

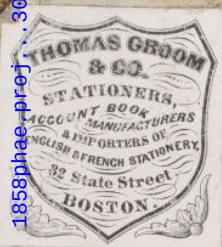
KG
11365
30

A.30

Transit Circle.
July 5th 1858.
to
Jan. 24th 1859.

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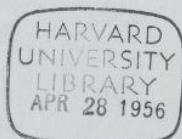
1858phaa-001-30v



KG 11365.30

u-7

KG 11365.3D



July. 6. 1858.

Ill. West.

A. H.

Polaris. S.P.			Spica			α Serpentis			ϵ Usc Min			β Scorpis		
13	2	9.3	13	17	25.5	15	36	59.9	15	48	32.5	15	56	54.4
	4	29.7			29.1			3.5			50.1			58.2
	6	43.5			32.6			7.0			6.3			2.0
	8	56.7			36.1			10.3			23.3			5.4
	11	20.3			39.7			14.0			41.0			9.3
		159.5			163.0			94.7			153.2			129.3
13	6	43.90			32.60			18.94			36.64			25.86
			13	17	32.60	15	37	6.94	15	49	6.64	15	57	1.86

July 7. 1858

Ill. West. July 7.

a =

b =

c =

A.H.

A.H.

Polaris			β Arietis			α Arietis			Polaris S.P.			Spica		
2	42.4		1	46	29.9	1	58	52.1	13	2	4.5	13	17	25.8
5	3.1				33.8			56.0		4	25.8			29.4
7	18.4				37.3			59.8		6	41.9			32.9
9	32.7				41.0			3.6		8	55.0			36.3
11	56.3				44.9			7.4		11	17.6			39.9
	152.9				186.9			178.9			144.8			164.3
	30.58				37.38			35.78			28.96			32.86
7	18.58		1	46	37.38	1	58	59.78	13	6	40.96	13	17	32.86

July 7/8. 1858.

July 7/8.			July 8.			Ill. West.			July 89		
A. H.			A. H.			"			A. H.		
β Arietis			Polaris S.P.			Spica			Polaris		
1	46	39.0	13	2	6.4	13	17	25.9	1	2	45.8
		34.0		4	29.6			29.5		5	10.1
		37.5		6	43.2			33.0		7	23.5
		41.1		8	57.7			36.4		9	38.6
		45.0		11	20.2			40.0		12	0.6
		~~157.6~~			157.1			164.8			118.6
		37.52			31.42			32.96			23.72
1	46	37.52	13	6	43.42	13	17	32.96	1	7	23.72

July 8/9. 1858.

$$\begin{array}{r} a = -.55 \\ b = +.11 \\ c = +.05 \end{array}$$

$$\begin{array}{r} a = -.41 \\ b = +.18 \\ c = +.16 \end{array}$$

Ill. West.

J. H. C.			P. H. C.			A. H. July 15			J. H. C.			" "		
α Persei			α Tauri			Moon IV			Spicu			η Bootis		
3	13	50.2	4	27	28.7	11	53	58.3	13	17	26.8	13	47	39.0
		56.0			31.9			2.0			30.5			43.0
		1.2			35.3			5.5			33.8			46.3
		6.8			38.9			9.0			37.4	had		50.0
		12.0			42.8			12.7			40.9			53.9
		126.2			176.6			87.5			169.4			232.2
		25.24			35.32			17.5.0			33.88			46.44
3	14	1.244	27	35.32		11	54	5.50	13	17	33.88	13	47	46.44

35

11.39

11.61

could not get the stars on account of clouds

July 15. 1858

Ill. West.

J. H. C.

α Bootis		α Serpentis		ϵ Urs. min.		δ Ophiuchi	
14 8	54.9	15 37	0.8	15 48	30.9	16 5	35.0
	58.7		4.4		50.0		38.5
	2.2		8.0		5.4		41.8
	5.8		11.3		23.3		45.4
	9.4		15.0		39.8		49.0
	131.5		39.5		149.4		209.7
	26.30		7.90		29.88		41.94
14 9	2.30	15 37	7.90	15 49	5.88	16 5	41.94

July 16. 1858.

Moon Culmination

Ill. West.

A.H.

J.H.C.

Moon I.V.

 α Virginis β Draconis α Ophiuchi

γ Virginis			Moon I.V.			α Virginis			β Draconis			α Ophiuchi		
12	34	11.9	12	41	34.2	13	17	27.0	17	26	54.2	17	28	5.9
		15.4			37.8			30.7			0.3			9.3
		18.9			41.4			34.1			5.7			12.7
		22.3			45.0			37.5			11.4			16.3
		25.9			48.5			41.1			17.1			20.0
		44.4			206.9			170.4			88.7			64.2
		18.88			41.38			34.08			17.74			12.84
12	34	18.88	12	41	41.38	13	17	34.08	17	27	5.74	17	28	12.84

July 17. 1858

J. H. C.

Ill. West
July 19th 1858

α Leonis			Venus I Limb			α Tauri			α Aurigae			β Orionis		
10	0	31.8	11	9	57.2	4	27	30.3	5	5	53.3	5	7	26.5
		35.4			0.7			34.1			58.7			30.2
		38.9			4.3			37.8			3.4			33.8
		42.4			7.9			41.4			8.5			37.1
		46.0			11.6			45.0			13.6			40.8
		194.5			81.7			188.6			137.5			168.4
		38.90			16.34			37.72			27.50			33.68
10	0	38.90	11	10	4.34	4	27	37.72	5	6	3.50	5	7	33.68

July 18/19. 1858.

 $a + .12$
 $b + .19$
 $c - .45$

July 19. Moon Cul. Ill. West.

A. H. β Tauri			A. H. α^2 Librae			Moon IV			β Librae			39 Librae		
5	17	2.2	14	42	46.7	15	7	33.1	15	9	7.3	15	28	9.6
		6.4			50.4			37.1			11.1			13.7
+	28.29	10.2	-	15.27	54.0	-	22.48	41.0	-	8.57	14.6	-	27.40	17.4
		14.1			57.6			44.8			18.1			21.3
		18.2			1.3			48.8			21.8			25.4
		51.1			210.0			204.8			72.9			87.4
		10.22			42.00			40.96			14.58			17.48
5	17	10.22	14	42	54.00	15	7	40.96	15	9	14.58	15	28	17.48
		+ 03			+ .11			+ .12			+ .09			+ .13
		+ 21			+ .11			+ .09			+ .12			+ .08
		- 47			- .47			- .49			- .45			- .57
5	17	09.99	14	42	53.75	15	07	40.66	15	09	14.35	15	28	17.18
5	17	20.34	14	43	04.21				15	09	24.83	15	28	27.79
EL. Star	-	10.35			10.46						10.48			10.61

July 19. 1858

 $a + .10$
 $b + .19$
 $c - .43$
July 20
W. L. B.

J. L. West.

A. H. S. Scorpii.			β Tauri			δ Orionis			α Orionis		
15	42	11.8	5	17	2.3	5	24	29.2	5	47	12.9
		15.9			6.3			33.1			16.6
- 25.19		19.8	+ 28.25		10.3	- 0.24		36.0	+ 7.23		20.0
		23.4			14.1			39.4			23.4
		27.4			18.2			43.0			27.0
		98.3			51.2			180.7			99.9
		19.66			10.24			36.14			19.98
15	42	19.66	5	17	10.24	5	24	36.14	5	47	19.98
		+ .12			+ .03			+ .07			+ .06
		+ .08			+ .21			+ .14			+ .16
		- .50			- .49			- .45			- .43
15	42	19.36	5	17	09.99	5	24	35.90	5	47	19.77
15	42	29.77	5	17	20.40	5	24	46.19	5	47	30.12
		10.41			10.41			10.29			10.35

July 21. 1858.

Moon Culmination

Ill. West.

 $a + .09$
 $b + .19$
 $c = .40$

A. H.			no "			"			"			"		
Scorpii			Scorpii			Moon I.V.			A. Ophiuchi			Ophiuchi		
16	20	27.9	16	36	48.4	16	54	5.9	17	6	22.9	17	13	3.4
		32.0			52.6			10.1			26.8			7.2
-26.07		35.7	-25.42		56.3	-28.14		14.2	-26.23		30.7	-24.57		11.1
		39.7			0.3			18.2			34.3			14.8
		43.5			4.3			22.3			38.5			18.9
		178.8			161.9			70.7			153.2			55.4
		35.76			32.38			14.14			30.64			11.08
16	20	35.76	16	36	32.38	16	54	14.14	17	6	30.64	17	13	11.08
		+ .09			+ .09			+ .09			+ .09			+ .09
		+ .08			+ .08			+ .07			+ .08			+ .08
		- .44			- .44			- .46			- .44			- .44
16	20	35.49	16	36	32.11	16	54	13.84	17	06	30.37	17	13	10.81
16	20	45.67							17	06	40.81	17	13	21.19
E.C. Stars -		10.18									10.14			10.38

July 21. 1858

 $a + .09$
 $b + .19$
 $c - .40$

Ill West.

Alt.

d Ophiuchi

17 18 3.1

7.2

-29.44 11.1

15.1

19.3

55.8

11.16

17 18 11.16

+ .10

+ .07

- .46

17 .. 18 .. 10.87

17 .. 18 .. 21.11

10.24

July ²⁵/₂₆ 1858

a+b

a+.06
b+.24
c-.37

W. b. B.			A. H.			W. b. B.			A. H.			W. b. B.		
α Tami			α Aurigae			β Orionis			β Tami			δ Orionis		
4	27	32.1	5	5	53.3	5	7	28.5	5	17	4.0	5	24	30.7
		36.0			0.6			32.1			8.0			34.3
+16.13		39.6	+45.57		5.3	-8.22		33.4	+28.29		12.0	-0.24		37.7
		48.1			10.3			38.8			16.0			41.2
		46.8			13.4			42.4			20.0			44.6
		197.6			86.9			177.2			60.0			188.5
		39.52			17.38			35.44			12.00			37.70
4	27	39.52	5	6	55.38	5	7	35.44	5	17	12.00	5	24	37.70
		-16			+1.03			-126			-109			-123
		+18			+1.27			+112			+121			+114
		+0.05			+1.07			+1.05			+1.06			+1.04
4	27	39.59	5	6	55.75	5	7	35.35	5	17	12.18	5	24	37.65
4	27	48.05	5	6	13.88	5	7	43.92	5	17	20.71	5	24	46.33
EC		-8.50	EC		-8.13	EC		-8.57	EC		-8.53	EC		-8.67
4	27	39.52	5	06	05.38	5	07	35.44	5	17	12.00	5	24	37.70
		+0.04			-0.01			+0.03			+0.01			+0.03
		+0.19			+0.30			+0.14			+0.23			+0.16
		-0.38			-0.52			-0.38			-0.43			-0.37
4	27	39.37	5	06	05.15	5	07	35.23	5	17	11.81	5	24	37.52
4	27	48.05	5	06	13.87	5	07	43.89	5	17	20.55	5	24	46.41
EC. Plow		-8.68			8.72			8.66			8.74			8.89

July 25th 1858a +.06
b +.21
c -.39July 26th

Ill. West.

A. H.

A. H.

E orionis

+ capricor

Moon II.

5	28	46.1	20	57	45.7	21	24	clouds
3		49.8			49.5			
7	-1.18	53.1	-17.48		53.0			
2		56.5			56.7			
6		0.0			0.4			
5		205.5			205.3			
0		41.10			41.06			
0	5	28	53.10	20	57	53.06	21	24
		-2.4			+ .04			
		+ .14			+ .11			
		+ .05			-.39			
5	28	53.05	20	57	52.72	21	24	10.37
5	28	61.61	20	58	01.40			
E C		-2.51			8.77			

uncertain on account of clouds

5 .. 28 .. 53.10

+ .03

+ .16

-.37

5 .. 28 .. 52.92

5 .. 29 .. 01.71

8.79

July 30₃₁ 1858.

M. West.

~~A.H.~~ W.C.B.			A.H.			W.C.B.			A.H.			W.C.B.		
α Tauri			α Aurigae			β Orionis			β Tauri			δ Orionis		
4	27	32.7	5	5	56.0	5	7	28.8	5	17	4.4	5	24	31.1
		36.4			1.1			32.3			8.7			34.8
		40.0			6.0			35.9			12.4			38.2
		43.7			10.8			39.2			16.4			41.8
		47.2			15.9			43.0			20.7			45.1
		200.0			89.8			179.2			62.6			191.0
		40.00			17.96			35.84			12.52			38.20
4	27	40.00	5	6	5.96	5	7	35.84	5	17	12.52	5	24	38.20

July ^{30/}₃₁ 1858
$$\begin{cases} a = \\ b = \\ c = \end{cases}$$

Aug. 5

Ill West.

A.H.

W.L.B.

A.H.

E Orionis

Polaris S.P.

Spica

γ Bootis

5	28	46.5	13	2	40.0	13	17	28.7	13	47	41.0
		50.2		5	4.1			32.2			44.8
		53.7		7	18.4			35.6			48.3
		57.1		9	32.0			39.1			52.0
		<u>0.5</u>		11	<u>55.6</u>			<u>42.7</u>			<u>55.8</u>
		208.0			150.1			178.3			241.9
		41.60			30.0.2			35.66			48.38
5	28	53.60	13	7	18.02	13	17	35.66	13	47	48.38

Aug. 8/9. 1858.

a =

b =

c =

Ill. West.

A 26

W. 6. B

 β Tauri ϵ Orionis

5	17	4.0	5	28	45.9
		8.2			49.4
		11.9			52.9
		15.8			56.2
		19.9			59.8
		59.8			264.2
		11.96			52.84
5	17	11.96	5	28	52.84

Aug 9/1858

Ill. West.

W. C. B.

Polaris S.P.

Spica

 γ Urs Major γ Bootis

13	5	5.6	13	17	28.3	13	41	38.1	13	47	40.7
					32.0			43.8			44.5
	7	20.4			35.6			49.0			48.0
	9	33.4			39.0			54.4			51.7
					42.5			0.1			55.5
					1774			185.4			248.4
					35.48			37.08			48.08
			13	17	35.48	13	41	49.08	13	47	48.08

Aug. 12. 1858.

 $a = -19.2$
 $b =$
 $c =$

Ill. West.

H.C. 13

A 76

"

Bolau's S.P.

S Virginis

 η Bootis

13	2	45.9	13	27	13.3	13	47	40.9
	5	7.0			17.0			44.8
	7	22.5			20.4			48.2
	9	36.6			23.8			51.9
	11	59.7			27.3			55.6
		171.7			101.8			241.4
		34.34			20.36			48.28
13	7	22.34	13	27	20.36	13	47	48.28

Aug. 13. 1858.

Moon culmination

Ill. West.

A. H.

"

"

"

 γ Virginis

Moon I.V

Spica

12	34	13.2	13	8	37.6	13	17	28.2
		16.8			41.4			32.0
		20.2			45.0			35.4
		23.7			48.4			39.0
		27.3			52.3			42.6
		101.2			224.7			177.2
		20.24			44.94			35.44
12	34	20.24	13	8	44.94	13	17	35.44

Aug. 13. 1858

M. West.

 $a = 0.02$
 $b = 0.27$
 $c = 0.37$

A. H.

E Bootis			α^2 Librae			B. us min			ψ Bootis			β Librae		
14	38	32.0	14	42	47.5	14	50	35.5	14	58	6.8	15	9	8.3
		36.0			51.3			49.3			10.9			12.0
		39.9			54.9			2.1			14.7			15.4
		43.8			58.4			15.1			18.5			18.8
		47.8			2.1			28.8			22.4			22.4
		199.5			214.2			130.8			73.3			76.9
		39.90			42.84			26.16			14.66			15.38
14	38	39.90	14	42	54.84	14	51	2.16	14	58	14.66	15	9	15.38
		-.11			-.32			+.75			-.11			-.29
		+.29			+.15			+.87			+.29			+.17
		-.02			-.02			-.08			-.02			-.02
14	38	40.06	14	42	54.65	14	51	3.70	14	58	14.82	15	9	15.24
14	38	49.08	14	42	63.89	14	51	10.83	14	58	23.81	15	9	24.50
EC		-9.02	EC		-9.24	EC		-7.13	EC		-8.99	EC		-9.26
14	38	39.90	14	42	54.84	14	51	02.16	14	58	14.66	15	09	15.38
		-.01			-.02			+ 04			-.01			-.02
		+.29			+.15			+ 87			+.29			+ 17
		-.42			-.38			-147			-.42			-.29
		39.76			54.59			10.60			14.52			15.24
		49.08			63.89			10.83			23.81			24.50
		-9.32			-9.30			-9.23			-9.29			-9.26

On June. ²²23. 1858. I made a mistake in getting out the instrumental corrections, putting the azimuth corr. for that of collimation and the collimation corr. for that of azimuth. This has been corrected in the "Mark" Book. today Aug 14.
 The mistake was continued from June ²²23 to Aug 14. A. H.

Aug. 13. 1858

Ill. West.

A. H.

 α Cor. Bor. α Serpenti

15. 28	25.7	15. 37	2.7
	29.8		6.3
	33.5		9.8
	37.3		13.2
	<u>41.4</u>		<u>16.8</u>
	167.7		48.8
	33.54		9.76

15. 28	33.54	15. 37	9.76
	-.11		-.21
	+.29		+.22
	<u>-.02</u>		<u>-.02</u>

15. 28	33.70	15. 37	9.75
15. 28	42.74	15. 37	18.88
EC	-9.04	EC	-9.13

15. 28	33.54	15. 37	09.76
15. 28	-01	15. 37	-02
	+29		+22
	<u>-42</u>		<u>-37</u>
	33.40		09.59
	<u>42.74</u>		<u>18.88</u>
	-9.34		-9.29

Aug. 14 1858.

Ill. West.

W. C. B.			A. H.			" "			" "			" "		
Polaris S. P.			Spica			ε Virginis			γ Urs maj			γ Bootis		
13	2	46.4	13	17	28.0	13	27	12.8	13	41	37.8	13	47	40.3
	5	6.2			31.8			16.4			43.3			44.1
	7	22.2			35.2			19.9			48.4			47.6
	9	36.8			38.7			23.3			53.9			51.3
	12	1.5			42.3			26.8			59.4			55.0
		114.1			176.0			99.2			242.8			238.3
		22.82			35.20			19.84			48.56			47.66
13	7	22.82	13	17	35.20	13	27	19.84	13	41	48.56	13	47	47.66

Aug. 16. 1858

Moon culmination

A. H.

Ill. East.

E Bootis			β Urs Min			α Cor Bor.			Moon I.V.			β Scorpis		
14	38	30.8	14	50	^{31.9} ~~45.4~~	15	28	24.4	15	39	55.2	-	-	-
		34.9			31.9			28.4			59.2	15	57	00.0
		38.8			38.7			32.3			3.2			3.7
		42.6			11.4			36.2			7.1			7.2
		<u>46.7</u>			<u>25.1</u>			<u>40.2</u>			<u>11.2</u>			-
		193.8			172.5			161.5			135.9			10.9
		38.76			34.50			32.30			27.18			3.63
14	38	38.76	14	50	58.50	15	28	32.30	15	40	3.18	15	57	3.63

Aug. 16. 1858.

$a = +.03$

$b = +.31$

$c = +.43$

Ill. East.

Aug 18. A.M.

 α Can Min. β Geminorum

A. 76			" "			" "			" "		
α Scorpii			α Scorpii			α Can Min.			β Geminorum		
16	12	18.8	16	20	27.3	7	31	35.8	7	36	20.4
		22.8			31.3			39.5			24.4
		26.5			35.0			42.9			28.3
		30.3			38.8			46.2			32.8
		34.3			42.9			49.9			36.2
		132.7			175.3			214.3			141.4
		26.54			35.06			42.86			28.28
16	12	26.54	16	20	35.06	7	31	42.86	7	36	28.28
								+ .02			+ .01
								+ .25			+ .34
								+ .43			+ .49
						7	31	43.56	7	36	29.12
						7	31	53.27	7	36	38.93
						80		- 9.77			- 9.81

Aug. 18. 1858

Ill. East.

A. H.	M. G. B.	A. H.	A. H.
Polaris S.P.	Spica	η Bootis	α Bootis
-----	13 17 27.0	13 47 39.1	14 8 54.9
-----	30.7	43.0	58.7
13 8 4.3	34.0	46.6	2.3
-----	37.4	50.2	5.9
-----	41.1	54.0	9.8
	170.2	232.9	131.6
	34.04	46.58	26.32
13 17 34.04	13 47 46.58	14 9 2.32	
	+ .02	+ .01	+ .01
	+ .19	+ .37	+ .31
	+ .42	+ .45	+ .45
13 17 34.67	13 47 47.35	14 9 3.09	
13 17 44.54	13 47 37.16	14 9 12.91	
EC	-9.87	-9.81	-9.82

After these observations collimation changed.

Aug. 18. 1858

N. East.

$a = +0.04$

$b = +0.30$

$c = +0.07$

A.H.

B Libra			α Cor. Bor.			α Serpenti			ϵ Mus min		
15	9	7.2	15	28	24.6	15	37	1.4	16	59	35.3
		10.9			28.5			5.1			1.5
		14.3			32.3			8.7			27.3
		17.8			36.1			12.0			52.2
		<u>21.4</u>			<u>40.2</u>			<u>15.7</u>			<u>15.0</u>
		71.6			161.7			42.9			135.3
		14.32			32.34			8.58			27.06
15	9	14.32	15	28	32.34	15	37	8.58	16	60	27.06
		+ .02			+ .01			+ .02			+ .19
		+ .19			+ .33			+ .25			+ 1.71
		+ .07			+ .08			+ .07			+ .52
15	9	14.67	15	28	32.76	15	37	8.92	16	60	29.48
15	9	24.43	15	28	42.66	15	37	18.81	16	60	39.89
		- 9.82			- 9.90			9.89			- 10.41

Aug. 18 1858

$$a = +0.04$$

$$b = +0.30$$

$$c = +0.07$$

Moon Culmination

Ill. East.

Aug 19 W.C. B

A.U.			"			"			Aug 19 W.C. B			"		
Aphelinchi			Aphelinchi			Moon IV			Alderaan			Capella		
17	6	22.4	17	13	3.0	17	29	10.9	4	27	31.232.2	-	-	-
		26.4			7.0			15.0			35.036.0	-	-	-
-26	23	30.3	-24	51	10.8	-28	21	14.0			38.539.5	-	-	-
		34.2			14.6			23.0			42.043.0	5	6	9.1
		38.1			18.5			27.2			45.846.8	-	-	-
		151.4			53.9			95.1			197.5			
		30.28			10.78			19.02			39.50			
17	6	30.28	17	13	10.78	17	29	19.02	4	27	39.50			
		+1.04			+0.4			+0.5			+1.02			
		+1.12			+1.3			+1.11			+1.28			
		+1.07			+1.07			+1.08			+1.07			
17	6	30.51	17	13	11.02	17	29	19.26	4	27	38.87			
17	6	40.56	17	13	20.95	Eb slow		9.99	4	27	46.80			
E.C.		-10.05			-9.93	17	29	29.25	EC		-9.93			
					10.05									
					9.99									
17	6	30.51	17	13	11.02	17	29	19.26						
		9.99			-9.99			9.99						
17	6	40.50	17	13	21.01	17	29	29.25						

Aug. 19. 1858

M. East.

a + .04

b + .30

c + .07

W.B.B.

A.H.

Polaris S.P.			Spica			γ Urs. Maj.			γ Bootis			γ Sagittarii		
13	3	10.2	13	17	27.0	13	41	36.7	13	47	39.3	17	55	42.5
	5	34.4			30.8			42.2			43.1	-20.35		46.8
	7	47.0			34.2			47.6			46.8			50.8
	10	2.8			37.7			52.9			50.4			54.8
	12	26.0			41.3			58.3			54.3			58.8
		120.4			171.0			237.7			233.9			253.6
		24.08			34.20			47.54			46.78			50.72
13	3	48.08	13	17	34.20	13	41	47.54	13	47	46.78	17	55	50.72
		+1.16			+ .03			- .01			+ .02			
		-7.55			+ .18			+ .46			+ .29			
		-2.69			+ .07			+ .11			+ .07			
13..07..	39.00		13	..17..	34.48	13	..41..	48.10	13	..47..	47.16			
	17..	47.99		17..	44.53		41	..57.96		7	..57.15			
		8.99		20	-10.05			-9.86			-9.99			

Aug. 19. 1858

Moon culmination

Ill. East.

A.H.

B.A.C. 6127			S Sagittarii			Dis I limb.			φ Sagittarii			σ Sagittarii		
17	58	51.0	18	11	39.9	18	24	51.1	18	36	32.9	18	46	13.6
-28.28		55.1	-29.53		44.1			55.2	-27.8		37.0	-26.28		17.7
		59.1			48.0			59.2			40.8			21.4
		2.9			52.0			63.1			44.7			25.2
		<u>7.0</u>			<u>56.2</u>			<u>07.2</u>			<u>48.8</u>			<u>29.3</u>
		175.1			240.2			175.8			204.2			107.2
		35.02			48.04			35.16			40.84			20.44
17	58	59.02	18	11	48.04	18	24	59.16	18	36	40.84	18	46	21.44

Aug 20 18 58

Moon Culmination

Ill. East. Aug 20/21

$$\left. \begin{array}{l} a + .047 \\ b + .30 \\ c + .07 \end{array} \right\} \begin{array}{l} a = +.02 \\ b = +.31 \\ c = +.08 \end{array}$$

o Sagittarius			Moon I.V.			h ² Sagittarii			α Canis maj		
18	46	13.3	19	19	45.8	19	27	49.9	6	38	36.8
		17.4			49.8			53.9			40.4
-26.28		21.2	-26.87		53.7	-25.12		57.6	-16.31		44.0
		25.0			57.6			1.4			47.5
		29.0			2.0			5.4			51.3
		105.9			208.9			168.2			220.0
		21.18			41.78			33.64			44.00
18	46	21.18	19	19	53.78	19	27	57.64	6	38	44.00
		+ .02			+ .02			+ .02			+ .02
		+ 13			+ .13			+ .13			+ .16
		+ 08			+ 08			+ 08			+ .08
18	46	21.41	19	19	54.01	19	27	57.87	6	38	44.26
18	46	31.61			10.02	19	28	07.72	6	38	54.64
E.C. Slow		10.20	19	20	4.03			9.85			10.38
								10.20			
								10.02			
18	46	21.41	19	19	54.01	19	27	57.87			
		10.02			10.02			10.02			
18	46	31.43	19	20	4.03	19	28	7.89			

Aug 21. 1858

Moon culmination

 $a + .04$
 $b + .30$
 $c + .07$

J. H. East.

 $a + .04$
 $b + .30$
 $c + .07$

A. G. L.

Aug 22 A. G. L.

Moon I. V

 δ Capricorn γ Geminor α Canis min β Geminor

20	13	0.1	20	20	31.5	6	29	14.0	7	31	35.3	7	36	20.0
		4.0			35.3			17.8			39.0			24.1
-23.9		7.9	-18.17		39.0	+16.39		21.3	+5.35		42.4	+28.22		27.9
		11.7			42.6			24.8			45.9			31.8
		<u>15.8</u>			<u>46.4</u>			<u>28.6</u>			<u>49.5</u>			<u>36.0</u>
		39.5			194.8			106.5			212.1			139.8
		7.90			38.96			21.30			42.42			27.96
20	13	7.90	20	20	38.96	6	29	21.30	7	31	42.42	7	36	27.96
		+ .02			+ .03			+ .02			+ .02			+ .01
		+ .14			+ .16			+ .28			+ .24			+ .33
		<u>+ .03</u>			<u>+ .03</u>			<u>+ .07</u>			<u>+ .07</u>			<u>+ .08</u>
20	13	.08.09	20	..20	..39.18	6	29	21.67	7	31	42.75	7	36	28.38
			20	..20	..49.52	6	29	32.39	7	31	53.39	7	36	39.10
					10.34	EC		-10.72	EC		-10.64	EC		-10.72

1858. Aug. 23.

 $a .00$
 $b + .31$
 $c + 10$

W.C.B.

M. East.

H.P.J.

Polaris S P

Spica

 α Lyrae

13	3	14.3	13	17	26.3	18	31	50.2
	5	36.8			29.9			54.6
last	-	-	-10.25		33.3	+38.38		59.1
	10	9.1			36.9			3.5
	12	29.6			40.4			7.9
					166.8			175.3
					33.36			35.06
			13	17	33.36	18	31	59.06
					+ .20			+ .40
					+ .10			+ .13
			13	17	33.66	18	31	59.59
			13	17	44.50	18	32	10.20
			E.C. Slow		10.84			10.71

Aug 23. 18 58

Moon Culmination
A.H.

Ill. East.

a 1.00
b +.31
c +.10

ϵ Capricorn	γ Capricorn	Moon I.V.	σ Aquarii	π Aquarii
21 14 5.8	21 31 58.8	21 53 15.9	22 22 53.4	22 30 9.6
9.4	2.6	19.6	37.0	13.3
-17.26 13.2	-17.18 6.2	-13.57 23.1	-11.24 0.5	-4.58 16.9
16.9	9.8	26.8	has failed ---	20.2
<u>20.8</u>	<u>13.4</u>	<u>30.5</u>	7.8	<u>23.8</u>
66.1	90.8	115.9		83.8
13.22	18.16	23.18		16.76
21 14 13.22	21 31 66.16	21 53 23.18	22 23 50.56	22 30 16.76
b +.17	b +.17	+ .18	+ .19	+ .21
c +.10	c +.10	+ .10	+ .10	+ .10
21 14 13.49	21 32 06.43	21 53 23.46	22 23 50.85	22 30 16.87
21 14 24.15	21 32 17.21		22 23 11.57	22 30 27.96
10.66	10.78		10.72	11.09

Aug. $2\frac{1}{2}$ 1858

Ill. East.

W.C.B.			A. Hall			"			"		
γ Canis maj			α^2 Geminor			α Canis min			β Geminor		
6	38	35.3	7	25	13.8	7	31	34.6	7	36	19.2
		39.3			18.0			38.3			23.3
		42.9			22.0			41.8			27.2
		46.3			26.0			45.2			31.1
		<u>50.0</u>			<u>30.3</u>			<u>48.8</u>			<u>35.1</u>
		213.8			110.1			208.7			135.9
		42.76			22.02			41.74			27.18
6	38	42.78	7	25	22.02	7	31	41.74	7	36	27.18

Aug. 25. 1858

Ill. East.

A.H.

Polaris S.P.	μ Hercules	γ Draconis	μ Sagittarii
-----	17 40 36.8	17 52 37.0	18 5 0.4
13 5 39.9	40.8	2.9	4.3
7 50.3	44.6	8.3	8.0
-----	48.3	13.9	11.6
-----	52.5	19.6	15.4
	223.0	101.7	39.7
	44.60	20.34	7.94
	17 40 44.60	17 53 8.34	18 5 7.94

Aug. 29/30. 1858

Moon Culmination

Ill. East.

A.H.

1858

γ Arietis	θ Arietis	γ Beti	Moon II.V	δ Arietis
2 4 34.3	2 9 57.0	2 35 40.0	2 55 14.5	3 3 15.8
38.2	0.8	43.4	18.7	17.3
41.9	4.5	47.0	22.4	21.1
45.5	8.0	50.2	26.0	24.8
<u>49.4</u>	<u>11.8</u>	<u>53.9</u>	<u>30.0</u>	<u>28.4</u>
209.3	82.1	234.5	111.6	105.4
41.86	16.42	46.90	22.32	21.08
2 4 41.86	2 10 4.42	2 35 46.90	2 55 22.32	3 3 21.08
	- .03	- .04		- .03
	+ .73	+ .26		+ .33
	<u>+ .12</u>	<u>+ .11</u>		<u>+ .12</u>
2 10 4.84	2 35 47.23		3 3 21.50	
2 10 17.22	2 35 49.72		3 3 33.91	
EC - 12.38	EC - 12.49		EC - 12.41	

Aug 29/50

Ill. East.

Aug 30/51 A.M.

A 76.			"			"			"			"		
ϵ Arietis			γ Arietis			δ Geminor			α Canis min			β Geminor		
3	6	27.3	3	12	44.8	7	25	13.1	7	31	34.0	7	36	18.6
		31.1			48.5			17.3			37.5			22.6
		34.9			52.2			21.4			40.9			26.6
		38.4			55.8			25.4			44.3			30.3
		42.3			59.7			29.7			47.8			34.5
		174.0			261.0			106.9			204.5			132.6
		34.80			52.20			21.38			40.90			26.52
3	6	34.80	3	12	52.20	7	25	21.38	7	31	40.90	7	36	26.52
					-.02			+.00			+.01			+.01
					+.35			+.39			+.27			+.037
					+.12			+.18			+.17			+.017
			3	12	52.65	7	25	21.95	7	31	41.35	7	36	27.07
			3	13	5.03	7	25	34.21	7	31	53.59	7	36	39.32
			EC		-12.38	EC		-12.26	EC		-12.24	EC		12.25

Aug 31/32. 1858

Moon Culmination

Ill. East.

A.H.

Auriga			Moon I.I.V.			Capella			β Orionis			β Tauri		
4	47	26.6	5	1	18.0	5	5	52.2	5	7	25.0	5	17	0.9
		30.9			22.1			57.3			28.8			4.9
		35.0			26.0			2.4			32.3			8.8
		39.2			30.1			7.3			35.7			12.7
		<u>43.5</u>			<u>34.1</u>			<u>12.4</u>			<u>39.3</u>			<u>16.7</u>
		175.2			130.3			131.6			161.1			44.0
		35.04			26.06			26.32			32.22			8.80
4	47	35.04	5	1	26.06	5	6	2.32	5	7	32.22	5	17	8.80

Sept ⁵/₆ 1858.

Ill. East.

A. G.			"			"		
α^2 Geminor			α Can min			β Geminor		
7	25	11.7	7	31	32.5	7	36	17.1
		16.0			36.1			21.2
		20.0			39.6			25.1
		23.9			42.9			29.0
		28.2			46.6			33.1
		99.8			197.8			125.5
		19.96			39.54			25.10
7	25	19.96	7	31	39.54	7	36	25.10
		.00			+ .02			+ .01
		+ .39			+ .27			+ .39
		+ .18			+ .15			+ .17
7	25	20.53	7	31	39.98	7	36	25.65
7	25	38.38	7	31	53.73	7	36	39.47
EC		-13.85	EC		-13.75	EC		-13.82

Sept. 8/9. 1858

9/10

Ill. East

W.C. B.			W.C. B.		
B Luminor			B Luminor		
7	36	15.8	7	36	15.2
		19.7			19.2
		23.6			23.2
		27.5			27.0
		<u>31.7</u>			<u>31.2</u>
		118.3			115.8
		23.66			23.16
7	36	23.66	7	36	23.16
		+ .01			+ .01
		+ .40			+ .40
		<u>+ .14</u>			<u>+ .14</u>
7	36	24.23	7	36	23.91
7	36	39.57			39.60
EC		-15.34	EC		-15.89

Sept 13. 1858

Moon Culmination

M. East

AZ			"			"			"		
α Arr. Bor.			ξ Mos. min			Moon I.V			α Scorpii		
15	28	16.3	15	48	17.4	16	11	32.5	16	20	19.1
		20.4			34.3			36.7			23.2
		24.2			31.3			40.6			27.2
		28.0			8.3			44.6			30.8
		<u>32.2</u>			<u>25.4</u>			<u>48.8</u>			<u>34.9</u>
		121.1			136.7			203.2			135.2
		24.22			27.34			40.64			27.04
15	28	24.22	15	48	51.34	16	11	40.64	16	20	27.04

Sept. 14. 1858

Moon Culmination

Ill. East.

$a = -0.07$
 $b = +0.43$
 $c = +0.09$

A.H.

Scorpii	γ Draconis	ϵ Herculis	Moon T.V.	α Ophiuchi
16 20 18.7	16 21 31.1	16 35 30.8	17 6 46.4	17 27 57.3
22.7	38.5	35.0	50.7	1.0
26.6	46.0	39.2	-28° 9' 54.8	4.5
30.4	53.1	43.2	58.8	8.0
34.4	0.2	47.4	3.0	11.2
132.8	169.4	195.6	213.7	82.5
26.56	33.88	39.12	42.74	16.50
16 20 26.56	16 21 45.88	16 35 39.12	17 6 54.74	17 28 4.50
- .07	+ .05	- .01	- .08	- .05
+ .25	+ .86	+ .51	+ .17	+ .39
+ .10	+ .19	+ .11	+ .10	+ .09
16 20 26.84	16 21 46.98	16 35 39.73	17 6 54.93	17 28 4.91
16 20 44.92	16 22 5.33	57.75		17 28 22.92
- 18.08	- 18.35	- 18.02		- 18.01
16 20 44.88			17 7 12.97	17 28 22.95

Sept. 16. 1858

Jl. East.

A. 21

Moon I.V			X' Sagittarii			h ² Sagittarii		
18	57	44.8	19	16	15.0	19	27	41.0
		48.9			18.9	-25	12	45.0
-27	5	52.8	-24	27	22.7			48.7
		56.7			26.4			52.4
		<u>0.7</u>			<u>30.4</u>			<u>56.4</u>
		203.9			113.4			243.5
		40.78			22.68			48.70
18	57	52.78	19	16	22.68	19	27	48.70
		-0.08			-0.07			-0.08
		+0.18			+0.19			+0.19
		+0.10			+0.10			+0.10
18	57	52.98	19	16	22.90	19	27	48.91
			19	16	41.56	19	28	7.67
					-18.66	EC		-18.76

18 58 11.68 19 16 41.61 19 28 7.62

1858. Sept. 17.

 $a = -0.8$ $b = +4.3$ $c = +0.9$

M. East.

G. P. B.

Sagittarius			γ Aquilar			α Aquilar			Moon I.V.			4. Capricor		
19	17	57.3	19	39	7.2	19	43	28.2	19	51	30.9	20	9	18.0
		0.8			10.9			31.8			34.9			21.8
+ 2.50		4.3	+ 10.16		14.4	+ 8.29		35.2	- 24.31		38.8	- 22.15		25.6
		7.7			17.9			38.8			42.6			28.9
		<u>11.3</u>			<u>21.4</u>			<u>42.3</u>			<u>46.9</u>			<u>33.1</u>
		81.4			71.8			176.3			194.1			127.4
		16.28			14.36			35.26			38.82			25.48
19	18	4.28	19	39	14.36	19	43	35.26	19	51	38.82	20	9	25.48
		- .05			- .04			- .05			- .08			- .08
		+ .33			+ .37			+ .36			+ .20			+ .21
		+ .09			+ .09			+ .09			+ .08			+ .08
19	18	4.65	19	39	14.78	19	43	35.66	19	51	39.02	20	09	25.68
19	18	23.30	19	39	33.45	19	43	34.31				20	09	44.60
EC		- 18.65	EC		- 18.67	EC		- 18.65						18.91

19 18 23.33 19 39 33.47 19 43 54.35 19 51 57.72 20 9 44.89

1858 Sept 7/18

 $a = .08$
 $b = +.43$
 $c = +.09$

M. East.

P			P			P		
α Luminorum			α Canis min			β Luminorum		
7	25	6.6	7	31	27.6	7	36	12.0
		11.0			31.2			16.2
+ 32.11	14.7		+ 5.35	34.7		+ 28.22	20.0	
	18.4			37.9			23.9	
	23.2			41.2			28.0	
	74.4			173.1			100.1	
	14.88			34.62			20.02	
7	25	14.88	7	31	34.62	7	36	20.02
	- .02			- .05			- .03	
	+ .50			+ .35			+ .47	
	+ .11			+ .09			+ .10	
7	25	15.47	7	31	35.02	7	36	20.57
7	25	34.78	7	31	54.06	7	36	39.85
EC	- 19.31		EC	- 19.05		EC	- 19.28	

Sept. 18. 1858.

M. East.

a - .08 - .07
 b + .43 + .39
 c + .09 + .08

A. H.

Moon I.V.			32 Vulpecula			♄ Capricorn			♈ Aquarii (clouds)		
20	43	19.4	20	48	6.0	20	57	34.9	21	1	28.7
		23.2			10.0			38.6			32.3
-20.17		27.0	+27.31		13.9	-17.48		42.2	-11.58		36.0
		30.9			17.7			45.8			39.4
		34.9			21.8			49.6			43.2
		135.4			69.4			211.1			179.6
		27.08			13.88			42.22			35.92
20	43	27.08	20	48	13.88	20	57	42.22	21	1	35.92
		-.08			-.03			-.07			-.07
		+.22			+.46			+.23			+.26
		+.08			+.09			+.08			+.08
20	43	27.30	20	48	14.40	20	57	42.46	21	01	36.19
			20	48	33.49	20	58	01.62	21	01	55.16
					-19.09			-19.16			18.97
20	43	46.37	20	48	33.47	20	58	1.53	21	1	55.26

Sept. 20. 1858.

 $a = .08$
 $b = .43$
 $c = .09$

Ill. East.

A.H.

u Capricorn			v Aquarii			Moon I.V.			γ Aquarii			β Aquarii		
21	45	9.4	21	58	22.3	22	21	33.7	22	27	39.8	22	35	25.7
		13.0			26.0			37.3			43.4			29.2
-14.13		16.7	-14.33		29.5	-10.29		40.9	-0.57		46.9	-7.42		32.7
		20.1			33.0			44.4			50.2			36.1
		23.8			36.7			48.1			53.9			39.9
		83.0			147.5			204.4			234.2			163.6
		16.60			29.50			40.88			46.84			32.72
21	45	16.60	21	58	29.50	22	21	40.88	22	27	46.84	22	35	32.72
		-.07			-.07			-.07			-.06			-.07
		+.25			+.25			+.27			+.32			+.28
		+.09			+.09			+.09			+.09			+.09
21	45	16.87	21	58	29.77	22	21	41.17	22	27	47.19	22	35	33.02
21	45	37.08	21	58	49.98				22	28	7.28	22	35	53.10
		-20.26			-20.21						20.09			20.08
21	45	36.99	21	58	49.89	22	22	1.29	22	28	7.31	22	35	53.14
			21	46	-20.21									
			21	58	20.21									
			22	28	20.09									
			22	36	20.08									
			22	50	20.05									
			22	57	20.13									
					20.12									

Sept. 20. 1858.

A.H.			" "			Ill. East Sept. 24 th A.H.			" "			" "		
Fomalhaut.			α Pegasi			α^2 Geminor			α Canis min			β Geminor		
22	49	23.9	22	57	17.2	7	24	1.0	7	31	21.9	7	36	6.6
		28.0			20.9			5.4			25.8			10.8
		32.0			24.4			9.3			29.1			14.5
		36.0			27.9			13.2			32.4			18.4
		40.2			31.6			17.7			36.0			22.6
		160.1			222.0			46.6			145.2			72.9
		32.02			24.40			9.32			29.04			14.58
22	49	32.02	22	57	24.40	7	24	9.32	7	31	29.04	7	36	14.58
		-.05			-.02			-.01			-.03			-.01
		+.14			+.39			+.37			+.26			+.33
		+.10			+.09			+.08			+.08			+.08
22	49	32.16	22	57	24.86	7	24	9.76	7	31	29.35	7	36	14.98
22	49	32.25	22	57	44.99	7	25	36.04	7	31	34.25	7	36	20.08
80	-	20.09			-20.13	80	-	25.28	80	-	24.90		0	25.18

22 49 52.28 22 57 44.98

Sept. 27. 1858

$a = -0.09$
 $b = +0.35$
 $c = +0.05$

Ill. East.

A.H.			"			"			"			"		
α Tauri			τ Tauri			D 11 Limit			γ Aurigae			ϵ Leporis		
4	27	13.1	4	33	9.4	4	41	14.9	4	47	10.8	4	58	53.0
		16.8			13.8			19.0			15.0			56.9
		20.4	+22	09	17.6	+27	30	23.0	+33		19.0	-23		0.5
		24.0			21.3			27.0			23.2			4.1
		27.8			25.2			31.1			27.6			8.1
		102.1			87.8			115.0			95.6			122.6
		20.42			17.56			23.00			19.12			24.52
4	27	20.42	4	33	17.56	4	41	23.00	4	47	19.12	4	59	0.52
		-.04			-.04			-.03			-.02			-.09
		+.33			+.36			+.38			+.41			+.16
		+.05			+.05			+.05			+.06			+.05
4	27	20.76	4	33	17.93	4	41	23.40	4	47	19.57	4	59	0.72
4	27	50.12	4	33	47.21			48.93	4	47	48.93	4	59	29.72
		-29.36			-29.28						-29.36			29.00
4	27	50.06	4	33	47.23	4	41	52.70	4	47	48.87	4	59	30.02

Sept. 27. 1858.

M. East

a. - .09

b + .35

c + .05

A.H.

Auriga			β Orionis			γ Auriga			δ Orionis			α Leporis		
5	5	36.2	5	7	9.4	5	22	54.8	5	24	11.6	5	25	53.9
		41.3			13.0			59.0			15.3			57.6
		46.3			16.4	+32		3.1			18.4			1.2
		51.0			19.8			7.1			21.8			4.8
		<u>56.5</u>			<u>23.3</u>			<u>11.3</u>			<u>25.6</u>			<u>8.8</u>
		231.3			81.9			135.3			92.7			126.3
		46.26			16.38			27.06			18.54			25.26
5	5	46.26	5	7	16.38	5	23	3.06	5	24	18.54	5	26	1.26
		+ .01			- .07			- .02			- .06			- .08
		+ .49			+ .22			+ .41			+ .26			+ .19
		+ .07			+ .05			+ .06			+ .05			+ .05
5	5	46.83	5	7	16.58	5	23	3.51	5	24	18.81	5	26	1.42
5	6	16.51	5	7	45.74	5	23	32.56	5	24	48.15	5	26	30.71
		- 29.68			- 29.16			- 29.05			- 29.34			- 29.29
		29.31			29.31						29.33			29.33
5	6	16.14	5	7	45.89	5	23	32.81	5	24	48.14	5	26	30.75

Sept 29. 1858

Ill. East.

A. G.

48 Aurigae			ε Geminor			α Canis maj			Moon 11 dim		
6	18	49.0	6	34	34.5	6	38	15.8	6	54	40.7
		53.3			38.5			19.7			44.8
+30	35	57.3	+25	16	42.2			23.3			48.7
		1.1			46.0			26.9			52.5
		5.5			50.0			30.6			56.9
		166.2			211.2			116.3			243.6
		33.24			42.24			23.26			48.72
6	18	57.24	6	34	42.24	6	38	23.26	6	54	48.72

Intervals of Wires of Transit Circle

By 16 Equatorial Stars	E to C	7.02	D to C	3.43	B to C	3.38	A to C	7.00
21 β Geminorum	"	7.02	"	3.38	"	3.44	"	7.04
10 β Tauri	"	7.04	"	3.42	"	3.46	"	7.04
Mean		7.03		3.41		3.43		7.03

Mean of wires is between C & B Dist = 0.004

The above were determined from Mr Hall's obs from
Nov 3 1847 to Sept 27th 1858 by Rev. C. W. Pritchett

A is the first wire transited when the Ill. is East.

3
7.00
04,
04,
03

m

Sept 30 1838

Ill. East.

A. H.			Oct 2. A. H.			"			32 V. specul.		
δ Luminor			α^2 Capricor			α Cygni					
7	10	59.8	20	9	31.2	20	35	51.7	20	47	49.6
		3.5			35.0			57.0			53.5
		7.2			38.5			2.0			57.4
		10.9			42.0			6.8			1.3
		14.9			45.6			11.8			5.4
		96.3			192.3			128.8			167.2
		19.26			38.46			25.76			33.44
7	11	7.26	20	9	38.46	20	35	1.76	20	47	57.44
		-.04			-.10			+0.01			-.04
		+.37			+.22			+.52			+.40
		+.04			+.04			+.06			+.04
7	11	7.63	20	9	38.62	20	35	2.35	20	47	57.84
7	11	41.37	20	10	13.79	20	36	37.71	20	48	33.27
EC		-33.74	EC		-35.17	EC		-35.36	EC		-35.43

Oct 5- 1858

Ill. East
AZ

W.C.B			"			AZ			P.			P		
δ Ophiuchi			δ Ophiuchi			γ Draconis			32 Vulpeculae			61 Cygni		
16	19	58.2	16	6	10.8	17	52	29.0	21	47	46.5	21	59	46.9
		9.2			14.4			34.5			50.2			51.3
		6.2			17.8			40.3			54.3			55.8
		10.0			21.1			45.8			58.2			59.8
		14.0			24.8			56.6			90			4.6
		90.6			88.9			206.6			211.2			218.6
		18.12			17.78			40.32			42.24			43.72
16	20	6.12	16	6	17.78	17	52	40.32	21	47	54.24	21	59	55.72
		-.12			-.10			+.03			-.04			
		+.16			+.28			+.64			+.44			
		+.14			+.13			+.24			+.15			
16	20	6.30	16	6	18.09	17	52	41.20	20	47	54.79			
16	20	45.07	16	6	36.70	17	53	19.30	20	48	33.24			
EC		-38.77	EC		-38.61			38.10			38.45			

Oct 5 1858

U.P.S.

O.N.P.

Ill Ess

W.C.B

H

Zomalhatt

 α^2 Gemini α Coma min

22	49	5.8	7	24	47.8	7	31	8.6
		10.0			52.2			12.2
		13.9			56.2			15.7
		17.8			0.2			19.2
		<u>21.9</u>			<u>4.4</u>			<u>22.8</u>
		69.4			160.8			78.5
		13.88			32.16			15.70
22	49	13.88	7	24	56.16	7	31	15.70
					-.03			-.07
					+ .27			+ .32
					<u>+ .15</u>			<u>+ .13</u>
			7	24	56.75	7	31	16.08
				25	35.45		31	54.62
			ee		-38.70			-38.54

Oct 6. 1858

Ill. East.

P			P			Oct 7 ⁸ W.C.B			W.C.B			W.C.B		
λ us min			α Cygni			α Geminor			α Geminor			α Canis min		
20	57	40.8	20	35	48.0	7	24	46.9				7	31	7.9
	0	53.4			52.8			51.2			51.5			11.7
	3	56.4			57.8			55.2			55.7			15.1
	6	48.7			2.1			59.1			59.5			18.3
	9	58.4			7.9			3.2			3.8			22.2
		257.7			168.6			215.6						75.2
		51.54			33.72			43.12						15.04
20	3	51.54	20	35	33.72	7	24	55.12				7	31	15.04
					+ .01									- .15
					+ .63									+ .40
					+ .14									+ .08
			20	36	38.50							7	31	15.37
			20	36	37.62							7	31	54.59
					39.12							EC		- 39.22

Oct 8. 1858

Ill. East

A. H.

α Cephei			β Aquarii			ϵ Pegasi		
21	14	17.3	21	23	21.8	21	36	29.0
		25.0			25.3			32.6
		32.2			28.7			36.2
		40.0			32.0			39.7
		46.9			35.6			43.3
		161.4			143.4			180.8
		32.28			28.68			36.16
21	14	32.28	21	23	28.68	21	36	36.16
		+ .18			- .19			- .14
		+ 1.00			+ .33			+ .42
		+ 0.17			+ .08			+ .08
21	14	33.63	21	23	28.90	21	36	36.52
21	15	13.13	21	24	8.37	21	37	16.00
EC		- 39.50	EC		- 39.47	EC		- 39.48

Oct. 11 1858

Ill. East

A H

β Draconis			α Ophiuchi			μ Hirculis			γ Draconis		
17	26	19.6	17	27	33.0	17	40	5.2	17	52	25.0
		25.4			36.8			9.2			30.7
		31.1			40.3			13.2			36.2
		36.8			43.8			---			41.8
		42.7			47.5			21.1			47.4
		155.6			201.4						181.1
		31.12			40.28						36.22
17	26	31.12	17	27	40.28				17	52	36.22
		+ .07			- .13						+ .06
		+ .80			+ .45						+ .80
		+ .13			+ .08						+ .13
17	26	32.12	17	27	40.68				17	52	37.21
17	27	13.85	17	28	22.49				17	52	19.10
EC		- 41.73	EC		- 41.81				EC		- 41.89

Oct 15, 1858.

Ill. East.

 $a = .24$
 $b = .45$
 $c = .05$


Oct 15-

L. W. Pritchett

A. G.			E. Aquilae			w. Aquilae			S. Aquilae			b. Sagittarii		
β Lyrae														
18	43	56.9	18	58	1.7	19	10	18.0	18	17	29.4	19	47	22.2
		1.1			5.4			21.7			33.1			26.2
+ 33.12		5.8	+ 13.39		9.0	+ 11.20		25.1	+ 2.50		36.6	- 27.33		30.0
		9.4			12.4			28.5			40.0			33.8
		<u>13.8</u>			<u>16.1</u>			<u>32.2</u>			<u>43.7</u>			<u>37.8</u>
		86.5			44.6			125.5			182.8			150.0
		17.30			8.9.2			25.10			36.56			30.00
18	43	5.30	18	58	8.92	19	10	25.10	18	17	36.56	19	47	30.00
		-.04			-.12			-.14			-.15			-.26
		+.53			+.41			+.37			+.35			+.18
		<u>+.08</u>			<u>+.07</u>			<u>+.07</u>			<u>+.07</u>			<u>+.03</u>
18	43	5.87	18	58	9.28	19	10	25.54	18	17	36.83	19	47	29.95
18	44	51.77	18	58	55.14	19	11	11.40	18	18	22.82	19	48	17.21
EC	-	45.90	EC	-	45.86	EC	-	45.86	EC	X	- 46.04			47.26
												19	48	17.21

Oct 15

 $\alpha = .26$ $\delta = .45$ $\epsilon = .05$

Moon Culmination

Ill. East

obs by C. W. P

c Sagittarii			Moon's I limb			v Capricorn			v Capricorn			32 Viril peculiar		
19	52	3.9	20	20	51.9	20	31	6.6	20	36	49.8	20	47	37.4
		7.8			55.7			10.3			53.5			41.5
	-28.06	11.7		-22.23	59.4		-18.38	14.0		-25.47	57.3		+27.31	45.2
		15.5			3.0			17.6			1.0			49.1
		19.5			7.3			21.2			5.0			53.2
		58.4			177.3			69.7			166.6			226.4
		11.68			35.46			13.94			33.32			45.28
19	52	11.68	20	20	59.46	20	31	13.94	20	36	57.32	20	47	45.28
		-.26			-.24			-.22			-.24			-.08
		+.18			+.22			+.23			+.20			+.40
		+.03			+.02			+.02			+.03			+.03
19	52	11.63	20	20	59.46	20	31	13.97	20	36	57.31	20	47	45.71
19	53	58.82			47.26	20	32	1.22	20	37	44.65			
		47.19						47.25			47.34			
19	53	58.87	20	21	46.72	20	32	1.23	20	37	44.58			

Oct 18. 1858.

 $\alpha - .24$
 $\beta + .45$
 $\gamma + .05$

M. East.

C. W. P.

61' Cygni			5 " Cygni			α Cephei			θ Aquarii			σ Aquarii		
20	59	35.9	21	5	58.3	21	14	7.3	22	8	27.2	22	22	14.8
		40.2			2.3			14.9			30.8			18.6
+	38.03	44.6	+	29.39	6.2	+	61.59	22.0	-	8.29	34.3	-	11.24	21.9
		48.9			10.1			29.2			37.7			25.4
		<u>53.5</u>			<u>14.2</u>			<u>37.0</u>			<u>41.4</u>			<u>29.0</u>
		223.1			91.1			110.4			172.4			109.7
		44.62			18.22			22.08			34.28			21.94
20	59	44.62	21	6	6.22	21	14	22.08	22	8	34.28	22	22	21.94
		-.02			-.06			+.17			-.19			
		+.57			+.51			+.90			+.30			
		<u>+.08</u>			<u>+.07</u>			<u>+.13</u>			<u>+.06</u>			
20	59	45.25	21	6	6.74	21	14	23.28	22	8	34.45			
21	0	34.44	21	6	56.16	21	15	12.75	22	9	23.97			
EC	-	49.19	EC	-	49.42	EC	-	49.47	EC	-	49.52			

Oct 19. 1858

 $a = .24$
 $b = .45$
 $c = .05$

M. East

Oct 25

These observations put in the wrong place

1858phae. P.

A. H.			"			
α Cygni			32. Vulpecular			
8	20	35	36.7	20	47	34.8
6			41.8			38.7
9	+44.46		46.6	+27.31		42.5
4			51.2			46.2
0			<u>56.4</u>			<u>50.3</u>
7			232.7			212.5
4			46.54			42.50
94	20	35	46.54	20	47	42.50
			+ .01			- .07
			+ .63			+ .50
			+ <u>.08</u>			+ <u>.07</u>
	20	35	47.26	20	47	43.00
	20	36	<u>37.29</u>	20	48	<u>32.99</u>
	EC		- 50.03	EC		- 49.99

A. H.			"		
α Cygni			32 Vulpecular		
20	35	30.2	20	47	28.1
		35.1			32.1
		40.2			35.9
		45.0			39.7
		50.1			43.9
		200.6			179.7
		40.12			35.94
20	35	40.12	20	47	35.94
		+ .02			- .08
		+ .58			+ .45
		+ .03			+ .02
20	35	40.75	20	47	36.33
20	36	37.14	20	48	32.88
		56.39			56.55

Oct. 19. 1858.

a - .25

b + .44

c + .04

Moon Culmination
B. W. P.

Ill. East

Dis. Aust.			α Pegasi			ϵ Aquarii			96 Aquarii			Moon's 1 st Limit		
22	48	53.6	22	56	46.9	23	6	4.4	23	11	8.3	23	34	29.2
		57.7			50.4			7.9			12.0			32.9
- 30.22		1.8	+ 14.26		54.2	- 6.49		11.1	- 5.54		15.5	- 0.50		36.6
		5.4			57.5			14.8			18.7			39.9
		9.8			1.2			18.2			22.5			43.2
		128.3			210.2			56.4			77.0			182.3
		25.66			42.04			11.28			15.40			36.46
22	48	25.66	22	56	54.04	23	6	11.28	23	11	15.40	23	34	36.46
		- .28			- .12			- .19			- .19			- .16
		+ 16			+ 39			+ .29			+ .29			+ .32
		+ 05			+ 05			+ .04			+ .04			+ .04
22	49	01.59	22	56	54.36	23	06	11.42	23	11	15.54	23	34	36.66
22	49	52.05	22	57	44.87	23	07	01.93	23	12	05.99			50.50
		50.46			50.51			50.51			50.45			
22	49	52.06	22	57	44.84	23	7	1.91	23	12	6.93	23	35	27.16

Oct. 19. 1838

Oct. 20

Ill. East.

C.W.D.

A.H.

21 Piscium	32 Vulpeculae	61 Cygni	61 ² Cygni	ε Cygni
23 41 17.4	20 47 33.3	20 59 33.9	20 59 35.3	21 5 56.3
21.0	37.4	38.4	40.0	0.5
+0.17 24.6	+27.31 41.2	+38.03 42.8	+38.03 44.2	+29.38 4.4
27.9	45.1	47.0	48.5	8.2
31.3	49.2	51.8	53.2	12.4
122.2	206.2	213.9	221.2	81.8
24.44	41.24	42.78	44.24	16.36
23 41 24.44	20 47 41.24	20 59 42.78	20 59 44.24	21 6 4.36
- .16	- .07	-.03	-.03	-.06
+ .32	+ .50	+ .55	+ .55	+ .51
+ .04	+ .07	+ .06	+ .06	+ .07
23 .. 41 .. 24.64	20 47 41.74	20 .. 59 .. 43.36	20 .. 59 .. 44.83	21 6 4.88
23 .. 42 .. 15.23	20 48 32.97	21 .. 00 .. 34.42		21 6 46.12
50.59	εε -57.23	51.06		51.24
	20. 47.. 41.24			21..06.. 04.36
23 42 15.15	- .09			- .06
	+ .48			+ .57
	+ .05			+ .05
	20 .. 47 .. 41.68			21 .. 06 .. 04.86
	20 .. 48 .. 32.97			21 .. 06 .. 56.12
	51.29			51.26

Oct. 26. 1858

Ill. East.

A 26

α Cygni			32 Vulpecular			20 δ^1 Cygni			61 ² Cygni			ϵ Cygni		
20	35	28.9	20	47	27.0	20	59	27.4	20	59	28.9	21	5	50.0
		33.9			31.0			31.8			33.2			54.2
		38.8			34.8			36.2			37.8			58.0
		43.7			38.6			40.7			42.2			1.9
		48.8			42.8			45.2			46.7			6.1
		194.1			174.2			181.3			188.8			170.2
		38.82			34.84			36.26			37.76			34.04
20	35	38.82	20	47	34.84	20	59	36.26	20	59	37.76	21	5	58.04
		+ .02			- .08									- .07
		+ .58			+ .45									+ .46
		+ .03			+ .002									+ .02
20	35	39.45	20	47	35.23							21	5	58.45
20	36	37.11	20	48	32.87							21	6	56.02
		57.66			57.64									57.57

Oct 27. 1858

Ill East

A 26

 α Cygni

32 " Vulpecular

0.0	20	35	28.9	20	47	27.0
0.2			34.0			31.0
8.0			38.8			34.8
1.9			43.8			38.6
6.1			48.7			42.8
0.2			194.2			174.2
0.4			38.84			34.84
0.4	20	35	38.84	20	47	34.84
0.7			+02			-.08
46			+58			+45
0.2			403			+1.02
45	20	35	39.47	20	47	35.23
0.2	20	36	37.03	20	48	32.81
57			57.56			57.58

Oct 28. 1858

Ill. East

A.H.

α Cygni			32 Vulpecular			61' Cygni			61 ² Cygni			ϵ Cygni		
20	35	29.0	20	47	27.0	20	59	27.5	20	59	29.0	21	5	49.9
		34.2			31.1			32.0			33.4			54.1
		39.1			35.0			36.3			38.0			58.0
		43.8			38.8			40.8			42.2			2.0
		49.0			42.8			45.2			46.8			6.2
		195.1			174.7			181.8			189.4			170.2
		39.02			34.94			36.36			39.88			34.04
20	35	39.02	20	47	34.94	20	59	36.36	20	59	37.88	21	5	58.04
		+ .02			- .08			- .03						- .07
		+ .58			+ .45			+ .52						+ .46
		+ .03			+ .02			+ .03						+ .02
20	35	39.65	20	47	35.33	20	59	36.88				21	5	58.45
20	36	37.06	20	48	32.83	21	0	34.24				21	6	55.98
		57.41			57.50			57.36						57.53

1858. Nov. 1

W.C.B.			Nov. 8 A.H.			Ill. East			Nov. 9/10. A.H.					
α Lyrae			& Pegasi.			16 Pegasi.			δ Aquarii. (Lands' mount, out.)			δ Leonis		
18	31	0.5	21	36	12.2	21	45	34.7	22	8	20.7	11	5	31.8
		5.3			15.9			38.8			24.2			---
		9.7			19.3			42.5			27.8			39.3
		14.1			22.8			46.0			31.2			43.0
		18.7			26.4			50.1			34.8			47.0
		48.3			96.6			212.1			138.7			
		9.66			19.32			42.42			27.74			
18	31	9.66	21	36	19.32	21	46	42.42	22	8	27.74			
		+ 0.59			-.21			-.13			-.30			
18	31	10.25			+.23			+.28			+.17			
	32	8.75			+.04			+.04			+.04			
80		- 58.50	21	36	19.38	21	45	42.53	22	8	27.65			
			21	37	15.60	21	46	38.79	22	9	23.72			
					56.22			56.26			56.07			

Nov. 11. 1858.

A. H.

Moon I. V.

19 59 43.2
 47.1
 51.1
 54.9
 59.0
 255.3
 51.06

19 59 51.06

Nov. 12

A. H.

 α Aquilae

19 42 49.7
 53.3
 56.8
 0.3
 4.0
 164.1
 328.2

19 42 56.82

- .30
 + .24
 + .01

19 42 56.75

19 43 53.47

80 - 56.72

M. East.

 β Aquilae

19 47 18.9
 22.4
 25.9
 29.2
 32.9
 129.3
 25.86

19 47 25.86

1- .32
 + .23
 + .01

19 47 25.78

19 48 22.50

80 - 56.72

16. Pegasi

21 45 34.2
 38.0
 41.9
 45.8
 49.5
 209.4
 41.88

21 45 41.88

- .30
 + .24
 + .01

21 45 41.83

21 46 38.73

80 - 56.90

The moon was observed on Nov. 12 by G. W. P. but the record is doubtful.
 A. H.

Nov. 15. 1858

M. East

A. H.			" "			" "		
12 beti			α Cassiopeae			β beti		
0	21	48.1	0	31	22.2	0	35	28.0
		51.8			28.9			31.9
		55.2			35.0			35.5
		58.7			41.0			39.0
		2.3			47.8			42.9
		216.1			174.9			177.3
		43.22			35.98			35.46
0	21	55.22	0	31	35.98	0	35	35.46
		-.40			+.21			-.49
		+.19			+.48			+.14
		+.01			+.02			+.01
0	21	55.02	0	31	36.69	0	35	35.12
0	22	51.50	0	32	32.53	0	36	31.64
		56.48			55.84			56.52

Nov 16.

M. East.

A.H.

Moon I.V.				γ Pegasi		δ Piscium		α Cassiopeae	
23	58	48.0?	0	4	55.2	0	12	17.4	0 31 22.5
(Bathym bad.)		52.0?			59.1			21.3	28.8
		56.1			2.6			24.8	35.0
+2	35	59.5	+ 14	24	6.1	+ 7	24	28.2	40.9
		3.3			9.8			31.8	47.4
					132.8			123.5	174.6
					26.56			24.70	34.92
23	58	56.16	0	5	2.56	0	12	24.70	0 31 34.92
					-0.31			-0.34	
					+0.20			+0.18	
23	58	56.16			+0.02			+0.02	
23	58	56.000		5	2.47	0	12	24.56	
		56.900		5	59.32	0	13	21.54	
				0	56.85		0	56.98	
23	59	52.900		5	59.37	0	13	21.46	

Nov. 17. 1858

M. East.

 $a = -0.61$
 $b = +0.22$
 $c = +0.02$

A. H.			"			"			"			"		
θ Aquarii			η Aquarii			ζ Pegasi			α Dis. Ans.			α Pegasi		
22	8	20.0	22	27	3.2	22	33	22.2	22	48	47.2	22	56	40.4
		23.6			6.8			25.8			51.5			44.2
		27.0			10.2			29.2			55.4			47.8
		30.4			13.6			32.7			59.3			51.2
		34.2			17.2			36.3			63.6			55.0
		135.2			51.0			146.2			217.0			238.6
		27.04			10.20			29.24			43.40			47.72
22	8	27.04	22	27	10.20	22	33	29.24	22	48	55.40	22	56	47.72
		- .49			- .43			- .33			- .67			- .30
		+ .14			+ .16			+ .19			+ .07			+ .20
		+ .02			+ .02			+ .02			+ .02			+ .02
22	8	26.71	22	27	9.95	22	33	29.12	22	48	54.82	22	56	47.64
22	9	23.61	22	28	6.78	22	34	25.91	22	49	51.71	22	57	44.59
		56.90			56.83			56.79			56.89			56.95
								89						
								95						
								83						
								90						
								436						
								56.87						

Nov. 18. 1858

$$a = -.60$$

$$b = +.25$$

$$c = +.02$$

M. East.

~~A.H.~~ W.B.B.			G.W.P.			♂ Piscium			Moon I.V.			i Arietis		
γ Aquilae			ε Piscium			♂ Piscium			Moon I.V.			i Arietis		
19	38	28.30	54	34.6	1	5	18.9	1	41	33.1	1	48	35.9	1
		32.0		38.0			22.4			37.0			39.4	
		35.7	+7° 8'	41.6		+6° 49'	26.0		+14° 44'	40.5		+17° 7'	43.2	
		38.9		44.9			29.2			44.0			46.6	
		42.6		48.7			33.1			47.9			50.3	
		177.5		207.8			129.6			202.5			215.4	
		35.50		41.56			25.92			40.50			43.08	
19	38	35.50	0	54	41.56	1	5	25.92	1	41	40.50	1	48	43.08
					-.35			-.35			-.29			-.29
					+.21			+.21			+.23			+.23
					+.02			+.02			+.02			+.02
			0	54	41.44	1	5	25.80	1	41	40.46	1	48	43.06
			0	55	38.60	1	6	22.93			57.22	1	49	40.41
			E6		-57.16			-57.13	1	42	37.68			57.35
Transit by E.C.														
			0	54	41.44	1	5	25.80	1	41	40.46	1	48	43.06
								57.14			57.22			57.23
E.C. slow														
			0	55	38.58	1	6	22.94	1	42	37.68	1	49	40.29

Nov. 18 1858

$$a = -.59$$

$$b = +.29$$

$$c = +.02$$

Nov. 19.

Ill. East.

L. W. P. ~~Antichute~~			L. W. P.			" "			" "			67. beti		
α Arietis			γ Arietis			i Arietis			α Arietis					
1	58	10.2	1	44	44.0	1	48	35.5	1	58	10.1	2	8	54.2
		14.0			48.1			39.5			13.8			58.1
		17.8	+18°	36	51.5	+17°	7	43.0			17.8			1.4
		21.3			55.0			46.6			21.2			4.8
		25.2			59.2			50.0			25.1			8.2
		88.5			257.8			214.6			88.0			126.7
		17.70			51.56			42.92			17.60			25.34
1	58	17.70	1	44	51.56	1	48	42.92	1	58	17.60	2	9	1.34
		-.22			-.25			-.27			-.22			
		+.25			+.28			+.27			+.30			
		+.02			+.02			+.02			+.02			
1	58	17.75	1	44	51.61	1	48	42.94	1	58	17.70			
1	59	14.97	1	45	48.98	1	49	40.41	1	59	14.97			
		57.22			57.37			57.47			57.27			
1	58	17.75	1	44	51.61	1	48	42.94	1	58	17.70			
		57.23			57.34			57.34			57.34			
1	59	14.98	1	45	48.95	1	49	40.28	1	59	15.04			

Nov. 19. 1858

M. East.

L. W. P.

ϵ^1 Ceti			Moon I.V.			ϵ Arietis			δ Arietis		
2	19	36.8	2	39	42.7	2	50	5.8	3	5	44.4
		40.5			46.2			9.4			48.4
+7°	49	44.0	+20	21	50.8	+20	46	13.2	+20	31	52.2
		47.2			54.1			16.8			55.9
		51.0			58.0			20.8			59.4
		219.5			251.8			66.0			260.3
		43.90			50.36			13.20			52.06
2	19	43.90	2	39	50.36	2	50	13.20	3	5	52.06
		-.34			-.24			-.24			-.24
		+.24			+.29			+.29			+.29
		+.02			+.02			+.02			+.02
2	19	43.82	2	39	50.43	2	50	13.27	3	5	52.13
2	20	41.13			57.33	2	51	10.60	3	6	49.38
		57.31	2	40	47.76			57.33			57.25
								31			
2	19	43.82	2	39	50.43	2	50	13.27	3	5	52.13
		57.33			57.33			57.33			57.33
2	20	41.15	2	40	47.76	2	51	10.60	3	6	49.46
								57.33			
								57.33			

Nov. ¹⁹/₂₀ 18.58

Ill. East.

A. H.

Polaris S.P

a Virginis

13	2	47.1	13	16	40.5
	5	9.2			44.2
	7	25.5			47.9
	9	44.9			51.2
	12	8.6			55.0
		135.3			238.8
		27.06			47.76
13	7	27.06	13	16	47.76

Nov. 22, 1858

W. East

A. H.

"

"

"

"

Aquarii			Aquarii			Pegasi			Pis. Aus.			Pegasi		
21	57	26.9	22	8	18.0	22	33	20.2	22	48	45.3	22	56	38.6
		30.5			21.6			23.9			44.6			42.2
		34.0			25.2			27.4			53.6			46.0
		37.3			28.6			30.8			57.4			49.3
		41.0			32.2			34.4			1.7			53.0
		169.7			125.6			136.7			207.6			229.1
		33.94			25.12			27.34			41.52			45.82
21	57	33.94	22	8	25.12	22	33	27.34	22	48	53.52	22	56	45.82
								-.32						-.29
								+.24						+.25
								+.02						+.02
						22	33	27.28				22	56	45.60
						22	34	25.85				22	57	44.53
								58.57						58.73

Nov. 26. 1858

M. East

A. H.

η Aquarii			ζ Pegasi			α Pegasi		
22	26	59.3	22	33	18.2	22	56	36.6
		2.9			21.8			40.3
		6.2			25.3			43.8
		9.5			28.8			47.3
		<u>13.2</u>			<u>32.5</u>			<u>51.2</u>
		91.1			126.6			219.2
		18.22			25.32			43.84
22	27	6.22	22	33	25.32	22	56	43.84
		-.40			-.31			-.29
		+.12			+.14			+.15
		<u>+.00</u>			<u>+.00</u>			<u>+.00</u>
22	27	59.4	22	33	25.15	22	56	43.70
22	28	6.68	22	34	25.80	22	57	44.48
80	-1	0.74		1	0.65		1	0.78

80 slow 1" 0.72

Nov. $\frac{28}{29}$ 18 58 Nov. 29?
 $a = -0.58$
 $b = +0.16$
 $c = +0.08$

M. East

A. H.

α Leonis (clouds)			β Leonis			γ Urs. Maj			Moon II.V		
12	28	34.0	12	40	41.5	12	45	8.5	12	52	27.5
		37.3			45.3			14.5			31.0
0		40.8			49.0			20.5	-7	49	34.7
		44.2			52.6			26.4			38.2
		48.0			56.2			32.5			42.0
		204.3			244.6			102.4			173.4
		40.86			48.92			20.48			34.68
12	28	40.86	12	40	48.92	12	45	20.48	12	52	34.68
		-.39			-.27			+.21			-.46
		+.12			+.15			+.27			+.10
		-.01			-.01			-.02			-.01
12	28	40.58	11	40	48.79	12	45	20.94	11	52	34.31
12	29	43.60	11	41	51.73	12	46	23.95			2.99
-	1	3.02	-	1	2.94		1	3.02			

12 29 43.57 11 41 51.78

11 53 37.30

Nov. 30. 1858

All East

No $\frac{30}{31}$ A. H.

A. 76.			" " No 30 A. 76.			" " " " " " " "					
α Pegasi			γ Piscium			α Virginis			Morn II.V.		
22	56	33.5	23	8	41.1	13	16	34.4	13	28	8.9
		37.2			44.8			38.2			12.7
		40.9			48.1			41.7	-13	34	16.3
		44.2			51.4			45.2			19.8
		48.0			55.0			48.7			23.5
		203.8			240.4			208.2			81.2
		40.76			48.08			41.64			16.24
22	56	40.76	23	8	48.08	13	16	41.64	13	28	16.24
								-.46			-.50
								+.10			+.09
								-.02			-.02
						13	16	41.26	13	28	15.81
						13	17	45.29		1	4.03
						-1		4.03	13	29	19.84
						13	17	45.29	13	29	19.84

Dec 1. 1858

Ill. East

A.H.

γ Piscium			δ Piscium		
23	8	40.1	23	18	31.3
		43.9			34.9
		47.3			38.4
		50.7			41.8
		<u>54.2</u>			<u>45.2</u>
		236.2			191.6
		47.24			38.32
23	8	47.24	23	18	38.32
		-.37			-.38
		+ .12			<u>+ .12</u>
		<u>00</u>			<u>00</u>
23	8	46.99	23	18	38.06
23	9	<u>51.64</u>	23	19	<u>42.63</u>
1		4.65	1		4.57

Dec 5/6 1858

Ill. East

A. H.			" "			" "			" "		
η Virginis			β Corvi			γ Virginis (very faint)			12 Can. Ven.		
12	11	24.8	12	25	41.8	12	33	14.1	12	48	6.2
		28.6			45.7			17.8			11.1
		32.0			49.4			21.3			15.7
		35.3			53.0			24.7			19.9
		<u>39.0</u>			<u>57.0</u>			<u>28.1</u>			<u>24.9</u>
		159.7			246.9			106.0			77.8
		31.94			49.38			21.20			15.56
12	11	31.94	12	25	49.38	12	33	21.20	12	48	15.56
		-.39			-.57			-.39			-.04
		+1.12			+1.07			+1.12			+1.21
		<u>.00</u>			<u>.00</u>	12	33	20.93	12	48	15.73
12	11	31.67	12	25	48.88				12	49	25.66
			12	26	58.51					1	9.93
				1	9.63						

Dec 8/9. 1858

$$\begin{array}{l} a - .57 \\ b + .13 \\ c - .07 \end{array}$$
Dec ¹⁰~~8~~

M. East.

A.H. Spica			" Moon I.V.			" β Aquarii			" ϵ Pegasi			" δ Capricor		
13	16	26.0	21	19	40.0	21	22	46.8	21	35	54.0	21	37	53.9
		29.7			44.0			50.6			57.8			57.8
		33.1	-16	40	47.7			54.0			1.2	-16	46	1.3
		36.4			51.2			57.3			4.7			5.1
		40.1			55.2			1.0			8.4			8.8
		165.3			238.1			209.7			126.1			126.9
		33.06			47.62			41.94			25.22			25.38
13	16	33.06	21	19	47.62	21	22	53.94	21	36	1.22	21	38	1.38
					-.51			-.43			-.32			-.51
					+.07			+.09			+.11			+.07
					-.07			-.07			-.07			-.07
			21	19	47.11	21	22	53.53	21	36	0.94	21	38	0.87
				1	14.14	21	24	7.59	21	37	15.20	21	39	14.97
						-1		14.06		1	14.26		-1	14.10
			21	21	1.25	21	24	7.67	21	37	15.08	21	39	15.01

Dec ¹⁵/₁₆ 1858

Ill. East

A H.

β Corvi			γ Virginis			12 Can. Ven.		
12	25	30.4	12	33	2.5	12	47	55.4
		34.4			6.5			0.1
		38.2			9.8			4.4
		42.0			13.2			8.8
		<u>46.0</u>			<u>17.0</u>			<u>13.1</u>
		191.0			49.0			81.8
		38.20			9.80			16.36
12	25	38.20	12	33	9.80	12	48	4.36
		-.58			-.41			-.04
		+.06			+.09			+.17
		<u>-.11</u>			<u>-.10</u>			<u>-.13</u>
12	25	37.57	12	33	9.88	12	48	4.36
12	26	38.89	12	34	31.00	12	49	25.68
1		21.32	1		21.62	1		21.32

Dec 16. 1858

Ill. East

C - .02

АХ

46 γ Piscium			101 Piscium			β Arietis			α Arietis			Moon I.D.		
1	22	28.7	1	26	46.5	1	45	23.3	1	57	45.5	2	8	3.0
		32.3			50.2			27.1			49.6			6.8
+14	37	36.0	+13	56	53.9	+20		30.9			53.3	+18		10.3
		39.4			57.3			34.4			57.0			13.9
		<u>43.2</u>			<u>1.0</u>			<u>38.3</u>			<u>1.0</u>			<u>18.0</u>
		179.6			208.9			154.0			206.4			52.0
		35.92			41.78			30.80			41.28			10.40
1	22	35.92	1	26	53.78	1	45	30.80	1	57	53.28	2	8	10.40
		-.25			-.26			-.21			-.19			-.23
		+.13			+.13			+.14			+.14			+.13
		-.02			-.02			-.02			-.02			-.02
1	22	35.78	1	26	53.63	1	45	30.71	1	57	53.21	2	8	10.28
1	23	57.36	1	28	15.24	1	46	52.36	1	59	14.91			
-1		21.58	-1		21.61	-1		21.65	-1		21.70			

1 23 57.41 1 28 15.26 1 46 52.36 1 59 14.86 2 9 31.95 2

1	23	-1 ^m	21.58 ^s
1	27		21.61
1	46		21.65
1	58		21.70
2	<u>40</u>		21.76
	194		
	60		
1	51	-1	21.65

Dec 16. 18 58

Dec 20

Ill. East

Dec 22.

A _H			A _H			A _H			A _H		
π Arietis			α Cassiopei			β beti			ε Piscium		
2	39	58.0	0	30	53.9	0	34	58.3	0	54	5.6
		1.8			0.2			2.2			9.1
+ 16	52	5.3			6.4			5.9			12.7
		8.9			12.3			9.3			16.0
		<u>12.8</u>			<u>18.9</u>			<u>13.2</u>			<u>19.7</u>
		86.8			91.7			88.9			63.1
		17.3.6			18.34			17.78			12.62
2	40	5.36	0	31	6.34	0	35	5.78	0	54	12.62
		- .23			+ .21			- .48			- .30
		+ .13			+ .24			+ .07			+ .12
		- .02			- .03			- .02			- .02
2	40	5.24	0	31	6.76	0	35	5.35	0	54	12.42
2	41	27.00	0	32	31.81	0	36	31.28	0	55	38.36
-1		21.76		1	25.05	EC	-1	25.93	EC	-1	25.94
2	41	26.92									

Dec 27, 1858

Ill. East.

 $a = -0.65$
 $L = +0.10$
 $c = +0.04$

A.H.			"			"			"		
Piscium			γ Piscium			δ Piscium			β Arietis		
0	54	0.9	1	22	19.8	1	32	29.2	1	45	14.3
		4.5			23.3			32.9			18.2
		8.0			27.0			36.4			21.8
		11.4			30.4			39.7			25.4
		15.0			34.2			43.3			29.2
		39.8			134.7			181.5			108.9
		7.96			26.94			36.30			21.78
0	54	7.96	1	22	26.94	1	32	36.30	1	45	21.78
		-.37			-.30			-.38			-.26
		+.08			+.09			+.08			+.10
		+.04			+.04			+.04			+.04
0	54	7.71	1	22	26.77	1	32	36.04	1	45	21.66
0	55	38.31	1	23	37.26	1	33	6.61	1	46	32.27
86	-1	30.60		1	30.59		1	30.57		1	30.61

Dec ²⁷/₂₈. 1858

Ill. East

A. H.			"			"			"			"		
ϵ Corvi			η Virginis			β Corvi			12 Can. Ven.			θ Virginis		
12	1	14.9	12	11	4.6	12	25	21.2	12	47	45.8	13	1	1.4
		18.7			8.0			25.1			50.5			5.1
		22.4	+ 0°	7	11.5			28.9			55.0	- 4°	47	8.5
		30.0			14.9			32.5			59.4			12.0
		26.0			18.3			36.5			4.0			15.4
		112.0			57.3			144.2			214.7			42.4
		22.40			11.46			28.84			42.94			8.48
12	1	22.40	12	11	11.46	12	25	28.84	12	47	55.94	13	1	8.48
		- .60			- .43			- .63			- .04			- .48
		+ .05			+ .07			+ .05			+ .13			+ .08
		+ .04			+ .04			+ .04			+ .05			+ .04
12	1	21.89	12	11	11.14	12	25	28.30	12	47	55.08	13	1	8.12
12	2	53.10	12	12	42.09	12	26	59.35	12	49	26.16	13	2	39.33
EC - 1		31.21		1	30.95		1	31.05		1	30.08		1	31.21
12	2	53.01	12	12	11.26	12	26	59.42	12	49	26.20	13	2	39.24

Dec $\frac{27}{28}$ 1858Dec $\frac{28}{29}$

M. East.

A.H.			"			"			A.H.		
Moon II.V			Spica			S. Virginis			S. Virginis		
13	12	26.2	13	16	8.4	13	25	52.9	13	1	0.6
		30.0			12.2			56.4			4.3
-12	4	33.6	-10	25	15.7	+0	8	0.0	-4	47	7.9
		37.1			19.0			3.1			11.2
		40.8			22.8			6.9			14.9
		167.7			78.1			119.3			38.9
		33.54			15.62			23.86			7.78
13	12	33.54	13	16	15.62	13	25	59.86	13	1	7.78
		- .54			- .52			- .43			- .48
		+ .06			+ .06			+ .07			+ .08
		+ .04			+ .04			+ .04			+ .04
13	12	33.44	13	16	15.20	13	25	59.54	13	1	7.42
			13	17	46.29	13	27	30.78	13	2	39.48
				1	31.09		1	31.24		1	32.05
13	14	4.58	13	17	46.32	13	27	30.66	13	2	39.44

Dec. $\frac{28}{29}$. 1858

Ill. East

A. H.			" "			" "			" "			" "		
Spica			h Virginis			y Bootis			Moon II.V			x Bootis		
13	16	7.4	13	23	54.1	13	46	19.0	14	1	32.0	14	7	34.8
		10.9			57.9			22.9			36.0			38.4
-10	25	14.4	-9	26	1.3	+19	6	26.4	-17	21	39.7	+19	55	42.0
		18.1			4.8			30.0			43.3			49.3
		21.9			8.3			34.0			47.3			45.4
		72.7			126.4			132.3			198.3			209.9
		14.54			25.28			26.46			39.66			41.98
13	16	14.54	13	24	1.28	13	46	26.46	14	1	39.66	14	7	41.98
		- .52			- .51			- .28			- .58			
		+ .06			+ .06						+ .06			
		+ .04			+ .04						+ .04			
13	16	14.12	13	24	0.87				14	1	39.18			
13	17	46.19	13	25	32.80									
	1	32.08		1	31.93									
13	17	46.14	13	25	32.89				14	3	11.21			

1859. Jan. 4/5

Jan. 5

Ill. East

A. H.			A. H.			"			"		
α Lyrae			γ Piscium			β Arietis			α Arietis		
18	30	20.9	1	32	21.4	1	45	6.5	1	57	28.9
		25.4			25.0			10.3			32.7
		29.9			28.4			14.0			36.4
		34.2			31.8			17.5			40.2
		38.9			35.7			21.3			44.0
		149.3			142.3			69.6			182.2
		29.86			28.46			13.92			36.44
18	30	29.86	1	32	28.46	1	45	13.92	1	57	36.44
		-.04									
		+1.13									
		+1.05									
18	30	30.00									
18	32	8.42									
	1	38.42									

1858. Jan 7/8

Jan. 7/8
A. H.

Ill. East

A. H.			A. H.			"		
α Lyrae			α Cor. Bor.			α Serpenti		
18	30	21.9	15	26	48.6	15	35	26.0
		26.3			52.7			29.8
		30.7			56.6			33.2
		35.0			0.3			36.8
		<u>39.7</u>			<u>4.4</u>			<u>40.3</u>
		153.6			162.6			166.1
		30.72			32.52			33.22
18	30	30.72	15	26	56.52	15	35	33.22
		-.04						
		+.07						
		-.09						
18	30	30.66						
18	32	8.45						
	1	37.79						

Jan. 19. 1859.

Nth. East

A. H.

β Tauri			δ Orionis			α Leporis			ϵ Orionis		
5	15	25.0	5	22	51.2	5	24	33.3	5	27	6.6
		29.0			54.9			37.1			10.1
		32.9			58.3			40.9			13.7
		36.8			1.7			44.4			17.0
		40.8			5.3			48.1			20.5
		164.5			171.4			203.8			67.9
		32.90			34.28			40.76			13.58
5	15	32.90	5	22	58.28	5	24	40.76	5	27	13.58

Jan. $\frac{23}{24}$ 1859

M East

$a = -0.64$

$b = +0.02$

$c = -0.01$

A. He.			"			"			"			"		
β Corvi			γ Virginis			12 Can. Ven			Moon II V			θ Virginis		
12	24	47.5	12	32	19.8	12	47	12.3	12	53	3.8	13	0	---
		51.4			23.3			17.0			7.4			31.2
		55.2	-1		26.8	+39		21.6	-10	3	11.0	-5		34.8
		58.8			30.4			25.9			14.6			38.2
		2.8			33.9			30.7			18.4			41.8
		215.7			134.2			107.5			55.2			146.0
		43.14			26.84			21.50			11.04			36.5
12	24	55.14	12	32	26.84	12	47	21.50	12	53	11.04			-1.74
		-62			-41			-04			-49	13	0	34.76
		+1.00			+01			+02			+01			-48
		-01			-01			-01			-01			+01
12	24	54.52	12	32	26.43	12	47	21.47	12	53	10.55	13	0	34.28
12	27	0.25	12	34	32.28	12	49	27.17				13	2	40.35
	-2	5.73		-2	5.85		-2	5.70					-2	6.07

12 27 0.38 12 34 32.30 12 49 27.35 12 55 16.43 13 2 40.17

12 25 - 2 5.73

12 32 5.85

12 47 5.70

13 57 6.11

13 16 5.99

12 7 338

12 49 - 2 5.88

Jan. 23/24 . 1859

A.H.			" "			M. East			Jan 24. A.H.			" "		
58 Virginis			α Virginis			α Persi			γ Tauri					
13	7	52.6	13	15	34.4	3	11	58.3	3	36	51.9			
		56.2			38.0			4.0			55.8			
-10		59.7			41.5			9.1			59.7			
		2.9			45.0			14.2			8.3			
		6.7			49.0			20.0			7.3			
		178.1			207.9			105.6			178.0			
		35.62			41.58			21.12			35.60			
13	7	59.62	13	15	41.58	3	12	9.12	3	36	35.60			
		-.49			-.51			+.13			-.25			
		+.01			+.01			+.02			+.01			
		-.01			-.01			-.02			-.01			
13	7	59.13	13	15	41.07	3	12	9.25	3	36	59.35			
13	10	5.24	13	17	47.06	3	14	17.88	3	39	7.89			
-2		6.11	-2		5.99	2		8.63	2		8.54			
13	10	5.02	13	17	46.97									

