.3	7.0	5.2	2.8	
	2.7	6.9	5.9	3.3		2.2	7.1	5.9	3.2	
" 49°	1.3	7.1	5.9	3.0		2.5	7.5	5.3	2.6	
	2.5	7.1	5.5	2.8		2.4	7.0	5.3	3.6	
	1.9	7.1	5.1	2.9		2.1	7.2	4.8	2.9	
	2.5	8.0	6.3	4.0		2.7	7.6	5.3	3.1	
	2.2	8.1	5.1	3.1		2.7	7.6	5.6	3.1	
	1.9	7.2	4.4	2.7		3.1	8.1	5.6	2.9	Temp 47°
" 49° 18°	2.2	7.1	4.9	3.5	Ther 47°	2.5	6.8	4.6	3.1	23°
46.2	1.8	7.8	5.5	2.7		$5^{\circ}.2.42$	7.20	5.21	3.01	
	0.9	6.7	4.5	3.3						
	2.0	6.9	4.6	3.9						
	1.4	7.3	4.6	2.6						
	2.0	7.2	5.5	3.1						
19	2.2	7.6	4.4	2.4						
	1.0	7.2	4.0	2.2						
	2.3	7.9	5.5	3.3						
	1.9	6.9	5.8	3.5						
	2.6	8.0	5.2	3.5						
	1.6	7.5	4.9	3.3						
20°	1.9	6.5	5.2	2.9						
	2.3	7.6	5.2	3.0						
	1.7	7.3	4.4	2.7						
	2.0	7.3	5.0	2.6						
Ther 46.8 20.30	2.4	7.7	4.9	3.0						
	1.8	6.7	4.8	2.2						
	2.7	6.6	5.8	3.4						
	2.1	7.6	5.7	2.8						
	2.1	7.0	5.1	3.6						
Mean	$5^{\circ}.1.94$	$5^{\circ}.7.29$	$5^{\circ}.5.08$	$5^{\circ}.2.98$						

The readings now cover from 16° to 28° by microscope A — on the Eastern face of the Circle.

That is by Pointer readings from 287° to 299° — or about the range within which Venus is observed at this inf. conj.

May ²⁰/₂₁

Examination of I Circle Illumination West - East Circle.

Began at A on 0.0 = 360 - and advanced one degree at each reading
keeping A always on zero, middle of the comb. Ther. 46.7

	A	B	C	D
360	360.0.0.0	90.00.1.0	179.59.59.7	270.00.1.3
	1.0.0.0	90.59.59.5	180.59.57.2	271.00.0.2
	2.0.0.0	91.59.58.1	181.59.57.2	271.59.58.4
	3.0.0.0	92.59.57.4	182.59.52.5	272.59.57.8
	4.0.0.0	92.59.57.4	183.59.52.8	273.59.57.9
	5.0.0.0	92.59.57.4	184.59.51.8	274.59.56.1
	6.0.0.0	95.59.57.3	185.59.50.2	275.59.55.0
	7.0.0.0	96.59.58.0	186.59.50.3	276.59.52.8
	8.0.0.0	97.59.58.0	187.59.49.7	277.59.56.0
	9.0.0.0	98.59.58.0	188.59.48.8	278.59.55.0
	10.0.0.0	99.59.59.4	189.59.48.7	279.59.56.0
	11.0.0.0	101.00.01.3	190.59.50.2	280.59.57.2
	12.0.0.0	102.00.01.3	191.59.50.2	281.59.57.2
	13.0.0.0	103.00.03.0	192.59.49.8	282.59.58.0
13.30	1330.0.0.0	103.30.3.0	192.29.51.0	282.00.00.0
	14.0.0.0	104.00.05.5	193.59.57.1	284.00.02.0
	15.0.0.0	105.00.05.3	194.59.52.1	285.00.03.0
	16.0.0.0	106.00.08.8	195.59.52.3	286.00.06.0
	17.0.0.0	107.00.09.8	196.59.52.4	287.00.06.5
	18.0.0.0	108.00.11.2	197.59.55.3	288.00.09.8
	19.0.0.0	109.00.12.7	198.59.56.4	289.00.09.8
	20.0.0.0	120.00.12.3	199.59.56.4	290.00.09.3
	21.0.0.0	111.00.12.5	200.59.55.0	291.00.08.0
	22.0.0.0	112.00.11.1	201.59.54.0	292.00.06.6
	23.0.0.0	113.00.12.3	202.59.54.0	293.00.07.6
	24.0.0.0	114.00.12.7	203.59.53.9	294.00.07.2
	25.0.0.0	115.00.12.0	204.59.53.9	295.00.06.0
	26.0.0.0	116.00.14.2	205.59.55.0	296.00.08.0
	27.0.0.0	117.00.14.2	206.59.55.0	297.00.08.2
	28.0.0.0	118.00.13.0	207.59.53.3	298.00.07.2
	29.0.0.0	119.00.13.8	208.59.52.0	299.00.07.3
	30.0.0.0	120.00.15.5	209.59.53.0	300.00.08.3

Ther. 47.0

	B	C	D	diff _B	diff _C	diff _D
A	0° + 1.0	- 0.3	+ 1.3	"		
1	- 0.5	2.8	+ 0.2	- 1.5	- 2.5	- 1.1
2	1.5	2.8	- 1.6	- 1.0	± 0.0	1.8
3	2.6	5.5	2.2	- 1.1	- 2.7	- 0.6
4	2.6	7.2	2.1	± 0.0	- 1.7	+ 0.1
5	2.6	8.2	3.9	± 0.0	- 1.0	- 1.8
6	2.7	9.8	5.0	- 0.1	+ 1.6	1.1
7	2.0	9.7	5.2	+ 0.7	+ 0.1	- 0.2
8	2.0	10.3	4.0	± 0.0	- 0.6	+ 1.2
9	2.0	11.2	5.0	0.0	- 0.9	- 1.0
10	- 0.6	11.3	4.0	- 1.4	- 0.1	+ 1.0
11	+ 1.3	9.8	2.8	+ 1.9	+ 1.5	+ 1.2
12	1.3	9.8	2.8	± 0.0	± 0.0	± 0.0
13	3.0	10.2	2.0	+ 1.7	- 0.4	+ 0.8
13.30	3.0	9.0	0.0	± 0.0	+ 1.2	+ 2.0
14	5.5	8.9	2.0	+ 2.5	+ 0.1	+ 2.0
15	5.3	7.9	3.0	- 0.2	+ 0.1	1.0
16	8.8	5.7	6.0	+ 3.5	+ 2.2	3.0
17	9.8	5.6	6.5	1.0	+ 0.1	0.5
18	12.2	4.7	9.8	1.4	+ 0.9	+ 3.3
19	12.7	3.6	9.8	+ 1.5	+ 0.4	± 0.0
20	12.3	3.6	9.3	- 0.4	± 0.0	- 0.5
21	12.5	5.0	8.0	+ 0.2	- 1.4	1.3
22	11.1	6.0	6.6	- 1.4	- 1.0	- 1.4
23	12.3	6.0	7.6	+ 1.2	± 0.0	+ 1.0
24	12.7	6.1	7.2	+ 0.4	- 0.1	- 0.4
25	12.0	6.1	6.0	- 0.7	± 0.0	- 1.2
26	14.2	5.0	8.0	+ 2.2	+ 1.0	+ 2.0
27	14.2	5.0	8.2	± 0.0	± 0.0	+ 0.2
28	13.0	6.7	7.2	- 1.2	- 1.7	- 1.0
29	13.8	7.0	7.3	+ 0.8	- 0.3	+ 0.1
30	+ 15.5	- 7.0	+ 8.3	+ 1.7	± 0.0	+ 1.0
				297	236	338

May 22

Examination of East Transit Circle.

S.C. West

Ther. 47.5

Examined coincidence of A before and after

	A	B	C	D
A 30°	30.0 .0 .0	120.00 .15.6	209.59 .53.0	300.00 .8.3
	31.0 .0 .0	121.00 .15.5	210.59 .53.0	301.00 .7.2
	32.0 .0 .0	122.00 .17.0	211.59 .53.0	302.00 .8.6
	33.0 .0 .0	123.00 .18.0	212.59 .52.5	303.00 .8.6
	34.0 .0 .0	124.00 .18.5	213.59 .52.5	304.00 .9.7
	35.0 .0 .0	125.00 .18.6	214.59 .52.5	305.00 .9.7
	36.0 .0 .0	126.00 .21.0	215.59 .52.5	306.00 .9.7
	37.0 .0 .0	127.00 .21.0	216.59 .52.4	307.00 .9.7
	38.0 .0 .0	128.00 .20.4	217.59 .51.3	308.00 .8.6
	39.0 .0 .0	129.00 .20.4	218.59 .51.3	309.00 .8.0
	40.0 .0 .0	130.00 .20.4	219.59 .51.2	310.00 .8.0
	41.0 .0 .0	131.00 .22.1	220.59 .51.2	311.00 .8.5
	42.0 .0 .0	132.00 .21.4	221.59 .51.2	312.00 .8.5
	43.0 .0 .0	133.00 .21.5	222.59 .51.2	313.00 .8.5
	44.0 .0 .0	134.00 .21.5	223.59 .51.3	314.00 .9.6
	45.0 .0 .0	135.00 .23.7	224.59 .50.2	315.00 .10.2
	46.0 .0 .0	136.00 .23.0	225.59 .50.7	316.00 .9.1
	47.0 .0 .0	137.00 .24.1	226.59 .50.8	317.00 .9.0
	48.0 .0 .0	138.00 .23.0	227.59 .50.8	318.00 .9.0
	49.0 .0 .0	139.00 .24.3	228.59 .50.8	319.00 .9.0
	50.0 .0 .0	140.00 .23.7	229.59 .50.7	320.00 .9.1
	51.0 .0 .0	141.00 .23.7	230.59 .49.8	321.00 .9.1
	52.0 .0 .0	142.00 .24.0	231.59 .48.8	322.00 .9.7
	53.0 .0 .0	143.00 .24.0	232.59 .48.3	323.00 .9.8
	54.0 .0 .0	144.00 .24.0	233.59 .47.7	324.00 .11.0
	55.0 .0 .0	145.00 .24.9	234.59 .49.0	325.00 .11.0
	56.0 .0 .0	146.00 .25.8	235.59 .49.0	326.00 .11.5
	57.0 .0 .0	147.00 .28.7	236.59 .50.0	327.00 .14.6
	58.0 .0 .0	148.00 .30.3	237.59 .50.0	328.00 .16.3
	59.0 .0 .0	149.00 .32.8	238.59 .51.3	329.00 .17.2
	60.0 .0 .0	150.00 .32.8	239.59 .51.0	330.00 .17.0

opposite the back spoke

Ther 48.8

Pointer 255.0
Ther 51-

	B	C	D	diff. B	diff. C	diff. D
A 30 ⁰	+ 15.6	- 7.0	+ 8.3			
31	15.5	7.0	7.2	- 0.1 ± 0.0	- 1.1	
32	17.0	7.0	8.6	+ 1.5 ± 0.0	+ 1.4	
33	18.0	7.5	8.6	1.0 ± 0.5	± 0.0	
34	18.5	7.5	9.7	0.5 ± 0.0	+ 1.1	
35	18.6	7.5	9.7	0.6 ± 0.0	± 0.0	
36	21.0	7.5	9.7	+ 2.4 ± 0.0	± 0.0	
37	21.0	7.6	9.7	± 0.0 - 0.1	± 0.0	
38	20.4	8.7	8.6	- 0.6 - 1.1	- 1.1	
39	20.4	8.7	8.0	± 0.0 ± 0.0	- 0.6	
40	20.4	8.8	8.0	± 0.0 - 0.1	± 0.0	
41	22.1	8.8	8.5	+ 1.7 ± 0.0	+ 0.5	
42	21.4	8.8	8.5	- 0.7 ± 0.0	± 0.0	
43	21.5	8.8	8.5	+ 0.1 ± 0.0	± 0.0	
44	21.5	8.7	9.6	± 0.0 + 0.1	+ 1.1	
45	23.7	9.8	10.2	+ 2.2 - 1.1	+ 0.6	
46	23.0	9.3	9.1	- 0.7 + 0.5	- 1.1	
47	24.1	9.2	9.0	+ 1.1 + 0.1	- 0.1	
48	23.0	9.2	9.0	- 1.1 ± 0.0	± 0.0	
49	24.3	9.2	9.0	+ 1.3 ± 0.0	± 0.0	
50	23.7	9.3	9.1	- 0.6 - 0.1	+ 0.1	
51	23.7	10.2	9.1	± 0.0 - 0.9	± 0.0	
52	24.0	10.2	9.7	+ 0.3 - 1.0	+ 0.6	
53	24.0	11.7	9.8	± 0.0 - 0.5	+ 0.1	
54	24.0	12.3	11.0	± 0.0 - 0.6	+ 1.2	
55	24.9	11.0	11.0	+ 0.9 + 1.3	± 0.0	
56	25.8	11.0	11.5	0.9 ± 0.0	+ 0.5	
57	28.7	10.0	14.6	+ 2.9 + 1.0	+ 3.1	
58	30.3	10.0	16.3	1.6 ± 0.0	+ 1.7	
59	32.8	8.7	17.2	+ 2.5 + 1.3	+ 0.9	
60	+ 32.8	- 9.0	17.0	± 0.0 - 0.3	- 0.2	
			253	106	171	

ke opposite

May, 22-

	A	B	C	D.	
60	60..0..0.0	150..00..38.2	239..59..50.9	330..00..16.6	Then 57.5
1	61..0..0.0	151..00..31.0	240..59..49.5	331..00..14.7	
	62..0..0.0	152..00..30.3	241..59..49.0	332..00..14.2	
	63..0..0.0	153..00..30.3	242..59..48.2	333..00..13.1	
	64..0..0.0	154..00..28.5	243..59..46.3	334..00..12.8	
	65..0..0.0	155..00..28.5	244..59..46.2	335..00..12.0	
	66..0..0.0	156..00..27.6	245..59..45.2	336..00..11.2	
	67..0..0.0	157..00..24.9	246..59..42.5	337..00..11.3	
	68..0..0.0	158..00..24.4	247..59..41.7	338..00..7.2	
	69..0..0.0	159..00..20.8	248..59..38.7	339..00..02.7	
	70..0..0.0	160..00..15.4	249..59..37.0	339..59..59.7	
	71..0..0.0	161..00..8.0	250..59..31.9	340..59..52.7	Then
	71..0..0.0	161..00..6.8	250..59..37.7	340..59..55.7	Then 52.1
	72..0..0.0	162..00..6.7	251..59..37.7	341..59..55.2	
	73..0..0.0	163..00..6.6	252..59..37.7	342..59..54.5	
	74..0..0.0	164..00..4.5	253..59..35.3	343..59..57.3	
	75..0..0.0	165..00..5.9	254..59..35.3	344..59..57.3	
	76..0..0.0	166..00..3.4	255..59..34.1	345..59..57.2	
	77..0..0.0	167..00..2.3	256..59..34.1	346..59..52.4	
	78..0..0.0	168..00..0.0	257..59..34.0	347..59..50.0	
	79..0..0.0	169..00..1.1	258..59..34.0	348..59..52.0	
	80..0..0.0	169..59..59.2	259..59..33.1	349..59..57.0	
	81..0..0.0	170..59..58.4	260..59..33.0	350..59..57.0	
	82..0..0.0	171..59..57.0	261..59..31.8	351..59..49.9	
	83..0..0.0	172..59..57.9	262..59..32.0	352..59..48.6	
	84..0..0.0	173..59..56.0	263..59..31.7	253..59..48.0	
	85..0..0.0	174..59..57.4	264..59..31.7	254..59..47.3	
	86..0..0.0	175..59..56.0	265..59..30.8	255..59..45.6	
	87..0..0.0	176..59..55.2	266..59..30.5	256..59..45.6	
	88..0..0.0	176..59..55.0	267..59..30.5	257..59..46.3	
	89..0..0.0	178..59..53.6	268..59..29.0	258..59..44.5	
	90..0..0.0	179..59..52.2	269..59..29.0	259..59..45.3	Then 52.8

	B	C	D	diff. B	diff. C	diff. D
A 60	+ 33.2	- 9.1	+ 16.6	"	"	"
	31.0	10.5	14.7	- 2.2	- 1.4	- 1.9
	30.3	11.0	14.2	0.7	0.5	0.5
	30.3	11.8	13.1	0.7	0.8	1.1
	28.5	13.7	12.8	- 1.8	1.9	0.3
	28.5	13.8	12.0	+ 0.0	0.1	0.8
	27.6	14.8	11.2	- 0.9	1.0	- 0.8
	24.9	17.5	11.3	2.7	2.7	+ 0.1
	24.4	18.3	7.2	0.6	0.8	- 4.1
	20.8	21.3	+ 2.7	3.6	3.0	4.5
	15.4	23.0	- 0.3	5.4	1.7	3.0
	8.0	28.1	7.3	7.4	- 5.1	- 7.0
	6.8	22.3	4.3	1.2	+ 5.8	+ 3.0
	6.7	22.3	4.8	0.1	+ 0.0	- 0.5
	6.6	22.3	5.5	0.1	+ 0.0	- 0.7
	4.5	24.7	8.7	- 2.1	- 2.4	- 3.2
	5.9	24.7	8.7	+ 1.4	+ 0.0	+ 0.0
	3.4	25.9	8.8	- 2.5	- 1.2	- 0.1
	+ 2.3	25.9	7.6	1.1	+ 0.0	+ 1.2
	+ 0.0	26.0	10.0	- 2.3	- 0.1	- 2.4
	+ 1.1	26.0	8.0	+ 1.1	+ 0.0	+ 2.0
	- 0.8	26.9	9.0	- 0.3	- 0.9	- 1.0
	1.6	27.0	9.0	- 0.8	0.1	+ 0.0
	3.0	28.2	10.1	- 1.4	- 1.2	- 1.1
	2.1	28.0	11.4	+ 0.9	+ 0.2	1.3
	4.0	28.3	12.0	- 1.9	- 0.3	0.6
	2.6	28.3	12.7	+ 1.4	+ 0.0	0.7
	4.4	29.2	14.4	- 1.8	- 0.9	- 1.7
	4.8	29.5	14.4	0.4	- 0.3	+ 0.0
	5.0	29.5	13.7	0.2	+ 0.0	+ 0.7
	6.4	31.0	15.5	1.4	- 1.5	- 1.8
	- 7.8	- 31.0	- 14.7	- 1.4	+ 0.0	+ 0.8
				498		

	A	B	C	D	
May 25 th	90.0.0.0	179.59.44.8	269.59.32.4	259.59.40.0	Mer 65
	89.0.0.0	49.0	34.2	41.0	
	88.0.0.0	50.4	34.3	42.1	
	860.0.0.0	89.59.53.8	189.00.11.7	269.59.52.0	
	1.0.0.0	90.59.53.8	181.00.10.3	270.59.52.0	
	2.0.0.0	91.59.57.8	182.00.9.8	271.59.57.6	

1857. May. $\frac{23}{24}^h$ Venus $\frac{1}{2}$

Ther. Int 65.0 Expt 70.3

Pointer 296.23

A
X

$A - 18.35 + 1.53.7$
 $B - 1.01.6$
 $C - 56.4$
 $D - 54.7$
 $E - 9.3 = 50.7$
 $F - 56.7$
 $G - 15.5 = 46.5$
 $H - 1.34.5$

2 Leonis

Pointer 299.43

A 25.1041, 34.0

B 34.0

C 40.1

D 27.5

E 34.0

F 18.5

G 40.0

H 1.02.3

5/2299/28.7

 $\frac{16}{60}$
 $\frac{69}{59}$

2 Leonis

Ther. Int 69.7 Expt 72.7

Pointer 291.49

3
X

A 23.10 + 19.4

B 18.3

C 23.0

D 0.15.3

E 47.3

F 32.8

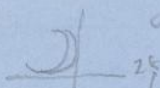
G 59.2

H 0.4.8

 $\frac{16}{60}$
 $\frac{69}{59}$

1857 - May $\frac{24}{25}$

Venus



M west

Ther Intt 63.5 Ex-79.5

Pointer - 296.41

A - 28.20 - 1.40.7 = 19.3

B - 1.44.2

C - 1.42.0

D - 1.40.4

E - 1.18.7 = 41.3

F - 1.2.5

G - 0.30.0

H - 1.48.5

 α Leonis

Pointer 299.43

A - 1.35.4

B - 1.37.0

C - 1.40.0

D - 1.31.0

E - 1.33.7

F - 1.15.0

G - 1.39.0

H - 1.00.4

8/2315 (28.9)

$$\begin{array}{r} 16 \\ 71 \\ 64 \\ 75 \end{array}$$
 γ Leonis

Pointer - 291.49

Ther Intt 75.5 Ex-78.0

A - 23.10 + 0.21.8

B - 25.5

C - 25.4

D - 19.0

E - 45.0

F - 28.7

G - 56.7

H - 0.02.8

$$\begin{array}{r} 8/2249 (28. \\ 16 \\ 64 \end{array}$$

857. May. $\frac{25}{26}$
 (Ther Int 64.5 Sept 67) 7
 & Perasi
 Pointer - 297.57
 A - 17.0 + 2.48.4
 B - 2.57.7
 C - 2.52.7
 D - 2.48.4
 E - 2.17.8
 F - 3.01.0
 G - 3.25.3
 H 343.0 - 3.40.2

Ther Int 69- Sept. 82
 Ther Int seeing -
 Perasi
 Pointer - 296.57
 A - 18.0 + 2.26.0
 B - 2.30.7
 C - 2.35.0
 D - 2.27.2
 E - 72.0 2.38.6
 F - 2.20.0
 G - 2.44.0
 H - 2.01.1

& Leonis Ther Int 61. Sept 54.5
 Pointer - 299.43
 A - 15.15 + 1.38.4
 B - 1.37.5
 C - 1.42.0
 D - 1.35.1
 E - 1.24.0
 F - 2.10.0
 G - 2.36.0
 H - 1.58.8
 2868
 8/2268/28.3
 16
 66
 64
 28

index change of temperature
 & Leonis Ther Int 60. Sept. 53.8
 Pointer - 291.49
 A - 23.10 + 0.23.6
 B - 0.26.2
 C - 0.25.5
 D - 0.23.2
 E - 0.42.3
 F - 0.26.7
 G - 0.55.0
 H - 0.1.6
 8/2241/28.0
 16
 64

1857 May 28thLamp West.
Ther. 61.5 α Leonis

Pointer - 299.43

A - 15.15 + 1.37.5

B - 1.39.8

C - 1.37.0

D - 1.33.5

E - 1.30.8

F - 1.14.5

G - 1.38.3

H - 1.1.5

$$\begin{array}{r} 8/2329/29.1 \\ 16 \\ 82 \\ 64 \end{array}$$

$$\begin{array}{r} 312.23 \\ + 15.10 \\ \hline 327.33 \\ 297.13 \end{array}$$

857.

May 30th Minimization West

The Int. 61°

Pointer - 223° 52'

A - 91.5 + 3.3.9

B - 3.1.0

C - 3.40.5

D - + 2.52.3

E - 2.36.4

F - 3.00.2

G - 2.53.5

H - 4.22.1

Bright but unstable

Venus 2 Limb

Pointer - 297° 51.5

A - 17.5 + 3.04.8

B - 3.11.8

C - 3.06.4

D - 3.05.5

E - 3.03.0

F - 3.46.4

G - 3.05.8

H - 342.55 3.23.4

B Leonis 297.05

Pointer -

A - 18° 1" 48.0

B - 3" 56.3

C - 3" 53.0

D - 288° 1" 50.8

E - 3" 20.5

F - 4.01.8

G - 4.21.0

H - 3.36.7

May. ³⁰/₃₁ - Ther. Int 56 - Sept. 57 Lamp work
 & Pegasus. 71
 Pointer. 297.57 X
 A-17.0 + 2.50.7
 B- 2.56.4
 C- 2.57.0
 D- 2.52.0
 E- 2.18.0
 F- 3.02.0
 G- 3.22.0
 H- 343.0 + 3.39.1

June 2.

 α Hydrae.

Pointer - 320..254-

A - 354..30 + 4..45.2

B - 4..40.5

C - 5..02.5

D - 4..37.6

E - 4..26.0

F - 174.30 5..03.2

G - 5..16.3

H - 40..53.4

A - -0..47.5-

B - 0..34.0

C - 0..57.7

D - 0..35.0

E - 0..18.0

F - 0..52.2

G - 0..19.0

H - 0..59.5

All west

4.30

X |||

4.30

X |||

Mer. Int 74.5 Eq + 81°

 α Leonis

Pointer - 299..43

A - +1..35.8

B - 1..34.3

C - 1..41.3

D - 1..27.3

E - 1..34.3

F - 2..13.2

G - 1..41.2

H - 1..59.6

 γ Leonis

Pointer 291..49

A - +0..21.1

B - 0..23.1

C - 0..24.0

D - 0..14.2

E - 0..47.3

F - 0..27.4

G - 0..58.0

H - 0..02.3

On the 10th of June α Leonis and α Ophiuchi have the same apparent Declination.

June $\frac{2^0}{3-}$
 Venus.

$\frac{1}{2}$

Pointer - 298.28

A - 16.30 + 1.06.6

B - 1.10.4

C - 1.12.8

D - 1.06.8

E - 58.2

F - 1.36.2

G - 1.07.0

H - 1.25.0

Ther Int 65.2 Ep 66.4
 7

α Leonis

Th. 67.5 Ep 73.5

Pointer 299.43

A - 15.15 + 1.36.5

B - 1.35.3

C - 1.39.7

D - 1.31.2

E - 1.33.2

F - 2.10.8

G - 2.38.8

H - 1.60.0

γ Leonis

Pointer - 291.49

A 23.10 + 0.22.6

B - 0.25.8

C - 0.25.3

D - 0.19.0

E - 0.45.5

F - 0.25.2

G - 0.55.8

H - 0.2.1

1857. June 7th. Lamp west α Pegasi

Pointer - 299.57

A - 17.0 + 2.57.8

B - 2.58.5

C - 2.52.0

D - 2.54.8

E - 2.16.8 = 2.43.2

F - 3.00.0

G - 2.18.0

H - 2.38.5

Ther Ext 49.5 Int 53.5

June 8th

Polaris 223.52 1/4

Pointer -

A - 91.05 + 3.1.3

B - 181.05 + 2.58.6

C - 271.05 + 2.37.0

D - 361.05 + 2.50.0

E - 358.55 2.41.6

F - 3.3.0

G - 2.54.5

H - 4.26.2

Lamp west

Ther Int 57

Ext 61.5

 α Arietis

Pointer - 289.57

A - 25.20 + 3.39.3

B - 3.49.8

C - 3.37.0

D - 3.39.8

E - 3.34.2

F - 3.16.5

G - 3.40.0

H - 3.40.0

+20"

1857.

June 9th

Venus

Pointer 298.53

Theor. Int Ext.

Steady and well observed.

A - 16.05 - + 1.37.6

B - 1.42.3

C - 1.41.0

D - 1.37.2

E - 1.29.9

F - 2.10.6

G - 1.31.7

H - 1.57.4

6
*|4
*|June 12th

Pointer 298.52.5

Venus

S.C.

A - 16.5 - + 1.40.0

B - 1.43.5

C - 1.41.4

D - 1.40.0

E - 1.27.7

F - 2.09.6

G - 2.29.3

H - 1.53.15

6
*|

♀

1.42.0^{mc b}

1.43.5

1.41.3

1.40.0

1.27.7

2.09.7

2.29.3

1.53.2

mc b 3h m - 65.2 + 71.3

B. Leonis -

Pointer - 297.01

A - 18.00 - 1.47.6 = 12.4

B - 1.49.7

C - 1.52.4

D - 1.49.3

E - + 1.12.0

F - 0.57.7

G - 1.21.0

H - 0.41.2

June 1/20

 α Persei

Painter - 297° 57'

A - 17° 0' + 2.50.3

B - 2.54.5

C - 2.56.3

D - 2.49.6

E - 2.17.7

F - 3.55.8

G - 3.20.8

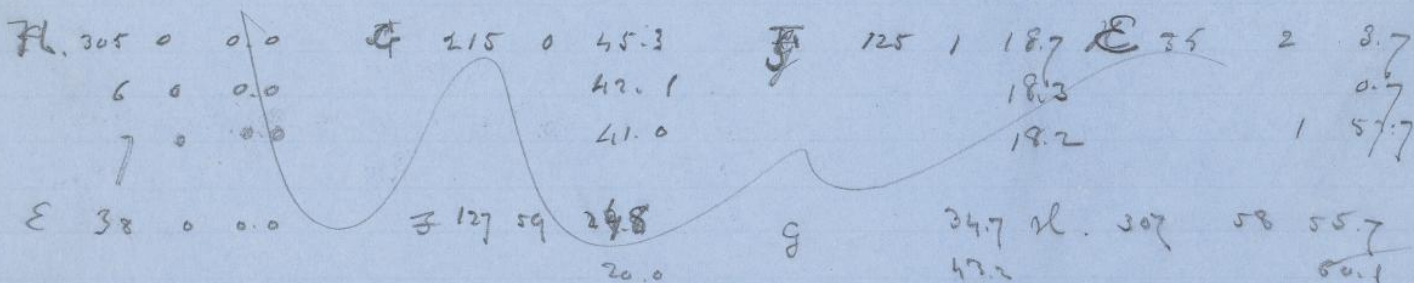
H - 3.38.2

7
X

Ther. 63.6 Exp. 65.3

3
X

Pen
Poniter 260.



1858 Feb 11. Ekt 11.2 Int. 25.2

K	351	0	0.0	260	59	47.7	170	59	46.7	84	0	22.8
	0					52.3			48.1			23.1
	349					53.2			51.6			24.1
	348					53.4			54.0			27.6
	347					58.3			56.0			27.8
	346					59.8			58.3			34.2
	345					2.2			0.1		33.4	24.5 2w
	344											
	343											
	342											
	341											
	340											
	339											
	338											
	337											
	336											
	335											
	334											
	333											
	332											
	331											

1858 Feb. 4. Exp. Time 32.8
 Lat. 40.

Time	H	351° 0' 0.0	G	260° 59' 56.4	F	270° 59' 49.0	E	280° 0' 27.1
32.5 37.5		350		58.4		51.2		27.2
		349		58.6		51.7		26.7
		348		0.7		53.7		30.6
		347		3.1		57.1		32.6
		346		5.3		59.7		36.8
		345		6.8		0.2		35.3
		344		8.9		4.0		36.7
32.5 37		343		13.5		7.3		39.6
		342		13.4		7.8		42.9
		341		15.1		7.3		42.8
		340		17.2		9.0		45.6
		339		17.7		11.6		45.4
		338		17.2		12.9		43.2
		337		21.2		15.7		46.6
		336		26.5		18.2		49.6
		335		33.8		20.0		54.4
		334		35.4		24.2		57.8
		333						
		332						
34.0 36.3		331						

1858 Feb. 12

1. Hy. Int. Th. 26.5 Ex. Th. 21.3

No	G	F	G	No	G	F	G
0 -1	38.4	-1-45.4	0' 21.1	336	17.5	0' 17.0	46.8
359	38.2	45.9	19.1	335	23.3	22.3	53.7
358	38.9	46.7	21.0	334	28.8	23.8	55.2
357	39.6	47.3	20.1	333	32.2	28.6	59.0
~~356~~	39.1	44.3	17.0	332	35.7	31.5	1' 6.3
355	41.9	46.8	20.1	331	37.7	36.5	13.2
354	~~42.2~~	46.4	20.0	330	45.1	38.0	13.8
353	46.9	50.6	24.3	329	44.8	42.7	15.7
352	46.8	52.0	25.9	328	49.4	42.1	16.9
351	48.8	52.0	26.0	327	57.0	49.3	23.8
350	50.8	52.3	27.7	326	57.0	47.3	20.2
349	53.8	56.6	29.2	325	56.7	45.8	22.0
348	55.8	57.4	30.8	324	57.4	47.3	22.1
347	57.0	57.8	33.5	323	59.8	50.2	23.0
346	59.3	57.6	37.4	322	57.1	49.9	20.1
? 345	58.3	58.6	33.1	321	59.8	50.7	23.5
344	58.4	53.9	35.9	320	2.1	52.4	25.6
343	~~58.4~~	~~53.9~~	~~35.9~~	319	1.9	51.9	27.8
0' 1.7	0' 4.6	37.4					
342	1.7	7.8	40.3	318	4.3	56.1	27.1
341	3.4	8.7	35.9	317	6.8	58.6	27.6
340	5.3	8.0	37.8	316	11.1	0.7	30.8
339	7.4	9.1	38.3				
338	9.3	12.2	40.8				
337	12.2	12.4	40.7				

9w
20.4 26.5

1858 April 2^d Sat
 Ent. Per. 57.0 Int. 54.4

-0	-1	56.7	-1	42.6	0	30.0	
		54.2		37.6		24.8	
		54.0		38.6		25.9	
		51.6		37.9		24.3	
		57.3		40.0		25.8	
9 th 57.4 54.4		57.4		39.2		27.0	.5
267		58.5		44.7		27.7	

26.5

Monday
1858 Apr. 22

Est. hr 52.5 Int. 54.4

K	G.	F.	E.
0	-1' 53" 9	-1 43.9	0 30.2
359	55.0	45.0	29.0
358	51.2	40.2	24.1
357	50.2	38.3	23.8
356	50.6	38.4	23.2
355	53.9	42.3	26.0
354	55 ^N 57.7	44.0	28.2
353	55 ^N 58.0	43.0	27.6
352	57.8	44.7	28.7
351	0 2° 8	48.9	30.8
350	3.9	50.2	32.0
349	7.6	52.9	34.3
348	10.3	55.2	35.9
347	12.2	56.0	37.1
346	10.4	56.0	38.7
345	12.1	-1 56.3	37.4
344	15.0	0 1.2	41.0
343	17.3	7.0	45.0
342	19.0	4.3	43.3
341	22.9	5.6	46.8
340	23.7	5.9	43.8
339	26.0	8.4	45.8
338	25.0	10.8	46.0
337	28.0	10.4	49.0

K	G.	F.	E.
336	31.4	12.7	50.7
335	40.0	19.2	58.1
334	40.9	21.0	1. 0.9
333	44.7	24.1	3.3
332	53.1	31.8	11.8
331	57.0	31.8	16.2
330	1 4.7	38.6	21.6
329	7.0	36.8	25.8
328	5.4	37.3	20.6
327	7.9	37.2	26.0
326	11.3	36.7	27.6
325	12.3	35.4	27.8
324	11.1	36.6	25.6
323	13.8	46.2	28.0
322	12.2	45.0	24.5
321			
320			
319			
318			
317			
316			
315			
314			
313			

1858 May 13th The Gal 66.2 - lat 16.0

Aluminum

A 30 58 22.9

B 120 58 34.8

C 210 58 13.8

D 300 58 15.0

E 59 2 3.4

F 149 9 1.1

G 239 1 51.1

H 329 1 43.8

Note bene - F, the hole is about 15" too much reading

29" _____

35" _____

1858 May 28. th L₄ 53°7' R₄ 53.0

β Luminorum Pointer 284° 1'

16

30 55	30 55 +	5 21.0	31° 0' - 2	18.8
120 55	3	40.9	121 0	2 33.9
210 55	3	16.0	211 0 - 2	10.1
300 55	3	18.3	301 0	2 14.9

14
310.0

(out of focus)	59 0 +	2 8.9	59 5	11.1
7	149 0 +	1 0.1		4.1
9		50.1		56.0
the		45.8		39.7

~~57~~	59 2	6.9
(0 43)	149 1	0.1
(1 20.3)	239 1	50.1
(1 10.8)	329 0	45.8

α Leon

287 5)

27 0)	57.2	7 5)	55.1
	14.0		7.6
	51.8		48.4
	55.7		51.9
	28.9		26.4
0)	25.7	55)	21.0
	9.8		11.4
	14.6		18.6

27 1	57.2
117 2	14.0
207 1	51.8
297 1	55.7
52 58	28.9
57 10)	152 57 25.7
57 40)	242 58 9.8
57 40)	332 57 14.6

α Leon L₄ 51°3' R₄ 50.4

15 185	16	12.0	15 20	8.0
		22.8		13.6
		5.5		0.6
		11.7		3.8

15	16	12.0
185	16	22.8
195	16	5.5
285	16	11.7

L15	17.6	40	8.5
	10.0		5.0
	46.9		51.6
	30.7		38.0

	74	44	17.6
(2 48)	164	43	5.0
(3 19)	254	43	46.9
(4 6)		43	30.7

251

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