

KG
11365
93

B.22

No. 22.

Reduction of Transits

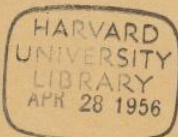
1855 Sept. 25 to March 30. 1856

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KG-11365.93.



KG 11365.93



1855. Sept. 25.

Ill. Ears

D.S.C.

α Aquarii		γ Aquarii		δ Pegasi		α Pict. Aus.		α Pegasi	
16.0		6.2		9.2		28.3		27.2	
29.4		19.3		22.6		43.8		40.9	
43.0		33.0		36.1		59.3		59.9	
56.7		46.8		50.1		15.2		8.9	
10.0		0.0		4.0		30.8		22.8	
24.2		14.3		18.6		47.0		37.6	
22 0 38.0	22 16	27.8	22 36	32.4	22 52	3.1	22 59	51.7	23
217.3		147.4		173.8		227.5		244.0	
397.3		327.4		353.8		107.5		64.0	
21.59 56.76	22 15	46.77	22 35	50.54	22 51	15.36	22 59	9.14	23

Sept. 25

Dec. East

P.S.C.		Piscium		Piscium		Piscium		Piscium		Andromeda	
2		35.1		22.6		27.5		51.0		44.5	
9		48.4		38.9		40.7		4.2		59.4	
9		2.0		52.7		54.6		18.0		15.0	
9		15.8		6.3		8.5		31.8		30.8	
8		28.9		19.8		21.8		45.2		45.7	
6		43.5		34.3		36.3		59.5		1.9	
7	23 11	57.0	23 34	47.8	23 56	50.0	0 0	13.3	0 3	17.3	
0		230.7		223.4		239.4		223.0		214.6	
0		110.7		43.4		59.4					
4	23 11	15.81	23 34	6.20	23 56	8.49	23 59	31.86	0 2	30.66	

Sept. 25, 1855

P.S.C.

Ill. East

γ Pegasi	α Phoenicis	Wood 10	Messier	Spot A
—	48.9	51.2	58.93 17.2	59.54 7.8
+14° 23 23.15 54.8	6.9	4.9 + 0	34 58.76 30.6	+0 34 59.47 1.3
23.18 9.0	25.9	18.9	58.79 44.7	59.39 45.3
23.23 23.2	44.7	33.0	58.73 58.7	59.43 59.4
23.19 36.8	2.4	46.8 0	30 58.77 12.3	0 30 59.47 3.0
23.15 51.6	22.1	1.3	—	—
0 8 23.12 51.6 0	21 41.0 0	30 15.2	—	— 0
102	191.9	171.3	59.8	79.8
7	311.9	231.3	—	—
0 7 23.18 0	20 44.56 0	29 33.04 0	29 58.80 0	29 59.46 0

Sept. 25

Ill. Eau

O.S.C

Spot

Moon TTB

8		5.6		9.0	
3		19.0		22.6	
3		32.9		36.7	
4		47.0		50.6	
0		0.8		4.3	
		18.3		18.9	
0	32	29.3	0	32	32.8
		149.9		174.9	
		329.9		354.9	
46	0	31	47.13	0	31
					50.70

Sept. 26. 1865

M.C.B.

Ill. Ean.

 δ Ophiuchi α Scorpio α Herculis α Ophiuchi

39.9

21.9

56.0

6.5

53.2

36.6

9.6

20.0

6.8

52.0

23.8

34.0

20.6

7.2

37.8

48.1

33.8

22.0

51.5

1.8

48.2

37.9

6.2

16.4

16 9

1.9

16

22

53.3

17

10

20.5

17

30

30.3

204.4

230.9

205.4

157.1

16 8

20.63

16

22

7.27

17

9

37.9

17

29

48.16

Sept. 27/28.

Ill. Jan 1900

W.C.B.

δ Geminor			α^2 Geminor			α Canis Min			β Geminor		
		21.8			10.5			39.6			18.0
		35.9			26.1			52.8			33.0
		50.8			42.2			6.7			48.1
		5.7			58.3			20.4			4.0
		19.9			14.2			37.7			19.2
		35.5			31.0			48.0			35.5
17	13	49.9	7	27	47.1	7	34	1.9	7	38	50.9
		219.5			229.4			203.1			209.1
17	13	5.64	7	26	58.49	7	33	20.44	7	38	4.16

Sept 28/29

W.C.B.

Ill. East

δ Gemini			ϵ^2 Gemini			α Canis Min			β Gemini		
		22.9			11.7			40.5			18.9
		37.0			27.2			54.0			34.0
		51.9			43.2			7.9			49.5
		6.8			59.4			21.4			5.0
		21.1			14.9			34.9			20.2
		36.7			32.0			49.1			36.5
7	13	51.3	7	27	48.2	34	2.8	7	38	52.0	7
		227.7			236.6		210.5			216.1	
7	13	6.8	7	26	59.5	33	21.5	7	38	5.16	7

Oct. 4/5

W.C.B.

Pl. East

 α Canis Min β Gemini α Leonis

48.0

26.6

43.0

1.3

41.1

56.4

15.2

57.1

10.4

28.8

12.7

24.5

42.2

27.8

38.0

56.7

44.0

52.8

7 34 10.3

7 38

59.5

10

3

6.8

204.5

269.2

231.9

7 33 28.93

7 38

12.74

10

2

24.56

Oct. 7/8. 1855

W.C.B.

Ill. Ear.

1855phae.p

α^2 Gemini		α Canis Min.		β Gemini		α Leonis							
	22.5		51.9		30.0		47.3						
	38.4		4.9		48.2		1.0						
	54.4		18.7		0.8		14.9						
	10.7		32.5		16.2		29.0						
	26.3		48.8		31.5		42.7						
	43.2		0.3		47.8		67.3						
7	27	59.3	7	34	13.8	7	39	2.1	10	3	11.6	01	10
		254.8			167.9			174.6			203.8		
7	27	10.6	7	33	32.5	7	38	16.3	10	2	29.11	09	10

Oct. 8/9.

H. Eari.

M.C. B.
& Louis

47.3

1.0

18.1

29.2

42.1

57.2

11.2

203.1

29.07

Oct 9/10. 1855

W.C.B.

M. Ear

Can Min

β Gemini

α Leonis

53.8

32.4

48.4

7.2

47.1

2.1

20.9

2.8

16.0

34.1

16.1

30.1

48.0

32.1

43.8

2.4

49.9

58.4

7 34 16.07

39 5.3 10

3 12.3

182.8

189.5

211.1

7 33 34.69

38 18.50 10

2 30.16

Oct. 19/11

M.C.G.

Ill. E an

 α^2 Geminor α Can Min

25.8

24.9

41.3

8.3

57.7

21.8

13.8

35.8

29.2

49.0

46.4

3.2

7 28 2.7 7 34 17.1

217.0 190.1

7 27 13.86 7 33 25.73

Oct. 19/11. 1851

W.C.B.

Ill. East

W.C.B.			" "			" "			" "			" "		
α Louis			α Louis			α Mrs Maj			Polaris s. p			γ Mrs Maj		
	49.6			54.5			12.8	12	42	27.2			42.8	
	4.2			8.0			41.4		51	24.7			3.2	
	19.3			22.0			11.2		0	48.7			24.6	
	34.2			36.3			41.2		9	27.0			46.0	
	49.0			49.9			9.8		18	25.3			6.4	
	4.6			4.5			40.9		27	25.4			28.8	
9	40	19.7	10	3	18.4	10	58	10.2	13	36	5.4	13	44	49.8
		180.6			193.6			167.5			183.7			201.6
9	39	24.37	10	2	36.23	10	56	41.07	13	9	26.24	13	44	45.94

Oct. 15

Ill. Ear

W.C.B.

 β ophiuchi γ Draconis

8		35.7		5.3	
2		48.9		26.6	
6		2.8		48.7	
0		16.3		10.5	
4		29.7		31.8	
8		43.9		54.9	
8	17 38	57.8	17 56	16.8	
6		235.1		194.6	
4	17 38	16.44	17 55	10.66	

Oct. 15/16. 1855

W.C.B.

Ill. Sav

Lewis

55.8

9.1

22.3

37.2

50.8

3.7

10 3 19.6

199.5

10 2 37.07

Oct. 17.

Ill. Ear

H.C.B.

α Herculis		α Ophiuchi		γ Draconis		μ Sagittarii		δ Sagittarii						
	19.6		30.3		7.1		22.3		56.2					
	33.0		43.7		28.2		36.6		11.1					
	47.3		57.7		50.3		57.2		27.4					
	1.6		11.8		12.6		5.9		43.2					
	15.3		25.4		33.7		20.0		58.5					
	30.2		40.0		56.8		35.5		15.0					
17	10	44.1	17	30	54.1	17	56	18	7	50.0	18	14	30.8	
		191.1			263.0		207.4			221.5			242.6	
		11.1			83.0		87.4			41.5			302.6	
17	10	1.59	17	30	11.86	17	55	12.49	18	7	6.93	18	13	43.23

Oct. 17 1851

W.C.B.

Ill. East.

Moon 10

γ' Sagittarii

Anonyma

48.1

42.0

28.4

3.6

56.7

43.2

19.5

11.7

58.0

35.4

26.8

13.3

57.1

41.3

27.8

7.9

57.2

43.7

19 7

24.0

19

19

12.1

19

29

58.7

18 8.6

247.8

273.1

255.6

187.8

93.1

19 6

35.8

19

18

26.83

19

29

13.30

Oct. 18,

W. C. O.			Ill. East			Moon 10			v Capricorn		
v Sagittarii			h Sagittarii			h Sagittarii			v Capricorn		
		28.6143.8		30.0		9.8		—			47.3
-24		4728.5458.3		44.8		24.3	-25	3023.5552.0			2.0
		28.8313.7		0.0		39.5		23.38	7.6		17.3
		—		14.9		54.7		23.43	23.4		32.4
		28.6743.2		29.9		9.2		23.25	38.4		47.2
		28.6459.0		41.5		25.2		23.53	58.0		3.0
19	19	28.5813.919	32	0.619	32	40.220	11	23.1210.420	40		18.3
		387		165.7		202.9		204			167.5
				105.7		382.9					227.5
19	18	28.6419	31	15.1019	31	54.7020	10	23.3420	39		32.50

Oct. 18, 1851

W.C.B.

Ill. East.

Capricorn

26.4

41.0

56.4

12.0

26.9

42.1

20 45 58.4

264.2

84.2

12.03

0

20 45 12.03

Oct. 25

W.C.B.

Ill. Ear

 β Lynae δ Aquilae

2.1

10.2

17.6

24.2

34.0

37.9

50.8

52.2

6.5

5.8

23.3

20.5

18 47

39.9

19

1

34.6

174.2

188.4

18 46

50.60

19

0

52.20

Oct. 25/26. 1855

P.S.C.		Ill. East		W.C.B.	
2 Hydras		2 Vir Maj	2 Hydras	0 Vir Maj	Polaris s.p.
33.6		23.2	58.1	10.2	
46.8		43.2	8.4	31.8	
0.7		3.9	22.2	54.3	
14.3		24.6	36.1	16.7	13 9 36.4
27.8		44.7	49.7	38.6	
42.2		6.6	4.0	1.7	
8 41 55.9 8	52	27.0 9	23 17.8 9	26 24.3	19
221.3		173.2	193.3	177.6	
8 41 14.47 8	51	24.74 9	22 36.19 9	25 16.80 13 9	37.40 19

Oct. 26.

Ill. East.

7.7.		"		"		"		"		"	
5 Aquilae		8 Aquilae		7 Aquilae		4 Aquilae		3 Aquilae		2 Aquilae	
	11.3		—				49.2		9.8		20.11 39.2
	28.0	+2	50 19.99 52.5				2.8		23.5	+6	3 20.21 52.6
	39.0		19.75 6.0				16.7		37.2		20.21 6.4
	53.0		20.03 20.0				30.6		51.1		20.23 20.2
	6.7		20.10 33.3				44.1		4.8		—
	21.4		20.10 47.7				58.7		19.0		20.28 48.0
19	1	35.7	19 20 19.90 1.1	19	42	12.5	19 46	32.9	19	5 20.42	1.8
	192.1					214.6		178.3			
19	0	53.16	19 20 19.98	19	41	30.66	19 45	51.19	19	50	20.24

Oct. 26/27. 1851

W.C.B.

Ill. East

d Louis

d Louis

6.4

48.8

19.9

3.0

34.0

17.8

48.0

32.4

1.7

46.6

16.4

2.0

10 3 30.3 11 9 16.7

156.7 167.3

10 2 48.10 11 8 32.47

0

Oct. 28/29.

W.C.B. & Louis		J.F.F. & Mrs Maj		H.L. San J.F.F. & Louis	
	8.5		26.8		50.8
	21.8		55.3		5.0
	36.1		25.0		19.7
	50.1		54.8		34.4
	3.8		23.8		48.5
	18.6		54.7		4.1
10	3	32.5	10	58	24.3
	171.4		264.7	11	9
					18.7
10	2	50.20	10	57	54.96
				11	8
					34.41

1855, Oct 30

Ill. Star

W.C.B.

α Aquilae		δ Aquilae		β Aquilae	
	52.8		13.7		42.9
	6.4		26.9		56.1
	20.1		40.7		9.9
	34.0		54.6		23.4
	47.6		8.1		36.9
	2.2		22.4		51.4
19 42	16.0	19 46	36.3	19 51	4.9
	179.1		202.7		225.5
19 41	34.16	19 45	54.67	19 50	23.64

Oct. 20/31

M.C.B.

M. E. an.

 α Hydrae α Leonis

59.7

9.8

12.7

22.4

26.7

37.1

40.7

51.7

54.1

51.0

8.3

19.9

9 22

22.2

10

3

33.7

224.4

181.0

9 22

40.63

10

2

51.57

Nov. 2/3. 1855.

W.C.B.

W. Fair

Kepler?

Moon II

22.6189.6 0.4

+15° 54' 22.5353.5 14.3

22.72 8.2 28.7

22.4322.4 43.1

22.7636.7 57.3

12.6

11 19 22.49.6.0 11 19 26.9

183.3

303.3

11 18 22.59 11 18 43.33

Nov. 8.

P.C.C.

ell. Eam

α Pegasi			α Andromedae			γ Pegasi			α Cassiopeiae		
+14	2	52.71	10.7		40.0		25.2		26.7		
12	59	52.65	24.3		65.0		38.8		50.0		
					10.7		53.0		14.4		
					26.0		7.1		39.0		
					41.2		20.9		2.5		
					57.6		35.7		28.0		
		0	2		13.0	0	8	49.7	0	35	52.2
					243.5			230.4			212.8
12	59	52.68	0	1	26.71	0	8	7.20	0	34	38.97

Nov. 9.

Ill. East

W.C.B.

 α Lyrae β Lyrae

						13.8		
0								
7	438°	39	20.16	45.0		29.3		
1			20.05	2.1		45.9		
0			20.03	20.0		2.2		
8			20.11	37.0		18.0		
8			20.21	55.1		31.2		
0	18	35	20.11	12.8	18	47	51.5	
4						195.9		
04	18	34	20.11	18	47	2.27		

1855. Nov. 9/10

M.C.G.

Ill. East

x Leonis

17.8

31.2

45.3

59.6

12.9

27.7

41.7

236.2

59.46

Nov. 13

Ill. East-

~~W. P.~~		^a		[*]		^u					
δ Aquilae		γ Aquilae		α Aquilae		β Aquilae					
	52.2		2.3		22.9		52.3				
	6.4		15.7		36.5		5.6				
	19.1		29.7		50.3		19.3				
	32.9		43.5		4.1		33.2				
	46.3		57.0		17.6		46.6				
	0.6		11.6		32.1		1.0				
19	21	14.2	19	42	25.6	19	47	15.9	19	51	14.7
	170.7		181.4		209.4		172.7				
19	20	32.96	19	41	43.63	19	46	4.20	19	50	33.24

1855. Nov. 13

Ill. Wren

W.C. B.

Cyg ni

61' Cygni

61² Cygni

5 Cygni

52.1

53.6

55.0

20.3

11.8

11.0

12.3

36.2

32.3

29.2

30.6

52.7

50.6

46.0

47.5

7.9

9.5

3.4

4.9

23.8

29.2

20.8

22.1

39.5

20

39

47.8

21

3

37.6

21

2

39.0

21

9

54.7

10

233.3

201.6

211.4

235.1

20

38

50.47

21

2

45.94

21

2

47.34

21

9

7.87

10

Nov. 13/14. 1855

M.C.B.

D. C. C. Wren

 α Mrs May

J Leonis

Polaris s.p.

38.2

1.9

7.5

16.8

88 32 385

38.9

32.0

7.9

46.3

13

9

30.1

37.4

1.0

7.2

15.8

10

58

31.9

10

9

29.9

173.0

143.7

10

57

7.59

10

8

46.24

13

9

31.10

1855. Nov. 14

P.S.C.

9 ll. Mars

Aguilar		α Aguilar		Moon	
	2.9		23.7	49.05	1.4
	16.7		37.4	-26 18 49.12	17.2
	31.0		52.0	48.97	33.7
	44.6		5.0	49.13	49.1
	58.7		19.2	49.00	4.9
	12.5		33.0	49.10	20.9
19 42	26.0	19 46	46.4	19 52	—
	192.4		216.7	137	
	312.4		36.7		
19 41	44.63	19 46	5.24	19 51	49.06

Nov. 14/12

Ill. Wind

J. F. F.
α Bootis

2.20

41.8

56.4

11.8

25.7

40.3

. 54.9

14 12 9.0

239.9

14 11 25.70

Nov. 18/19

ell. West

J. F. F.

Polaris S. p.

a Virginis

88° 32' 40.1"

-10° 24'

0 29.533.1

9 33.8 32.6

58.07 58.1

13 18 39.7 14.8

58.04 12.0

—

58.08 26.0

—

13

2058.34 39.7

13 " 9 " 34.33 13

19

58.13

1855, Nov. 19.

Q.P.C		"		J.C. West T.H.S.		T.H.S.		P.L.S.	
30 Piscium		33 Piscium		α Andromedae		γ Pegasi		Moon TO	
	16.1		39.9		33.1		30.1		25.6/43.5
	30.2		53.7		48.7		44.3 + 1.7		25.8057.6
	44.6		8.0		4.9		59.2		25.802.3
	58.0		21.2		20.0		12.9		—
	11.8		35.7		35.7		27.0		25.7539.8
	25.4		49.1		51.2		41.1 0		25.70 35 53.8
23	57 38.8 0	1	2.2 0	4	6.2 0	8	54.7		— 0
	224.9		209.2		199.8		269.3		
	404.9		149.2		139.8		89.3		
23	56 57.84 0	0	21.31 0	3	19.97 0	8	12.76 0	35	25.73 0

Nov. 19.

P. S. C.

Ill. West

Piscium

Piscium

Moon Spots

5	10.4	—	3440.41	58.3
6	24.1	+4 53	+10 7	35.50 7.3
3	38.5	—	Omil	11.7
	51.9	—		25.2
8	5.7	—	0	35 25.8
8	19.6	48.84	16.4	
0	58 32.8	1	0 48.77	29.6
	183.0			
	363.0			
0	57 51.86	0	59	48.81

1855. Nov. 19/20.

W.C.B.

Sec. West

S. Lewis

a. Boodis

5.0

43.5

19.5

58.1

34.7

13.7

49.2

27.3

3.8

42.0

18.8

56.7

32.7

14

12

10.7

163.7

252.0

49.10

14

11

27.43

Nov. 20.

ell. West

W. C. B.		" "		" "		" "		" "	
Anonyma		e Piscium		e Piscium		o Beti		Moon TO	
	20.1		10.7		39.8		32.3		14.1
	33.6		24.5		53.5		48.9		28.1
	48.2		38.7		7.9		0.4		42.9
	1.6		52.1		21.0		13.9		56.4
	15.3		6.2		34.7		27.7		10.8
	29.2		19.8		48.7		41.5		25.0
o 57	42.20	58	33.01	4	2.01	19	58.0	1	27
	190.2		185.0		207.6		216.7		2175.8
	10.2		365.0		147.6		96.7		395.8
o 57	1.460	57	52.141	3	21.091	19	13.811	1	26
									56.84

Nov. 20, 1855.

Nov. 24/22.

W.C. B.

Ill. West

Spot A

π Piscium

" " " " " " " "

" " " " " " " "

" " " " " " " "

38.4

—

41.8

5.6

—

52.4 +11° 24'

—

16.1

20.0 88° 32' 41.0

—

7.4

52.15 38.7

42.2

35.6

13

034.5 38.1

21.1

51.87 51.9

11.1

49.8

9368 35.8

35.3

52.09 6.1

41.0

4.6

1841.2 16.3

49.4

52.19 20.2

10.5

19.1

—

1 28

3.0

1

3252.30 33.8

10

58

38.5 11

9

33.4

—

19

207.0

160

197.6

168.1

147.0

77.2

348.1

1 27

21.00

1

31 52.12

10

57

11.0 11

8

49.73 13

9

37.50

19

Nov. 24.

M.C.B.

Ill. West

α Aquilae		α ² Capricorn		α Cygni	
	27.4		—		56.8
	41.2	-12° 59'	27.69 59.4		16.1
1	55.8		27.63 14.1		36.3
8	9.0		27.77 27.8		54.9
3	23.0		27.71 41.8		14.5
	36.9		27.62 55.8		32.4
19 46	50.2 20	13 27.65	9.4 20	39	51.9
	243.5				263.9
0 19 46	9.07 20	12	27.68 20	38	54.84

1855. Nov. 25/26

W.C.B.		" "		Ill. West		" "		" "	
Urs Maj		♄ Leonis		♄ Hyd. & Crat.		♄ Leonis		γ Urs Maj	
	(18.44 49.2) _{24.6}		7.5		51.1		24.8		38.76 27.9
+62° 32	13.56 13.8 _{31.1}		22.1		5.2		39.0	+54° 30	38.86 51.4
	13.49 44.9 _{27.8}		37.3		20.0		53.9		38.81 16.1
	(12.64 12.7)		51.7		33.7		7.6		38.76 38.8
	—		6.4		47.8		21.9 11		49.87 2.4
	13.37 12.9 _{28.7}		21.1		1.8		36.1		—
10	58 13.40 41.6 11	9	35.2 11	15	18.5 11	44	49.7		— 13
			181.3		175.1		233.0		
10	57 13.45 11	8	51.61 11	14	33.59 11	44	7.57 11	48	38.79 13

Nov. 21/26

Dec. 1926

W.L.B.
α VirginisJ.F.F.
α Bootis

9		19.1			46.1	
4		33.0			0.5	
1		47.7			16.0	
8		1.0			30.0	
4		15.0			44.6	
		28.9			59.2	
13	20	42.6	14	12	13.3	
		187.3			209.7	
19	13	20	14	11	29.96	

1855. Nov. 26/27

26. Win

W. C. B.

α Virginis

19.8

33.7

48.0

1.7

18.7

29.7

13 20 42.9

191.5

13 20 1.64

Nov. 29/30

Ill. Wind

J. F. 7.		"	
α Virginis		α Bootis	
	21.9		48.9
	35.8		3.1
	50.1		18.8
	3.8		33.0
	17.9		47.4
	31.8		1.9
13	20	41.3	14 12 16.0
	207.0		169.1
18	20	3.86	14 11 32.73

1855, Nov. 30

Ill. Wren

W.C.B.

 α Cephei β Aquarii β Cephei

companion

 α Androm.

6.8

44.9

—

38.4

36.1

58.7

69° 55'

—

69° 55'

—

54.2

6.7

13.0

—

10.4

34.6

26.4

10.98 10.0

12.78 12.7

25.3

3.8

40.2

10.40 50.4

12.90 52.9

41.1

32.9

53.9

10.54 30.5

12.54 32.5

56.8

21

19

1.2

21

27

7.221

31

10.33 8.8

21

31 12.83 11.3

0

4

11.6

0

122.0

244.3

237.8

121

17

34.57

21

26

26.33

21

29

10.34

21

29 12.76

0

3

25.40

0

Nov. 30

W.L.P.

R.S.C.

Ill. Mar

 γ Pegasi α Cassiopeiæ

Polaris

4			35.6			36.4	0	42	8.0
2			49.7			0.6		51	9.4
4			4.3			26.2	1	0	31.7
3			18.0			49.7		9	17.8
1			32.3			14.3		18	19.4
8			46.2			38.4		27	20.0
6	0	8	59.9	0	36	2.0		36	5.6
8			246.0			167.6			115.9
40	0	8	18.00	0	35	49.66	1	9	16.56

Nov. 20/31, 1855

Ill. West

J. 47.7.

Polaris s. p.

" a Virginis

" a Bootis

	43	50.5		22.2		49.1	
	51	34.2		36.1		3.8	
	0	36.0		50.8		18.9	
	9	36.9		4.1		33.0	
	18	17.5		18.0		47.6	
	27	45.7		32.1		2.2	
13	36	43.6	13	20	45.1	14	12
		264.4			208.8		170.8
13	9	37.7	13	20	4.1	14	11
						32.97	

Dec. 2/3.

W.C.B.

J.F.F.

Dec. West

Moon 110

12 Can. Venat.

a Virginis

		—			52.1		22.6
+1° 55'		—			9.7		36.5
		—			28.4		51.1
		—			45.1		4.7
		—			2.9		18.7
		—			20.7		32.6
12	17	21.2	12	52	37.7	13	20 41.9
					196.6		212.1
12	16	39.82	12	51	45.23	13	20 4.59

1855. Dec. 1/4

M.C.B.
β Leonis" η VirginisAll. Hen
" γ VirginisJ.F.T.
α Virginis

28.9

20.0

9.5

23.3

43.1

33.8

22.0

37.1

57.9

47.9

37.3

51.8

11.7

1.2

50.7

51.2

25.9

14.9

4.3

19.1

40.2

28.8

18.0

33.0

11 44 53.8 12

15

41.9

12

37

31.3

13

20

46.4

12

261.5

188.5

174.1

215.9

11 44 11.64 12

15

1.21

12

36

50.59

13

20

5.13

12

Dec. 4/5

W. C. B.
 γ Virginis" "
12 Can. Venet.Dec. West
" "
Moon 110

		9.7			53.1			11.7	
		23.3			10.7			28.6	
		37.7			29.3			40.7	
		51.1			46.2			54.5	
		4.8			3.9			8.6	
		18.5			21.6			22.9	
12	35	31.7	12	52	38.6	13	43	36.3	
		176.8			203.4			200.3	
		356.8			323.4			380.3	
12	34	50.97	12	57	46.20	13	42	54.33	

1855r. Dec 5/6

W.C.B.

Ill. West

Comp. Can. Ven.

12 Can. Venat.

2 Virginis

45.53 52.5

53.8

24.3

+39° 6

—

11.2

38.2

45.49 28.5

29.6

52.4

45.27 41.3

46.8

5.8

45.60 3.3

4.4

19.8

45.22 20.6

21.9

33.9

12 52 45.48 37.9/12

52

39.2

13

20

47.3

206.9

221.7

12 51 45.43 12

51

46.70

13

20

5.95

Dec. 6/7

Dec. 6.

W.C.B.					9th, 10th P.S.C.					W.C.B.					P.S.C.									
12 Can. Vent.					γ Uli Maj					α Andromeda					γ Pegasi					α Cassiopeia				
53.9					33.5					40.6					—					32 38.6				
11.5					56.9					56.1					+14° 23 —					2.6				
30.0					21.8					22.2					—					28.1				
47.2					44.3					27.2					—					58.8				
4.8					8.2					43.0					—					16.0				
22.5					31.7					58.6					20.15 48.5					40.5				
12	52	39.8	11	49	54.5	0	4	13.6	0	9	20.00	2.0	0	38	4.0									
209.7					250.9					251.3										181.6				
12	51	47.10	11	49	44.30	0	3	27.33	0	8	20.07	0	33	51.66										

855. Dec. 7/8

W. C. B.

Comp. 12. Can. Ven.

12 Can. Venet.

9th. Mar
1777.
d Virginis

46,53 53.5

54.6

25.1

+39 6 46.42 10.9

12.0

39 6

30.7

526

46.05-46.1

47.7

7.0

46.50 4.2

5. 8.

21.0

46,1221.5

23.1

149

12 5216.4838.9 12

52

40.1

13

20

48.4

21

213.7

2290

46.35

12 51 46.35 12

51

46.24

13

20

2.00

21

Dec. 11

Dec. 11

M. C. B.

Pegasi

Aquarii

		58.1			15.3
		11.8			28.8
		26.6			43.3
		40.0			56.4
		53.9			10.4
		7.8			24.0
21	40	21.0	22	1	37.4
		219.2			215.6
21	39	39.89	22	0	56.51

1855. Dec. 11/12.

W. C. B.

H. W. H.

J. F. F.

Urs Maj

 γ Bootis α Bootis ϵ Bootis

20.7

39.2

34.2

28.5

41.8

53.8

9.6

43.8

4.1

8.8

24.6

59.9

24.7

22.9

38.7

14.9

46.0

37.5

53.6

30.4

7.5

51.9

8.1

46.0

13

45

28.1 13

51

6.0 14

12

22.1 14

42

0.8

13

172.9

220.1

211.0

224.3

13

44

24.70 13

50

22.87 14

11

38.71 14

41

14.90

13

Dec. 13/14

J. F. W.			W. L. B.			Ill. West			J. F. W.		
γ Urs Maj			α Virginis			α Bootis			α Bootis		
		21.1			28.4			55.2			28.6
		42.3			42.3			9.8			44.1
		4.3			56.7			25.1			0.4
		25.0			10.4			39.2			15.2
		46.4			24.4			53.8			30.5
		8.0			38.2			8.3			46.2
13	45	28.5	13	20	51.7	14	12	22.4	14	42	1.3
		175.6			252.1			213.8			166.3
13	44	25.08	13	29	10.30	14	11	39.11	14	41	15.19

555, Dec. 14

W.C.B.		Ill. Mar									
Moon 10		Messier		A		τ^2 Aquarii		S Aquarii			
	33.8		57.8		58.4		49.6		51.5		
-14° 4'	48.3		12.1		12.9		3.5		5.6		
	3.3		27.3		28.0		18.3		20.7		
	17.4		41.3		42.0		32.0		34.4		
	31.9		55.9		56.7		46.1		48.8		
	46.3		10.5		11.1		0.3		3.0		
22 33	0.4	22 33	24.4	22 33	25.2	22 45	13.9	22 50	16.8		
	181.4		229.3		234.3		163.7		180.8		
	121.4		289.3		294.3		223.7		240.8		
22 32	17.34	22 32	41.33	22 33	42.04	22 44	31.95	22 49	34.40		

Dec 14.

W. C. B.

Ill. West

2 Pegasi

26.8

40.9

55.8

9.4

23.4

37.9

23 0 51.3

245.5

65.5

23 0 9.35

1855, Dec. 17.

W.C. B.

J. H. Hill

12 Ceti

13 Ceti

Moon 10

Mercur

A

35.8

44.6

30.4

54.8

55.4

49.5

58.4

44.9

8.9

9.6

4.0

12.6

59.6

23.7

24.4

17.0

25.9

12.9

32.1

37.9

30.8

39.5

26.9

51.3

52.0

44.6

53.4

41.0

5.1

6.1

0 25 58.0 0

21 6.71

9 54.61

10 18.81

10 19.6

239.6

241.1

270.3

200.1

205.0

119.7

181.1

90.3

28.59

265.0

17.08

30 25.871

9 12.901

9 37.131

9 37.86

Dec. 17.

W.C.B.

All. Mass

 μ Piscium π Piscium

33.0

22.0

46.5

35.8

1.1

50.5

14.3

4.0

28.3

17.9

41.9

32.0

1 25

58.1

32

41.4

220.2

207.6

100.2

27.6

1 25

14.3

32

3.94

α Virginis

29.7

43.4

58.1

11. 5

25.7

39. 6
47. 9

260.912

41-

29:8

184.9

13 20 11. 56

13 20 11. 56 13

44

26. 4

all were

7 Books

40.9

55, 2

10.6

24.6

38.9

53.9

7.7

231.8

13

51

13

50

24.54

W. C. O. B.

a Boottin

56.4

11. 0

26.2

40, 3

54.9

24

12

22. 0

11

40.28

Dec 19.

Ill. W. M.

W. C. O.

or Piscium

22.2

36.3

50.7

4.3

18.2

32.3

1 32 41.7

209.7

1 32 4.26

855, du 19/20

, Old. Wind

p. 7.71

2 Bootis

2² Librae

20.1

47.2

41.8

1.3

1.8

16.3

16.9

30.1

32.5

44.3

47.9

58.3

14 42 3.0 14 46 12.2

178.2 209.8

14 41 16.88 14 45 29.97

Dec. 2/31

Ill. Wm

~~17.7~~
 2 Lyrae

48.3

5.8

23.9

40.9

58.7

16.2

18 31 32.9

226.7

18 34 40.96

856 Jan. 3/4

Ill. West

J. 7.7.

W. C. B.

 β' Scorpii α Scorpii

26.6

-19 24 42.22 13.0

42.2

41.88 27.9

57.9

42.17 42.2

12.7

42.44 57.0

27.8

41.99 11.1

43.2

16 0 25.4 16 23 57.9

268.1

15 95 42.14 16 23 12.59

Jan. 7/8

W.C.B. & J.F.F. eye and Sun.
α Scorpii

All, West

28.2

43.3

59.5

14.2

29.5

44.7

59.3

278.7

14.10

1856 March. 10

Ill. Wae

Jan. '78

March 10.

 α Tauri

J. 7. 7.

W. C. B.

 α Scorpii α Tauri

11.7

33.8

11.7

25.8

48.9

25.8

40.4

4.9

40.4

54.5

19.8

54.5

8.6

34.9

8.6

22.9

50.4

22.9

4

31

36.6

16

24

4.8

4

31

36.6

5

200.5

197.5

200.5

4

30

54.36

16

23

19.64

4

30

54.36

5

March. 11.

M.C. B.			ell. Mr		
α Aurigae			β Tauri		
		18.9			40.0
		39.0			51.5
		59.7			11.9
		18.7			26.9
		38.3			42.5
		58.0			58.1
5	10	17.0	5	21	13.2
		249.6			248.1
			δ Orionis		
		13.4			13.4
		27.0			27.0
		41.4			41.4
		54.6			54.6
		8.4			8.4
		22.1			22.1
		35.2			35.2
		202.1			202.1
			ϵ Orionis		
		9.96			9.96
		1810.06			1810.06
		9.99			9.99
		10.0			10.0
		—			—
		—			—
		—			—
36	5	9	181.2	5	20
			26.87	5	27
			54.88	5	32
					9.99

1856. March, 12

Ill. Merid.

T. H. S.

Moon TO

 α Aurigae β Tauri δ Tauri

50.7

40.4

18,1934.1

6.3 +45° 51'

55.9

+21°

3' 16,5349.0

22.6

19.03 0.1

12.3

18.46 4.3

38.0

18.87 18.9

27.4

—

53.7

18.98 38.7

43.1

18,3833.1

9.2

19.08 58.5

58.6

18.7848.2

4

51

24.5

5

9 18.90 17.3

5

20

13.8

5

32 18.81 2.4

5

205.0

251.5

315

265.0

191.5

4

50

37.86

5

8

18.97 5

19

27.36

5

31 18.58²

5

March 14

W.C.B.

ell. Wall

β Tauri		δ Orionis		ϵ Orionis	
	40.9		14.4		29.8
	56.3		27.9		43.4
	12.8		42.3		57.7
	27.7		58.1		10.4
	43.4		9.3		24.7
	58.8		22.8		38.3
5	21	14.1	5	28	36.1
				5	22
					51.7
					256.1 ⁰
					76.0
					10.86
5	20	27.71	5	27	55.47
				5	32
					10.92

1856. March 14.

T. H. S.

Ill. Wren

1855phae . pr

7 H. S.			" "			Moon 10			S Geminor			i Geminor			
y Geminor			u Geminor												
		43.3			47.0			13.9			3.9			17.2	
		57.9			1.9			29.8			18.7			32.7	
		13.7			17.1			46.4			34.1			48.9	
		27.9			31.6			1.9			48.4			3.9	
		42.8			46.6			17.9			3.1			19.7	
		57.6			1.4			33.2			18.1			35.0	
6	10	11.9	6	18	15.8	6	52	49.1	7	11	32.3	7	20	30.2	5
		255.1			161.8			192.2			118.6			207.6	
		195.1			221.8			12.2			338.6			27.6	
6	9	27.876	6	17	31.68	6	52	1.74	7	14	48.37	7	20	3.94	5

March 11

~~W. C. O.~~

Ill. Mus

p Tami.

p Orionis

p Orionis

40.7

14.3

29.7

56.1

27.9

43.3

12.8

42.4

57.8

27.7

55.1

10.9

43.4

9.3

24.8

58.9

22.8

38.4

14.0

36.2

51.6

254.0

208.4

256.0

5 21 27.7 5 28 55.48 5 32 10.93

W. C. B.

Dr. Weil

α Lyra

8 Lyran

13.0

738° 39' 20.2945.0

29.7

20.19 3.3

46.6

20.5720.6

7.3

20.11 37.7

18.9

20.34 55.1

39. 9

18. 3620:21 12. 3 18

48

50.9

196.3

18. 35- 20, 28 18

48

233

March 25.

$$\begin{array}{rcl} a & -0.48 & m \\ b & -0.17 & n \\ c & -0.13 & \end{array}$$

$$\begin{array}{rcl} & -0.45 & \\ & +0.24 & \\ & =0.13 & \end{array}$$
1030' $\frac{46}{76}$ 3

Jell. Wave

p. 7.7.

		47.9			59.7			59.9			48.8			50.0
		1.6			13.2			13.4			2.3			3.9
		15.9			27.6			27.9			16.7			18.1
		28.8			41.0			41.2			30.0			31.3
		42.6			54.7			54.9			43.5			44.9
		56.6			8.2			8.5			57.4			58.8
8	14	10.0	8	17	21.7	8	22	21.8	8	25	10.6	8	28	12.3
		203.4			226.1			227.6			209.3			219.3
8	13	29.06	8	16	40.87	8	21	41.09	8	24	29.90	8	27	31.33

1855 b. March 25

-48
-17
-13

J. L. K. M.

Hydras

57.2	29.7	47.4	49.0	10.4
10.9	43.6	1.2	2.7	24.0
28.2	57.7	15.7	17.2	38.5
38.4	11.0	28.9	30.2	51.8
52.3	24.7	42.7	44.0	5.2
5.9	38.4	56.6	57.8	19.0
8 31 19.1 8 27 51.8 8 43 9.8 8 46 11.0 8 52 32.3				
209.0	256.9	202.3	211.9	181.2

8 30 38.43 8 27 10.99 8 42 28.90 8 45 30.27 8 51 51.60

Initial
Comp'd M.L. M.L.
Corr

- 0.55
39 9.86
+ 0.02
3 18.47

March. 25

f. 7.7

J. Q. Wier

4		47.7		56.2		34.65	53.5		55.2		—
0		1.6		9.8		34.66	7.1		8.8		24.76 57.2
5		15.9		24.1		34.59	21.4		23.2		24.59 11.4
8		29.0		37.5		34.77	34.8		36.3		24.77 24.8
2		42.9		51.1	9	0 34.75	48.5		50.1		24.95 38.7
10		56.6		4.9		—			3.9		24.74 52.2
3	8	56	9.9	8	56	18.2	—	9	13	17.0	9 1624.92 5.6
2		203.6		201.8					194.5		
60	8	55	29.09	8	55	37.40	9	0	34.68	9	12 36.36 9 15 24.79

1856, March, 25;

J. F. F.

Hydra

		7.5			9.2				5.9		18.6	
		21.1			22.8		29.76	2.2	19.1		31.1	
		31.3			37.1		29.99	16.8	33.9		46.7	
		48.7			50.8		29.87	29.9	47.0		0.0	
		2.4			4.8		29.87	43.6	0.8		13.7	
		16.2			18.7		29.84	57.3	14.6		27.4	
9	20	29.3	9	24	32.0	9	2730.01	10.7	9	31	27.9	9
		160.5			175.8				149.6		179.6	
9	19	48.64	9	23	50.83	9	26	29.87	9	30	47.09	9
					- 0.61							
				20	31.66							
					+ 0.07							
				+3	18.49							

March. 25

f.7.7.

Ilk. Mark

α Leonis

6		32.9			54.7			20.1	
1		46.5			8.4			34.1	
7		0.9			22.9			48.8	
0		14.1			36.0			2.1	
7		27.9			49.9			16.4	
4		41.7			3.4			20.4	
7	9	53	54.7	10	0	16.7	10	4	44.0
6		218.7			192.0				196.3

96	9	53	14.10	9	59	36.00	10	4	2.33
									-0.53
									0 43.33
									+0.04
									3 18.43

8 42	3	18.47
9 24		18.49
10 4		18.43
9 23	+3	18.463
Rate		+0.019

10 hour
gaining

March 24/6. 1856

Ill. Wm

W.C.B.		γ Aquilae		α Aquilae		β Aquilae	
β Lyrae							
—		1.9		22.9		52.0	
+33° 12'		15.9		36.7		5.7	
4.76 49.0		30.1		51.1		20.1	
4.97 5.0		44.0		4.6		37.5	
5.09 21.1		57.0		18.3		47.2	
4.98 37.8		11.8		32.2		1.0	
18	48 5.08 53.7 19	43	28.2 19	47	41.7 19	52	14.4
		186.3		211.5		173.9	
18	48 4.98 19	42	43.76 19	47	4.51 19	51	33.41

March 27.

W. P. B.

Ill. W. B.

α Tauri			α Aurigae			β Tauri			δ Orionis			ϵ Orionis		
—			24.1			44.4			17.8			—		
16°	13'	59.30 30.6	43.2			59.9			31.6	-1°	18	14.37	46.8	
		59.13 41.4	3.7			16.3			48.8			14.29	1.3	
		59.27 59.3	23.0			31.2			59.2			14.47	14.1	
		59.30 13.6	42.7			46.9			12.9			14.36	28.1	
		59.30 27.9	2.2			2.5			26.7			14.54	42.0	
4	30	59.03 41.4	5	10	21.7	5	21	17.6	5	28	39.8	5	32	4.51 31.2
					160.6			218.8			233.8			
4	30	59.22 5	9	22.94	5	20	31.26	5	27	59.11	5	32	14.42	

856. March 27

f. 7. 17.

sec. 9. 17.

II Catalogue

1855phae.

		16.2		6.2		30.9		1.7		27.8					
		29.5		19.9		44.3		15.3		41.5					
		43.9		34.2		58.8		29.6		55.9					
		57.0		47.2		12.3		42.7		9.1					
		10.3		1.3		25.9		56.7		22.9					
		24.5		15.3		39.6		10.1		36.5					
7	15	37.9	7	18	28.2	7	23	52.8	7	27	23.7	7	30	49.8	7
		199.3			152.3			264.6			179.8			243.5	
7	14	37.04	7	17	47.47	7	23	12.09	7	26	42.83	7	30	9.07	7

March 27.

177.

Dec. Mr

 β Gemina

185

8		14.4		3.7		12.5		13.0		4.1					
5		28.3		19.3		26.4		26.8		17.6					
9		42.5		35.7		46.7		41.1		32.2					
1		55.7		50.7		53.9		54.4		41.5					
9		9.6		6.3		7.6		8.0		59.4					
5		23.2		21.4		21.6		21.9		12.9					
5	7	35	36.4	7	40	36.9	7	45	34.8	7	45	38.2	7	49	26.1
5		210.1		174.0		197.5		200.4		197.8					
7	7	34	55.73	7	39	50.57	7	44	53.93	7	44	54.34	7	48	42.40

2nd for
 Comp. MR NA 36 30.76
 2nd NA
 +3 19.34

1856. March. 27.

1.7.7.

H. W. W.

Navis

181	81.0	7.1	40.5	0.3	7.5											
	44.8	20.8	54.1	15.5	21.3											
	59.2	35.1	8.6	31.0	31.6											
	12.2	48.3	21.8	45.5	48.8											
	26.1	2.0	35.4	0.7	2.7											
	39.8	15.8	49.2	15.7	16.3											
>	53	53.0	>	57	28.9	8	1	2.3	8	5	30.1	8	10	29.6	8	
		266.1			118.0			211.9			138.8			161.8		
>	53	12.3	0	>	56	48.29	8	0	21.70	8	4	45.54	8	9	48.83	8

Int. loc - 0.68
 Paul M. 1 25.52
 + 0.04

March. 27.

27.7.

Jli. m

5		48.9		0.9		52.0	
3		2.7		14.4		51.8	
6		17.1		28.9		20.1	
8		29.9		41.9		33.2	
7		43.9		55.7		47.0	
3		57.8		9.4		0.8	
6	8	14	10.7	8	17	22.7	8
			211.0			173.9	
3	8	13	30.14	8	16	41.99	8
						43	33.29

~~0.53~~
~~39~~ ~~9.83~~
~~+ 4.02~~

740 3 19.34
85 3 19.50

752 3 19.42

1856. March. 29

H. E. East

II Catalogue.

 β Geminor

185

			3.0		29.0		15.8		5.1						
	12.76	45.3	16.1		42.6		29.2		20.5						
	12.85	59.1	29.9		56.2		42.8		36.2						
	12.93	12.9	43.5		9.9		56.6		51.5						
	12.91	26.1	56.9		23.2		9.8		6.7						
	13.24	40.8	11.1		37.5		24.0		23.0						
7	23 3/4	54.3	7	28	24.8	7	30	51.1	7	35	37.8	7	40	38.4	7
					185.3			249.5			216.0			181.4	
7	23	12.97	7	27	43.61	7	30	9.93	7	34	56.57	7	39	51.63	7
													Indr GP	-0.43	
													36	30.70	
														+0.05	
													23	20.45	

March 29.

Ill. East

F-7.7.

15 Argus

1	45.19 4.5	—	32.6	41.9	1.9
5	some morphs —	46.46 19.0	41.8	55.0	16.4
2	—	46.45 32.7	59.4	8.8	31.3
5	—	46.33 46.3	13.2	22.7	46.3
7	45.01 8.2	46.51 59.7	26.7	35.7	0.9
0	45.14 22.7	46.34 13.9	40.9	50.3	16.6
4	7 46.51.14 36.2	7 46.24 27.4	7 53 54.4 8	0 3.8 8	5 31.3
4			273.0	218.2	144.7
63	7 44 45.12	7 48 46.39	7 53 13.29	7 59 22.60	8 4 46.39
63					-0.65
20					1 25.28
15					+0.04
65					

March, 29. 1856

f. 7. 7.

- 10. 5. 10

		9.0			50.1			2.1			2.1			51.0	
		22.2			3.9			15.4			18.8			4.1	
		36.0			17.1			29.3			29.4			18.0	
		49.9			31.0			42.9			42.9			31.8	
		3.1			44.3			56.2			56.1			44.9	
		17.1			58.8			10.6			10.7			59.3	
8	10	31.0	8	14	12.4	8	17	24.3	8	22		8	25	12.9	8
		168.3			218.4			180.8			181.2			222.0	
8	9	49.76	8	13	31.20	8	16	42.97	8	21	43.03	8	24	31.71	8

March 29.

J. L. Eam

f.7.7.

8 Hydra

0			52.0		59.9		32.0		49.9		51.3
1		5.7	~~57.0~~		12.9		41.3		3.0		4.8
0			19.2		26.7		59.2		16.9		18.3
8			33.0		40.2		12.9		30.9		32.2
9			46.1		53.9		26.2		44.1		41.1
3			0.5		7.9		40.7		58.7		59.8
9	8	28	14.18	31	21.88	37	54.28	43	12.48	46	13.3
0			171.0		223.0		270.5		215.9		225.2
71	8	27	33.008	30	40.438	37	12.938	42	30.858	45	32.17

- 0.52
39 9.80
+ 0.02

March. 29. 1856

J. F. F.

see. East

		12.9			50.2			56.0			38.9			57.6
		21.9			3.8			9.1			52.3			10.9
		39.9			17.2			22.9			6.2			24.6
		53.3			31.0			36.7			19.9			38.4
		6.9			44.4			49.9			33.0			51.3
		21.0			58.7			4.2			47.6			5.9
8	52	34.8	8	57	12.3	9	1	18.0	9	4	1.1	9	18	19.5
		194.7			217.6			196.8			199.0			208.2
8	51	53.53	8	56	31.09	9	0	36.69	9	3	19.86	9	12	38.31

March 28

J. T. F.

Hel. Ear

 α Hydra

6	—	9.9	11.8	54.0	8.2
9	26.56 59.1	23.0	25.0	4.3	21.7
6	26.55 12.8	36.8	38.9	18.0	35.2
4	26.83 26.8	50.7	52.9	31.8	48.9
3	26.71 39.9	3.9	6.2	44.9	2.2
9	26.73 54.3	18.2	20.7	59.3	16.6
5	9 26.83 8.0 9 20	31.9 9	24 34.3 9	27 13.0 9	31 30.2
2		174.4	189.8	222.3	163.0
31	9 15 26.70 9 19	50.63 9	23 52.83 9	26 31.76 9	30 49.00

- 0.52
20 31.61
+ 0.02

Clock Error

7 40	+3 20.45	-3 20.49
8 5	20.42	20.50
8 43	20.51	20.51
9 24	20.63	20.52
8 28	20.502	
Pre Rate	+ 0.024	
File	+ 0.010	
Adopted	+ 0.017	

