

KG
11365
387

Cheek Reading Nov. 1872

U. S. COAST SURVEY.

BENJAMIN PEIRCE, Superintendent.

SECTION 1

LONGITUDE

Obs and COMPUTATIONS.

2nd Reading of Sheets

STATION

Harvard Observatory

Cambridge Mass.

73 1/2° in W of Merid. Cir.

Year of Obs., 18 72

Reading sent
Year of Comp., 18 72

Obs.

Edwin Smith

Comp.

S. S. Tamm (Reader)

Vols.

Vol.

KG11365.387

U. S. COAST SURVEY.

BENJAMIN PEIRCE, *Superintendent.*SECTION *I*

OBSERVATIONS FOR LONGITUDE.

2nd Reading of Sheets

STATION.

*Harvard Observatory**Cambridge Mass.**73 ft 9 in W. of Merid. Circle*

INSTRUMENT USED.

Transit No 5 U.S.C.S.

ORIGINAL.

1872

Chief of party.

Prof. Joseph W. Ward
Obs. Edwin Smith

2 Vols.

Vol. *I*

RG-11365.389



compared with first reading and corrected Nov. 1972
Corrections were in red & blue

Edwin Smith

1861?

Time Service

Instrumental Correction - Harvard Obs^y. Cambridge, Mass.

July 19th 1872.

Observer Edwin Smith.

Reader S. S. Lane

	ϵ Herculis	η Dracon.	δ Dracon. u.c.	α Ophiuchi	ω Dracon. u.c.	μ Herculis	ν Dracon. u.c.	γ Dracon.
	E.	E.	E.	E.	E.	E.	E.	E.
B ₁								
2								
3								
4								
5								
C ₁	16 ^h 16 ^m 30.40	16 ^h 23 ^m 6.40	16 ^h 29 ^m 19.75	17 ^h 29 ^m 27.60	17 ^h 38 ^m 47.40	17 ^h 41 ^m 57.10	17 ^h 45 ^m 29.30	17 ^h 54 ^m 18.40
2	26.60	23 1.00	12.65	24.90	40.30	54.30	20.85	14.35
3	22.96	22 55.80	29 5.35	22.40	33.00	51.35	12.50	10.25
4	19.00	50.25	28 58.20	19.65	26.00	48.45	45 4.20	6.10
5	15.50	44.95	51.20	17.10	19.00	45.60	44 55.90	54 2.20
D ₁	7.90	33.90	36.70	11.90	38 4.70	39.65	38.90	53 54.70
2	4.40	28.40	29.70	9.30	37 57.70	36.90	30.55	49.70
3	16 0.70	23.00	22.60	6.60	50.55	33.90	22.25	45.65
4	15 56.95	19.80	15.50	4.00	—	31.15	13.70	41.40
5	53.35	16 22 12.30	28 8.35	29 1.40	36.40	28.30	44 5.45	37.45
E ₁	45.75		27 53.90	28 56.20	22.45	22.50	43 55.90	29.20
2	42.00		46.65	53.50	15.35	19.60	48.95	25.10
3	38.20		39.70	50.90	8.10?	16.70	40.30	20.80
4	34.50		32.20	48.30	37 1.30	13.80	31.95	16.80
5	16 15 30.70		16 27 24.90	17 28 45.45	17 36 53.90	17 41 10.80	17 43 23.50	17 53 12.75
F ₁								
2								
3								
4								
5								

July 19th cont.July 20th

	22 Camelopard. L.C. W.	η Serpenti W.	1 Aquila W.	Δ Lyra W.	51 Cephei L.C. W.	ϵ Cor. Bor. E.	β' Scorp. E.	δ Ophiuchi E.
B ₁								
2								
3								
4								
5								
C ₁	18 ^h 5 ^m 45. ^s 10	18 ^h 14 ^m 27. ^s 85	18 ^h 28 ^m 0. ^s 95	18 ^h 32 ^m 17. ^s 50		15 ^h 52 ^m 47. ^s 10	15 ^h 58 ^m 28. ^s 30	16 ^h 8 ^m 5. ^s 45
2	37.75	30.25	3.60	20.70		44.15	25.40	2.80
3	30.45	32.90	6.25	24.00		41.15	22.75	8 0.25
4	22.80	35.55	8.80	27.45		38.35	20.00	7 57.85
5	15.95	38.00	11.35	30.60		35.50	17.30	55.30
D ₁	5 1.25	43.15	16.60	37.35	18 ^h 41 ^m 8. ^s 85	29.75	11.90	49.90
2	4 54.15	45.75	19.15	40.50	40 15.35	27.00	9.30	47.40
3	47.10	48.35	21.70	43.75	39 23.70	24.00	6.50	44.90
4	39.50	50.85	24.35	46.90	38 29.75	21.15	3.85	42.40
5	31.95	53.50	27.00	50.30	18 37 36.80	18.25	58 1.10	39.85
E ₁	17.90	14 58.60	32.20	32 56.90		12.50	57 55.60	34.80
2	10.85	15 1.20	34.70	33 0.20		9.45	52.90	32.20
3	4 3.60	3.70	37.25	3.50		6.80	50.20	29.60
4	3 56.00	6.35	39.80	6.70		3.90	47.50	27.00
5	18 3 48.90	18 15 8.65	18 28 42.50	18 33 9.90		15 52 0.85	15 57 44.75	16 7 24.45
F ₁								
2								
3								
4								
5								

July 20th

τ Herculis	η Dracon.	α Dracon.	κ Ophiuchi	ϵ Urs. Min.	δ Herculis	γ Ophiuchi	β Dracon.
E.	E.	^{u.c.} E.	W.	^{u.c.} W.	W.	W.	W.
16 16 30.40	16 23 6.35	16 29 19.80	16 51 22.65	16 56 51.40	17 8 34.55	17 18 18.15	17 27 6.60
26.55	23 1.00	12.50	25.35	57 10.90	37.30	20.90	10.80
23.00	22 55.60	29 5.60	27.95	29.15	39.80	23.50	15.10
19.25	50.15	28 58.55	30.75	57 47.80	42.45	26.50	19.20
15.55	44.65	57.35	33.30	58 7.50	45.25	29.25	23.50
8.10	33.65	36.80	38.45	45.70	50.50	34.90	31.80
4.25	28.50	29.55	40.95	59 3.65	53.00	37.60	36.10
16 0.60	23.00	22.50	43.60	23.40	55.90	40.35	40.15
15 56.80	17.80	15.45	46.00	16 59 42.25	8 58.40	43.20	44.40
53.15	12.40	28 8.25	48.70	17 0 0.85	9 1.00	46.00	48.55
45.65	22 1.45	27 53.85	54.00	38.85	6.35	51.80	27 56.90
41.90	21 55.90	47.00	56.40	0 58.50	8.90	54.50	28 1.10
38.35	50.70	39.75	51 59.00	1 17.00	11.60	18 57.30	5.20
34.60	44.95	32.50	52 1.65	36.40	14.30	19 0.00	9.30
16 15 30.90	16 21 39.45	16 27 25.25	16 52 4.40	17 1 55.35	17 9 16.90	17 19 3.00	17 28 13.75

E ft. throo clids.

July 20th cont.

	α Ophiuchi M.	ω Dracon. u.c. M.	μ Herculis M.	ψ Dracon. u.c. M.	ϵ Aquila M.	δ Lyra M.	ϵ Cephei L.C. M.	β Lyra M.
B ₁								
2								
3								
4								
5								
C ₁	h m s 17 28 45.80	h m s 17 36 54.60	h m s 17 41 11.00	h m s 17 43 15.40	h m s 18 28 1.00	h m s 18 32 17.35		h m s 18 45 4.10
2	48.30	37 1.30	14.00	23.80	3.55	20.75		7.20
3	51.00	8.20	16.80	32.35	6.15	24.20		10.15
4	53.50	15.80	19.65	40.50	8.80	27.20		13.25
5	28 56.00	22.45	22.55	43 48.70	11.30	30.50		16.45
D ₁	29 1.40	37.15	28.25	44 5.70	16.60	37.20	h m s 18 41 13.58	22.50
2	4.05	43.95	31.35	14.70	19.00	40.40	40 20.00	25.55
3	6.60	50.65	34.30	22.60	21.60	43.65	39 28.05	28.65
4	9.20	37 58.25	37.10	30.80	24.35	46.95	38 34.75	31.75
5	11.90	38 5.25	40.00	39.30	27.00	50.20	18 37 40.35	34.75
E ₁	17.15	19.65	45.80	44 55.90	32.15	56.65		40.80
2	19.75	26.40	48.70	45 4.35	34.70	32 59.90		43.90
3	22.30	33.60	51.55	12.70	37.20	33 3.40		47.00
4	25.00	40.25	54.40	21.20	39.75	6.70		50.10
5	17 29 27.45	17 38 47.50	17 41 57.35	17 45 30.00	18 28 42.40	18 33 10.00		18 45 53.20
F ₁								
2								
3								
4								
5								

July 20thJuly 21st

Δ Sagittarii	50 Dracon	3 Aquilae	δ Sagitt.	δ Dracon		(P) β Phicchi	α Herculis
N.	u.c. N.	N.	E.	u.c. E.		N.	N.
						^{h m s} 17 36 39.90	^{h m s} 17 40 53.20
						42.35	56.20
						45.00	40 59.00
						47.65	41 1.90
						50.10	4.80
^{h m s} 18 47 4.25	^{h m s} 18 49 18.65	^{h m s} 18 59 17.80	^{h m s} 19 10 37.30	^{h m s} 19 13 33.30		55.20	10.70
7.10	28.70	20.40	35.00	26.30		36 57.90	13.50
9.90	39.00	23.00	31.90	19.70		37 0.40	17.45
12.75	49.00	25.80	29.40	13.20		3.10	19.35
15.75	49 59.15	28.30	26.90	13 6.40		5.55	22.25
21.40	50 20.00	33.60	21.30	12 53.25		10.80	28.00
24.35	29.70	36.00	18.60	46.50		13.20	30.95
27.10	39.40	38.80	15.85	39.85		15.85	33.70
29.80	49.80	41.40	13.30	33.25		18.40	36.70
32.90	50 59.90	44.00	19 10 10.60	26.60		20.90	39.65
38.65	51 19.70	49.30		12.95		26.35	45.50
41.30	30.10	52.00		12 6.55		28.90	48.40
44.30	39.80	54.65		11 59.70		31.25	51.20
47.15	51 49.95	57.25		53.30		33.90	54.15
18 47 50.00	18 52 0.30	18 59 59.85		19 11 46.40		17 37 36.60	17 41 57.00

Exchange of Signals with Washington.

ft. this clouds.

July 21st cont.

July 22?

	γ Dracon.	(P) γ_2 Ophiuchi		α Herculis	γ Dracon.	α Dracon.	γ Ophiuchi	γ Herculis
	W.	W.		E.	E.	u. c. E.	E.	E.
B ₁	17 ^h 52 ^m 47.75							
2	51.90							
3	52 56.00							
4	53 0.00							
5	4.15							
C ₁	12.40	18 ^h 1 ^m 3.15		16 ^h 16 ^m 29.70	16 ^h 23 ^m 5.50	16 ^h 29 ^m 18.60	16 ^h 30 ^m 33.95	16 ^h 39 ^m 3.40
2	16.50	5.70		26.10	23 0.10	11.40	31.30	39 0.05
3	20.60	—		22.30	22 54.65	29 4.35	28.60	38 56.90
4	24.65	10.90		18.60	49.40	28 57.00	26.10	53.60
5	28.80	13.95		14.90	43.80	49.95	23.50	50.10
D ₁	37.00	18.55		7.35	33.00	35.60	18.40	43.55
2	41.15	21.35		16 3.65	27.50	28.50	15.75	40.15
3	45.20	23.85		15 59.80	22.15	21.20	13.20	37.00
4	49.45	26.50		56.25	16.90	14.00	10.70	33.70
5	53 53.60	29.00		52.50	11.30	28 6.90	7.90	30.40
E ₁	54 1.70	34.20		45.00	22 0.40	27 52.50	2.95	23.85
2	5.80	36.70		41.25	21 55.15	45.75	30 0.20	20.55
3	9.90	39.45		37.70	49.70	38.30	29 57.60	17.15
4	13.95	42.00		33.80	44.35	31.00	54.95	13.80
5	18.20	18 1 44.65		16 15 30.00	16 21 38.85	16 27 24.00	16 29 52.40	16 38 10.50
F ₁	26.70							
2	30.40							
3	34.60							
4	38.80							
5	17 54 43.00							

Exchange of Sig. with St. Pierre & Washington.

* ft. thro' clouds - obs'n doubtful.

July 22nd

Eq. Int.

κ Ophiuchi	ϵ Ues. Min.	α Herculis	44 Ophiuchi	Gamma. g66	β Dracon.	ω Dracon.	μ Herculis
E.	u.c. E.	E	E.	L.C. W.	W.	u.c. W.	W.
	17 ^h 3 ^m 45.10						
	26.00						
	3 7.35						
	2 48.15						
	2 29.40						
16 ^h 52 ^m 3.85	1 51.50	17 ^h 9 ^m 16.40	17 ^h 19 ^m 2.70	17 ^h 23 ^m 59.10	17 ^h 27 ^m 5.90	17 ^h 36 ^m 53.10	17 ^h 41 ^m 10.55
52 1.20	32.20	13.75	18 59.75	48.60	9.95	37 0.25	13.45
51 58.70	1 13.80	11.10	56.95	39.80	14.20	7.25	16.20
56.10	0 54.55	8.50	54.25	29.30	18.50	14.45	19.00
53.50	17 0 35.30	5.90	51.40	23 19.65	22.55	21.70	22.15
48.20	16 59 57.40	9 0.50	45.90	22 59.50	30.90	35.80	27.80
45.60	38.40	8 57.70	43.00	49.50	35.00	43.05	30.60
43.00	59 19.15	55.10	40.15	40.80	39.30	49.90	33.60
40.60	58 59.90	52.70	37.30	30.40	43.50	37 57.00	36.70
37.80	41.65	49.85	34.80	20.45	47.65	38 4.00	39.50
32.65	58 3.95	44.60	28.95	22 0.65	27 56.20	18.20	45.30
30.10	57 44.95	41.90	26.25	* 21 50.70	28 0.20	25.10	47.95
27.50	26.00	39.30	23.25	40.70	4.45	32.50	50.95
24.90	57 7.00	36.75	20.70	30.75	8.70	39.60	53.90
16 51 22.30	56 47.90	17 8 34.00	17 18 17.65	17 21 21.00	17 28 12.90	17 38 46.50	17 41 56.70
	56 10.50						
	55 51.85						
	31.90						
	55 12.80						
	16 54 53.30						

July 22[?] cont.July 23[?]

	δ' Dracon. u.c. M.	γ Dracon. M.	μ' Sagitt. M.	η Serpentis M.	ϵ Aquila M.	α Lyra M.		α Dracon. u.c. E.
B ₁								
2								
3								
4								
5								
C ₁	h m s 17 43 14.20	h m s 17 53 12.10	h m s 18 5 51.65	h m s 18 14 27.55	h m s 18 28 0.70	h m s 18 32 16.90		h m s 16 29 18.15
2	22.60	16.25	54.20	30.00	3.30	20.15		11.00
3	31.00	20.20	57.10	32.60	5.85	23.60		29 3.80
4	39.55 ²	24.40	5 59.80	35.25	8.60	27.10		28 56.60
5	47.85	28.40	6 2.50	37.75	11.10	30.20		49.50
D ₁	44 4.85	36.90	7.95	42.80	16.30	36.70		35.20
2	12.85	40.80	10.65	45.50	18.85	39.90		27.90
3	21.20	45.00	13.50	48.10	21.40	43.30		20.95
4	44 29.40	49.15	16.20	50.70	24.00	46.50		13.50
5	—	53 53.25	19.10	53.25	26.50	49.90		28 6.50
E ₁	—	54 1.40	24.50	14 58.30	31.75	56.30		27 52.10
2	—	5.60	27.20	15 0.80	34.35	32 59.60		46.00
3	45 11.65	9.75	30.00	3.40	36.90	33 2.80		37.80
4	20.30	13.70	32.70	6.00	39.40	6.20		30.60
5	17 45 28.25	17 54 17.90	18 6 35.50	18 15 8.60	18 28 42.10	18 33 9.50		16 27 23.45
F ₁								
2								
3								
4								
5								

Exchange of Signals with Brest & Washington.

July 23rdJuly 24th

η Herculis	ϵ Urs. Min.		ζ Urs. Min.	ϵ Cor. Bor.	δ Ophiuchi	τ Herculis	η Dracon.
E.	u.c. E		u.c. W.	W.	W.	W.	W.
16 ^h 39 ^m 22.90			15 ^h 45 ^m 51.70				
19.60			46 3.30				
16.15			16.40				
13.00			28.80				
9.60			46 41.80				
39 3.15			47 6.40	15 ^h 52 ^m 0.00	16 ^h 7 ^m 23.90	16 ^h 15 ^m 29.85	16 ^h 21 ^m 38.30
38 59.80			19.00	3.00	26.55	33.35	43.80
56.40	17 ^h 1 ^m 12.50		31.60	5.90	29.00	37.15	49.20
53.15	0 53.85		44.15	8.70	31.55	40.85	21 54.55
49.70	17 0 34.15		47 57.75	11.50	34.20	44.80	22 0.10
43.00	16 59 57.05		48 22.80	17.25	39.30	52.30	10.75
—	38.25		35.15	20.20	41.90	56.00	16.35
16 38 36.70	19.10		48 47.20	23.15	44.40	15 59.65	21.80
	59 0.15		49 0.10	26.00	46.90	16 3.40	26.95
	58 41.25		12.05	28.90	49.55	7.00	32.35
	58 3.40		37.20	34.65	54.75	14.45	43.40
	57 44.55		49 49.70	37.55	57.25	18.30	48.95
	25.75		50 2.10	40.40	7 59.85	21.85	54.25
	57 6.80		14.45	43.35	8 2.30	25.55	22 59.50
	46.50		15 50 27.60	15 52 46.30	16 8 4.90	16 16 29.50	16 23 5.00
	56 9.30						
	16 55 50.40						

Exchange of Signals with St. Pierre & Washington.

ft. clouds.

July 24th
Eq. Int.

	A Dracon u.c. M.	3 Ophiuchi M.	7 Herculis M.	κ Ophiuchi M.	ε Urs. Min. M.	δ Herculis M.	44 Ophiuchi M.	Groomb. 966 L.C. M.
B ₁					16 ^h 54 ^m 53.90 ^s			
2					55 12.40			
3					31.60			
4					55 50.25			
5					56 9.65			
C ₁	16 ^h 27 ^m 24.00 ^s	16 ^h 29 ^m 52.15 ^s	16 ^h 38 ^m 10.10 ^s	16 ^h 57 ^m 21.90 ^s	56 47.30	17 ^h 8 ^m 33.80 ^s	17 ^h 18 ^m 17.55 ^s	17 ^h 23 ^m 59.30 ^s
2	31.00	54.70	13.50	24.65	57 6.00	36.50	20.35	49.50
3	37.90	57.30	16.80	27.30	24.85	39.00	23.00	39.30
4	45.15	29 59.90	20.00	29.80	57 44.80	41.70	26.00	29.40
5	27 52.40	30 2.50	23.30	32.35	58 2.65	44.30	28.70	23 19.40
D ₁	28 6.90	7.80	30.15	37.60	41.60	49.60	34.40	22 59.50
2	14.15	10.20	33.30	40.25	58 59.80	52.40	37.00	49.35
3	21.60	12.80	36.65	42.90	59 19.45	54.90	39.80	40.00
4	28.50	15.40	39.80	45.40	37.80	8 57.65	42.65	30.10
5	36.00	18.00	43.00	47.95	16 59 57.30	9 0.20	45.60	20.15
E ₁	50.15	23.35	49.75	53.25	17 0 35.20	5.60	51.05	22 0.75
2	28 57.15	25.80	53.05	55.80	0 53.90	8.10	53.95	21 50.60
3	29 4.50	28.35	56.60	51 58.40	1 13.05	10.80	56.80	41.00
4	11.05	31.15	38 59.70	52 1.00	31.75	13.50	18 59.40	31.00
5	16 29 18.10	16 30 33.75	16 39 3.00	16 52 3.65	1 50.50	17 9 16.15	17 19 2.30	17 21 21.30
F ₁					2 28.70			
2					2 48.15			
3					3 7.25			
4					25.55			
5					17 3 45.20			

July 24th

Eq. Int.

Eq. Int.

β Dracon.	ω Dracon.	μ Herculis	δ Dracon.	γ Dracon.	α Sagitt.	η Serpenti	χ Dracon.
E.	u.c. E.	E.	u.c. E.	E.	E.	E.	(P) u.c. E.
			17 46 17.55				18 25 29.35
			9.20				20.75
			46 0.50				12.45
			45 52.40				25 3.65
			43.70				24 54.95
17 28 12.15	17 38 45.45	17 41 56.10	27.00	17 54 17.20	18 6 35.05	18 15 8.10	37.65
8.10	38.10	53.25	18.60	13.10	32.25	5.55	29.60
28 4.00	31.25	50.30	10.40	8.80	29.50	2.95	20.75
27 59.55	24.45	47.50	45 2.05	4.79	26.80	15 0.40	12.20
55.55	16.85	44.55	44 53.70	54 0.60	24.15	14 57.80	24 3.60
46.90	38 2.90	38.70	36.50	53 52.50	18.60	52.75	23 46.15
42.85	55.70	35.90	28.70	48.30	15.80	50.15	37.65
38.65	48.60	33.00	19.80	44.05	13.15	47.40	29.30
34.20	41.80	30.10	11.65	40.15	10.45	45.00	20.50
30.20	34.60	27.35	44 3.40	36.05	7.60	42.40	23 11.90
21.80	20.25	21.50	43 46.55	27.70	6 2.15	37.20	22 54.90
17.80	13.50	18.50	38.05	23.70	5 59.40	34.70	45.90
13.60	37 6.15	15.60	29.65	19.50	56.55	32.20	37.55
9.50	36 59.30	12.70	21.55	15.50	53.80	29.65	28.95
17 27 5.10	17 36 51.85	17 41 9.70	43 13.10	17 53 11.30	18 5 51.00	18 14 27.00	20.35
			42 56.25				22 3.00
			47.60				21 54.50
			39.45				46.40
			31.00				37.20
			17 42 22.60				18 21 28.50

July 24th cont.

	1 Aquila	2 Lyra	51 Cephei	α Sagitt.	50 Draconis, U.C.		3 Aquila	δ Sagitt.
	E.	E.	L.C. E.	E.	E.	W.	W.	W.
B ₁								
2								
3								
4								
5								
C ₁	h m s 18 28 41.60	h m s 18 33 8.90		h m s 18 47 49.35			h m s 18 59 17.00	h m s 19 9 53.85
2	39.00	5.60	h m s 18 34 17.45	43.70			19.60	56.50
3	36.45	33 2.20	35 10.25	46.40			22.20	9 59.00
4	33.80	32 59.00	36 2.70	40.70			24.70	10 1.90
5	31.35	55.60		37.80			27.40	4.60
D ₁	26.00	48.95	37 49.30	32.10			32.70	10.05
2	23.60	45.85	38 42.40	29.30			35.35	12.70
3	21.00	42.55	39 35.20	26.40			37.90	15.40
4	18.35	39.40	40 29.80	23.60	18 50 27.35		40.70	18.10
5	15.80	36.00	41 21.85	20.75	50 17.15		43.40	20.80
E ₁	10.60	29.35	43 8.40	15.00	49 56.85	h m s 18 51 18.20	48.50	26.20
2	8.00	26.15	44 1.70	12.20	47.00	28.60	51.30	29.00
3	5.50	22.95	18 44 53.90	9.40	37.35	38.50	53.80	31.80
4	2.90	19.80		6.45	26.85	48.30	56.40	34.35
5	18 28 0.20	18 32 16.40		18 47 3.60	18 49 16.65	51 58.65	18 59 59.00	19 10 37.00
F ₁					48 56.05	52 18.55		
2					18 48 46.75	28.00		
3						39.10		
						49.25		
5						18 52 59.80		

July 24thJuly 25th

δ Dracon.	α Draconis, u.c.		α Cor. Bor.	α Serpenti	β Serpenti	γ Uls. Min.	ϵ Cor. Bor.
u.c. M.	M.	E.	E.	E.	E.	u.c. E.	E.
	^{h m s}	^{h m s}					^{h m s}
	19 16 5.00	19 20 10.95					15 53 3.25
	13.60	20 2.15					53 0.40
	22.50	19 53.35					52 57.50
	31.40	44.80					54.80
	40.10	35.55					51.85
	16 57.90	18.05	^{h m s} 15 29 44.75	^{h m s} 15 38 24.20	^{h m s} 15 40 43.80	^{h m s} 15 50 26.95	46.15
	17 6.50	9.80	41.80	21.60	41.25	14.30	43.20
	15.45	19 0.50	38.90	19.05	38.50	50 1.60	40.20
	24.30	18 51.80	36.05	16.55	35.95	49 49.25	37.40
	19 17 33.00	43.20	33.15	13.90	33.20	36.75	34.50
^{h m s}	19 12 25.25	25.50	27.30	8.70	27.90	49 11.35	28.55
	32.00	16.70	24.45	6.25	25.10	48 59.30	25.90
	38.70	19 18 7.70	21.65	3.60	22.40	46.80	23.00
	45.35		18.90	38 1.00	19.90	34.15	20.00
	12 52.10		15.80	37 58.40	17.20	48 21.95	15 52 17.30
	13 5.50		10.00	53.25	11.90	47 56.65	
	11.90		7.25	50.70	7.20	44.50	
	18.60		4.30	48.05	6.60	31.50	
	25.15		29 1.40	45.55	3.90	19.80	
	31.90		15 28 58.50	15 37 43.00	15 40 1.15	15 47 6.65	
	45.50						
	52.05						
	13 58.95						
	14 5.60						
	19 14 12.35						

July 25th cont.

	(P) θ Dracon.	(P) γ Herculis	α Herculis	(P) ω Herculis	ε Scorpæ	A Dracon.	ζ Ophiuchi	η Herculis
	E.	E.	W.	W.	W.	u.c. W.	W.	W.
B ₁	16 ^h 0 ^m 15.00		16 ^h 15 ^m 7.55					
2	10.00		11.15					
3	5.10		14.90					
4	16 0 0.10		18.60					
5	15 59 55.20		22.30					
C ₁	45.10	16 ^h 5 ^m 19.15	29.70	16 ^h 19 ^m 15.20	16 ^h 21 ^m 17.10		16 ^h 38 ^m 9.90	
2	40.25	15.35	33.60	17.95	20.00		13.15	
3	35.35	11.80	37.25	20.55	22.90		16.50	
4	30.50	8.15	41.00	23.20	25.80		19.80	
5	25.50	5 4.70	44.70	25.85	28.65		23.00	
D ₁	15.55	4 57.30	52.30	31.20	34.35		29.70	
2	10.35	53.65	55.80	33.90	37.10		33.00	
3	5.60	50.00	15 59.60	36.45	39.90		36.30	
4	59 0.55	46.35	16 3.30	39.20	42.75		39.75	
5	15 58 55.50	42.70	7.00	41.90	45.70		43.15	
E ₁		35.40	14.40	47.15	51.40	16 ^h 28 ^m 49.10	16 ^h 30 ^m 23.40	49.65
2		31.80	17.95	49.70	54.30	28 56.40	25.90	52.90
3		28.30	21.85	52.40	57.05	29 3.65	28.50	56.20
4		24.50	25.60	54.90	21 59.90	10.75	31.05	38 59.55
5		16 4 20.75	16 16 29.45	16 19 57.60	16 22 2.90	18.35	33.65	16 39 2.85
F ₁						clouds.	clouds.	
2						32.30	38.90	
3						39.40	41.50	
4						46.60	44.10	
5						29 53.65	46.75	
						16 30 0.95	16 30 49.40	

July 25th

Eq. Int.

(Eq. Int. ?)

κ Ophiuchi	ϵ Urs. Min.	δ Herculis	χ Herculis	β Dracon.	ω Dracon.	γ' Dracon.	γ Dracon.
W.	u.c. W.	W.	W.	W.	W.	u.c. W.	E.
	h m s					h m s	
	16 54 52.85					17 42 23.25	
	55 13.45					32.00	
	31.50					40.15	
	55 51.00					48.55	
	56 9.40					42 57.00	
h m s	h m s	h m s	h m s	h m s	h m s	h m s	h m s
16 57 21.85	56 47.80	17 8 33.70	17 22 56.40	17 27 5.30	17 36 52.60	43 13.40	17 54 17.45
24.50	57 6.80	36.35	23 0.00	9.50	36 59.65	22.30	13.35
27.00	26.15	38.80	3.90	13.65	37 6.75	30.70	9.20
29.55	57 43.80	41.50	7.90	17.70	13.70	38.80	5.00
32.25	58 3.85	44.10	11.70	22.00	21.05	43 47.30	54 1.10
37.45	58 41.90	49.55	19.55	30.55	35.55	44 4.10	53 52.65
40.00	59 1.30	52.20	23.20	34.75	42.20	12.30	48.60
42.60	19.80	54.85	27.00	38.95	49.35	20.90	44.60
45.30	39.00	8 57.50	30.95	43.10	37 56.60	29.25	40.30
47.80	16 59 57.80	9 0.10	34.80	47.35	38 3.50	37.40	35.90
53.05	17 0 36.00	5.35	42.40	55.60	17.40	44 54.55	27.70
55.70	0 54.50	8.00	46.50	27 59.75	25.00	45 2.75	23.70
51 58.20	1 13.60	10.60	50.20	28 4.10	32.20	10.70	19.50
52 0.75	32.50	13.15	54.15	8.20	39.10	19.40	15.70
16 52 3.35	1 57.90	17 9 15.90	17 23 57.80	17 28 12.40	17 38 46.40	27.85	17 53 11.40
	2 29.40					44.15	
	2 48.10					45 53.20	
	3 7.15					46 1.40	
	26.35					9.90	
	17 3 45.35					17 46 18.10	

C3.1 doubtful clouds.

July 25th cont.July 27th

	α Lyrae E.		ϵ Serpentis M.	ζ Ues. Min. u.e. M.	ϵ Cor. Bor. M.	β Scorpii M.	(P) η Herculis M.	(P) δ Ophiuchi M.
B ₁								
2								
3								
4								
5								
C ₁	18 33 8.90		15 44 11.35	15 47 6.25	15 51 59.70	15 57 43.85	16 4 20.55	16 7 23.55
2	5.50		13.80	18.80	52 2.60	46.65	24.25	26.15
3	33 2.20		16.25	31.40	5.40	49.40	27.80	28.70
4	32 59.10		19.00	44.45	8.40	52.00	31.45	31.20
5	55.80		21.55	47 56.55	11.30	54.85	35.20	33.80
D ₁	49.20		26.65	48 22.00	17.00	58 0.25	42.50	39.15?
2	45.95		29.20	34.10	19.95	3.10	46.05	41.50
3	42.70		31.80	46.65	23.00	5.65	49.70	43.95
4	39.55		34.35	48 59.10	25.85	8.45	53.25	46.70
5	36.15		36.95	49 12.15	28.65	11.10	4 57.05	49.30
E ₁	29.50		41.90	36.95	34.40	16.50	5 4.35	54.40
2	26.30		44.60	49 49.55	37.20	19.40	7.90	56.85
3	23.00		47.10	50 1.90	41.00	22.10	11.55	7 59.45
4	19.80		49.70	14.30	43.00	24.65	15.20	8 2.20
5	18 32 16.35		15 44 52.15	15 50 26.70	15 52 45.95	15 58 27.55	16 5 19.00	16 8 4.55
F ₁								
2								
3								
4								
5								

Exchange of Sigs. with Washington.

July 27th

								Eq. Int.	
ϵ Ophiuchi	(P) 19 Uls. Min.	A Dragon	(P) 3 Herculis	η Herculis	(P) Groomb. 2377	κ Ophiuchi	ϵ Uls. Min.		
W.	u.c. W.	u.c. W.	E.	E.	E.	E.	u.c. E.		
								^h ^m ^s	
								17 3	43.95
									25.00
								3	5.75
									47.00
								2	27.30
16 ^h 11 ^m 18.15		16 ^h 27 ^m 23.50	16 ^h 36 ^m 57.75	16 ^h 39 ^m 2.65	16 ^h 43 ^m 35.80	16 ^h 52 ^m 3.15	1	50.05	
20.75		30.50	54.50	38 59.20	31.20	52 0.75		31.00	
23.40		37.65	57.50	56.05	26.30	51 58.00	1	12.10	
25.85		44.90	48.35	52.80	21.80	55.35	0	52.90	
28.55		27 52.00	45.55	49.50	17.00	52.85	17 0	34.60	
33.65	16 ^h 14 ^m 14.65	28 6.40	39.35	42.80	7.65	47.60	16 59	56.25	
36.00	25.30	13.50	36.30	39.55	43 2.40	44.90		37.35	
38.70	36.00	20.60	33.30	36.25	42 58.20	42.35	59	17.90	
41.30	47.05	27.90	30.40	32.95	53.20	39.75	58	58.60	
43.80	14 57.90	34.95	27.30	29.55	48.40	37.20		40.30	
48.95		49.30	16 36 21.25	23.10	39.10	32.15	58	1.70	
51.50		28 56.40		19.80	34.25	29.35	57	43.30	
54.15	15 41.15	29 3.70		16 38 16.60	30.00	26.70		24.00	
56.70	15 51.55	10.85			24.90	24.20	57	5.95	
16 11 59.25	16 16 2.35	16 29 18.15			16 42 20.40	16 51 21.50	56	47.50	
								56	8.90
								55	50.35
									30.95
								55	12.00
								16 54	52.55

July 27th cont.

708

	δ Herculis	44 Ophiuchi Groom. 966	β Dracon.	ω Dracon.	μ Herculis	ψ Dracon.	γ Dracon.	
	E.	E.	δ .c. E.	E.	α .c. E.	E.	α .c. E.	E.
B ₁								
2								
3								
4								
5								
C ₁	17 9 15.70	17 19 2.00	17 21 20.60	17 28 11.90	17 38 45.75	17 41 56.00	17 45 27.20	17 54 17.00
2	13.00	18 59.10	31.50	7.80	38.25	53.00	18.95	12.90
3	10.45	56.30	41.00	28 3.65	31.20	50.15	10.30	8.70
4	7.80	53.50	21 50.60	27 59.35	24.35	47.30	45 1.05	4.65
5	9 5.05	50.80	22 0.30	55.10	16.95	44.40	44 53.95	54 0.60
D ₁	8 59.70	45.15	20.75	46.80	38 2.98	38.60	36.70	53 52.35
2	57.00	42.30	30.20	42.60	37 56.00	35.65	28.80	48.35
3	54.45	39.35	40.35	38.50	48.45	32.70	20.25	44.20
4	51.85	36.60	22 49.80	34.35	41.90	30.05	11.85	40.10
5	49.20	33.85	23 0.40	30.05	34.75	27.10	44 3.80	35.85
E ₁	43.90	28.30	19.80	21.75	20.15	21.20	43 46.70	27.65
2	41.25	25.45	29.60	17.45	13.25	18.40	37.95	23.50
3	38.70	22.60	39.25	13.30	37 6.10	15.45	29.65	19.45
4	36.00	19.80	49.25	9.00	36 59.00	12.55	21.65	15.35
5	17 8 33.25	17 18 16.90	17 23 59.20	17 27 4.80	16 36 51.80	17 41 9.80	17 43 13.00	17 53 11.20
F ₁								
2								
3								
4								
5								

July 27th

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July 27th cont.

Eq. Int.

July 28th

50 Dracon. u.c.		δ Dracon.		τ Dracon. u.c.		^(P) β Serpenti		ϵ Serpenti	
W.		E.		E.		E.		E.	
B ₁		^{h m s} 18 52 58.40		^{h m s} 19 14 11.60					
	2	48.70		14 4.90					
	3	38.20		13 58.15					
	4	28.15		51.50					
	5	52 18.00		45.00					
C ₁		^{h m s} 18 49 16.90		51 58.00		31.65			
	2	27.00		48.00		24.80			
	3	37.05		37.65		18.05			
	4	47.30		18 51 27.70		11.40			
	5	49 57.00		13 4.90					
D ₁		50 17.35		12 51.45					
	2	27.55		44.75					
	3	37.50		38.00					
	4	47.70		31.70					
	5	18 50 58.45		24.70					
E ₁				^{h m s} 11.55		19 17 32.50		43.00	
	2			12 4.90		23.95		18 52.20	
	3			11 58.20		14.90		19 0.70	
	4			51.75		17 6.00		9.60	
	5			44.90		16 57.30		18.80	
F ₁				31.40		39.35		35.70	
	2			24.75		30.45		44.90	
	3			18.00		21.60		19 53.70	
	4			11.30		12.90		20 2.70	
	5			19 11 4.50		19 16 4.15		19 20 11.30	

Exchange of Signals with Washington.

July 28th

ζ Urs. Min.	ϵ Cor. Bor.	β' Scorpii	γ Herculi ^(P)	δ Ophiuchi	ϵ Ophiuchi ^(P)	ρ Urs. Min. ^(P)	γ Urs. Min. ^(P)
u.c.							
E.	E.	E.	E.	E.	E.	E.	E.
h m s	h m s	h m s	h m s	h m s	h m s	h m s	h m s
15 50 24.60	15 52 45.35	15 58 27.20	16 5 18.35	16 8 4.25	16 11 58.90	16 16 1.40	16 22 46.00
12.65	42.50	24.45	14.45	8 1.70	56.25	15 50.35	36.20
50 0.45	39.65	21.80	10.95	7 59.00	53.90	39.80	25.25
49 47.80	36.70	18.90	7.35	56.55	57.30	28.90	14.60
35.20	33.90	16.30	5 3.65	54.05	48.75	15 18.10	22 3.90
49 10.30	28.00	10.70	4 56.35	48.90	43.45	14 56.65	21 42.30
48 57.55	25.00	8.10	52.70	46.20	40.95	46.00	31.80
45.00	22.20	5.30	49.25	43.80	38.40	35.55	21.30
32.70	19.50	58 2.65	45.70	41.15	35.80	24.95	11.00
48 20.15	16.50	57 59.80	42.00	38.75	33.35	14 14.25	21 0.20
47 55.00	10.75	54.45	34.60	33.40	28.15	13 52.50	10 39.00
15 47 42.75	8.10	51.75	31.00	30.90	25.65	41.90	28.50
	5.05	49.00	27.50	28.30	22.95	30.90	17.70
	52 2.25	46.40	23.60	25.75	20.50	20.30	20 7.30
	15 51 59.35	15 57 43.65	16 4 20.15	16 7 23.20	16 11 17.85	16 13 9.10	16 19 56.45

July 28th cont.

	A Dracon. u.c. E.	3 Ophiuchi E.	27 Herculis W.	(P) Groomb. 2377 W.	κ Ophiuchi W.	ε Urs. Min. u.c. W.	α Herculis W.	44 Ophiuchi W.
B ₁								
2								
3								
4								
5								
C ₁	16 ^h 29 ^m 16.90	16 ^h 30 ^m 33.00	16 ^h 38 ^m 9.45	16 ^h 42 ^m 20.10	16 ^h 51 ^m 21.20	16 ^h 56 ^m 46.65	17 ^h 8 ^m 33.00	
2	9.50	30.55	12.60	24.70	23.85	57 5.00	35.70	17 ^h 18 ^m 19.90
3	29 2.50	27.95	15.80	29.40	26.60	23.60	38.35	22.60
4	28 55.40	25.25	19.45	34.05	29.00	57 42.30	40.90	25.25
5	48.20	22.75	22.60	38.90	31.80	58 1.80	43.70	28.00
D ₁	33.80	17.40	29.30	48.30	36.80	39.60	48.90	33.70
2	26.80	14.90	32.40	53.00	39.55	58 58.40	51.60	36.50
3	19.40	12.30	35.75	42 57.85	42.00	59 17.75	54.20	30.35
4	12.50	9.60	39.00	43 2.30	44.80	36.75	56.95	42.00
5	28 5.15	6.00	42.60	7.10	47.30	16 59 55.40	8 59.60	44.95
E ₁	27 50.95	30 1.80	49.00	16.55	52.50	17 0 33.60	9 4.70	50.60
2	43.90	29 59.00	52.35	21.00	55.00	0 52.25	7.40	53.40
3	36.70	56.60	58.70	25.70	51 57.55	1 11.55	10.00	56.05
4	29.50	54.00	38 59.00	30.50	52 0.15	30.65	12.70	18 58.90
5	16 27 22.25	16 29 51.45	16 39 2.30	16 43 35.25	16 52 2.90	17 1 49.50	17 9 15.30	17 19 1.70
F ₁								
2								
3								
4								
5								

July 28th

Eg. Int.

Eg. Int.

July 28th cont.

	δ Uls. Min. u.c. W.	γ Draconis, u.c. W. E.		1 Aquila E.	2 Lyrae E.	51 Cephei L.C. E.	β Lyrae E.	δ Sagitt. E.
B ₁		^{h m s} 18 21 28.30	^{h m s} 18 25 29.05					
2		36.70	20.30					
3		45.40	11.70					
4		21 54.25	25 2.80					
5		22 2.65	24 54.25					
C ₁	^{h m s} 18 8 6.55	19.90	37.40	^{h m s} 18 28 41.00	^{h m s} 18 33 8.15		^{h m s} 18 45 51.35	^{h m s} 18 47 48.60
2	8 51.00	28.60	28.70	38.40	4.85		48.25	45.80
3	9 33.35	37.10	19.90	35.80	33 1.55	^{h m s} 18 34 17.65	45.20	43.00
4	10 16.75	45.65	11.35	33.20	32 58.35	35 10.75	42.30	40.25
5	10 59.80	18 22 54.25	18 24 2.70	30.60	55.05	36 3.35	39.25	37.35
D ₁	12 26.80			25.45	48.55	37 49.60	33.00	31.60
2	13 10.15			22.90	45.30	38 42.85	30.00	28.75
3	13 53.10			20.40	41.90	39 36.15	26.80	25.80
4	14 36.50			17.75	38.75	40 29.65	23.80	23.00
5	15 19.75			15.20	35.40	41 22.20	20.90	20.10
E ₁	16 46.15			9.95	28.85	43 8.20	14.60	14.45
2	17 29.25			7.50	25.50	18 44 1.50	11.55	11.65
3	18 12.10			4.95	22.30		8.65	8.70
4	18 56.15			28 2.25	19.00		5.55	5.90
5	18 19 40.05			18 27 59.70	18 32 15.80		18 45 2.40	18 47 3.00
F ₁								
2								
3								
4								
5								

July 28th
Eq. Int.

July 29th

50 Dracon. U.C.		8 Dracon. & Draconis, U.C.			E Cor. Bor. (P) Herculis	
E.	W.	u.c. W.	W.	E.	W.	W
		19 ^h 11 ^m 4.30	19 ^h 16 ^m 4.00	19 ^h 20 ^m 10.55		16 ^h 3 ^m 58.80
		11.00	12.65	20 1.60		4 2.30
		17.80	21.70	19 52.65		6.00
		24.60	30.40	44.00		9.80
		31.00	39.50	35.60		13.35
		44.35	16 56.70	17.75	15 ^h 51 ^m 59.70	20.65
		51.00	17 5.60	19 8.80	52 2.60	24.20
		11 57.80	14.20	18 59.90	5.65	27.90
		12 4.50	23.25	51.45	8.30	31.50
		11.20	19 17 32.00	42.90	11.20	4 35.20
18 ^h 50 ^m 56.75		24.50		24.70	17.00	—
46.70		31.00		16.00	20.00	—
36.75		37.80		19 18 7.10	22.90	—
26.50		44.50			25.80	—
50 16.15		12 51.00			28.70	—
49 56.20		13 4.35			34.40	—
46.25		10.90			37.35	—
36.05	18 ^h 51 ^m 37.35	17.75			40.05	5 11.55
26.00	48.20	24.50			43.00	15.20
18 49 15.85	51 58.00	31.20			15 52 45.80	18.90
	52 18.90	44.55				26.10
	27.90	51.10				29.60
	37.80	13 57.85				33.35
	48.35	14 4.70				37.20
	18 52 58.45	19 14 11.30				16 5 40.70

Exchange of Signals with St. Pierre & Washington.

July 29th cont.

	5 Ophiuchi ^(P)	19 U.S. Min ^(P)	U.C.	19 Herculis ^(P)	4 Dracon.	U.C.	A Dracon.	3 Ophiuchi	4 Herculis	Groom. 2377 ^(P)
	W.	W.	W.	W.	W.	W.	W.	W.	W.	W.
B ₁					16 ^h 21 ^m 5.55	16 ^h 26 ^m 39.85				
2					10.75	46.90				
3					16.25	26 54.25				
4					21.50	27 1.60				
5					27.20	8.60				
C ₁	16 ^h 7 ^m 23.60	16 ^h 13 ^m 9.70	16 ^h 19 ^m 14.95	38.10	22.75		16 ^h 29 ^m 54.35	16 ^h 38 ^m 9.70	16 ^h 42 ^m 20.40	
2	26.15	20.65	17.70	43.40	30.00		57.00	12.90	25.00	
3	28.65	31.30	20.20	48.70	37.25		19.60	16.35	29.70	
4	31.20	42.55	23.00	54.00	44.30		29 59.65	19.60	34.50	
5	33.80	13 52.95	25.70	21 59.40	27 51.40		30 2.10	23.00	39.20	
D ₁	39.00	14 14.55	30.95	22 10.50	28 5.90		7.30	29.50	48.65	
2	41.55	25.25	33.60	15.85	13.15		10.00	32.95	53.35	
3	44.00	36.30	36.25	21.10	20.00		12.70	36.25	42 58.00	
4	46.65	46.95	38.90	26.80	27.60		15.35	39.55	43 2.65	
5	49.20	14 57.55	41.50	32.00	34.70		17.90	42.75	7.50	
E ₁	54.30	15 18.75	46.80	43.00	49.00		23.00	49.20	16.80	
2	56.90	29.80	49.30	48.30	28 56.00		25.55	52.45	21.40	
3	7 59.35	40.50	52.00	53.60	29 3.20		28.15	56.00	26.10	
4	8 2.00	15 51.10	54.70	22 58.90	10.30		30.80	38 59.20	30.80	
5	16 8 4.55	16 16 2.30	16 19 57.30	16 23 4.60	16 29 17.60		16 30 33.50	16 39 2.65	16 43 35.75	
F ₁										
2										
3										
4										
5										

July 29th

Eq. Int.

κ Ophiuchi	ϵ Urs. Min.	δ Herculis	44 Ophiuchi	β Dracon.	ω Dracon.	ι Herculis	ψ Dracon.
$M.$	$u.c.$ $M.$	$E.$	$E.$	$E.$	$u.c.$ $E.$	$E.$	$u.c.$ $E.$
	$h\ m\ s$ 16 54 52.00				$h\ m\ s$ 17 39 27.70		
	55 11.00				20.45		
	29.95				13.40		
	38.95				39 6.50		
	56 8.10				38 59.30		
$h\ m\ s$ 16 57 21.60	56 46.30	$h\ m\ s$ 17 9 15.55	$h\ m\ s$ 17 19 1.90	$h\ m\ s$ 17 28 11.80	45.00	$h\ m\ s$ 17 41 56.00	$h\ m\ s$ 17 45 26.90
24.15	57 5.20	12.90	18 59.10	7.70	38.05	53.00	18.30
26.90	24.18	10.30	56.30	28 3.40	31.00	50.20	9.90
29.35	57 43.40	7.70	53.50	27 59.25	24.05	47.25	45 1.55
31.90	58 1.95	9 5.05	50.75	55.10	16.90	44.30	44 53.20
37.25	39.90	8 59.65	45.15	46.69	38 2.60	38.45	36.40
39.85	58 58.85	57.00	42.20	42.40	37 55.90	35.60	28.15
42.45	59 17.85	54.40	39.55	38.35	—	32.70	19.90
45.00	36.82	51.80	36.80	34.25	41.60	29.90	11.20
47.60	16 59 55.85	49.05	33.95	29.90	—	27.00	44 3.00
52.85	17 0 33.75	43.90	28.35	21.50	20.50	21.25	43 46.25
55.30	0 52.75	41.40	25.45	17.35	13.40	18.35	37.80
57 58.00	1 11.20	38.55	22.70	13.05	37 6.15	15.50	29.65
52 0.60	30.40	36.00	19.90	9.00	—	12.65	21.15
16 52 3.15	1 50.10	17 8 33.25	17 18 17.00	27 4.80	36 52.00	17 41 9.70	17 43 12.80
	2 27.45			26 56.30	—		
	2 46.60			52.20	30.70		
	3 5.50			47.90	—		
	24.55			43.85	17 36 16.70		
	17 3 44.00			17 26 39.40	—		

July 29th cont.July 30th

	γ Dracon.	(P) α Herculis		β' Scorpii	(P) η Herculis	δ Ophiuchi	(P) ϵ Ophiuchi	(P) 19 Urs. Min. u.c.
	E.	E.		E.	E.	E.	E.	E.
B ₁								
2								
3								
4								
5								
C ₁	17 ^h 54 ^m 17.10	18 ^h 3 ^m 2.30		15 ^h 58 ^m 27.95	16 ^h 5 ^m 19.65	16 ^h 8 ^m 5.38	16 ^h 11 ^m 59.98	16 ^h 16 ^m 4.15
2	13.00	2 59.40		25.30	16.10	2.65	57.35	15 52.95
3	8.80	56.50		22.55	12.40	8 0.05	54.85	42.85
4	4.65	53.50		19.80	8.90	7 57.55	52.30	31.55
5	54 0.60	50.65		17.15	5 5.15	55.00	49.75	15 20.50
D ₁	53 52.45	44.70		11.75	4 57.80	49.80	44.45	14 59.58
2	48.35	41.85		8.90	54.15	47.25	42.00	48.90
3	44.00	38.90		6.30	50.60	44.75	39.50	38.20
4	40.00	35.95		3.60	47.00	42.00	36.90	27.00
5	35.90	33.00		58 0.80	43.15	39.60	34.30	14 16.05
E ₁	27.70	27.20		57 55.30	35.90	34.60	29.00	13 54.70
2	23.50	24.25		52.65	32.30	31.95	26.60	43.90
3	19.25	21.25		49.95	28.75	29.40	23.95	33.40
4	15.25	18.40		47.15	25.15	26.90	21.50	22.70
5	17 53 11.10	18 2 15.45		15 57 44.60	16 4 21.25	16 7 24.25	16 11 18.90	16 13 12.00
F ₁								
2								
3								
4								
5								

Exchange of Signals with St. Pierre & Washington.

July 30th

α Scorpii	β Herculis ^(P)	A Dracon.	3 Ophiuchi	44 Ophiuchi	β Dracon.	ω Dracon.	α Herculis
E.	E.	u.c. E.	E.	W.	W.	u.c. W.	W.
						17 ^h 36 ^m 11.20	
						18.40	
						—	
						—	
						—	
16 ^h 22 ^m 3.00	16 ^h 25 ^m 11.50	16 ^h 29 ^m 18.80	16 ^h 30 ^m 34.00	17 ^h 18 ^m 17.65	17 ^h 27 ^m 6.15	36 ^m 53.70	17 ^h 41 ^m 10.70
22 0.20	8.85	11.70	31.45	20.50	10.35	37 0.85	13.60
21 57.40	6.00	29 4.60	28.80	23.00	14.40	7.90	16.50
54.70	3.40	28 57.35	26.35	26.00	18.70	14.95	19.40
51.80	25 0.65	50.55	23.70	28.90	22.70	21.95	22.45
45.90	24 54.90	36.05	18.45	34.50	31.20	36.55	28.05
43.25	52.25	28.70	15.80	37.20	35.40	43.60	31.00
40.40	49.50	21.40	13.10	40.15	39.55	50.30	33.90
37.55	46.85	14.30	10.65	42.95	43.75	37 57.40	36.80
34.65	44.20	28 7.70	7.90	45.60	48.00	38 4.55	39.55
29.00	38.55	27 53.05	2.80	51.45	27 56.40	18.80	45.40
26.00	35.75	46.10	30 0.15	54.10	28 0.55	25.70	48.35
23.20	33.00	38.95	29 57.60	56.95	4.80	32.65	51.30
20.35	30.20	31.45	55.00	18 59.70	9.00	39.90	54.20
16 21 17.50	16 24 27.40	16 27 24.35	16 29 52.40	17 19 2.45	17 28 13.00	17 38 47.10	17 41 57.00

July 30th cont.

	ψ 'Dracon u.c. M.	γ Dracon. M.	δ Herculis M.	α Sagitt. M.	η Serpenti M.	(P) χ Dracon. u.c. M.	ϵ Aquila M.	δ Lyra M.
B ₁								
2								
3								
4								
5								
C ₁	17 ^h 43 ^m 15.15	17 ^h 53 ^m 12.65	18 ^h 2 ^m 16.55	18 ^h 5 ^m 51.50	18 ^h 14 ^m 27.70	18 ^h 22 ^m 21.80	18 ^h 28 ^m 0.95	
2	23.60	16.65	19.35	54.50	30.20	—	3.60	2 ^m 23.85
3	31.85	20.70	22.40	57.20	32.80	39.90	6.00	18 32 23.85
4	40.35	24.55	25.30	5 59.90	35.30	22 47.80	8.65	27.50
5	43 48.35	28.75	28.30	6 2.60	37.90	—	11.25	30.50
D ₁	44 5.55	37.00	34.00	8.25	43.00	23 13.50	16.45	37.10
2	13.40	41.15	36.90	10.90	45.60	22.40	19.00	40.20
3	22.15	45.55	40.00	13.70	48.20	30.75	21.55	43.50
4	30.25	49.45	42.95	16.25	50.55	23 39.25	24.05	46.80
5	38.90	53 53.50	45.80	19.00	53.20	—	26.65	49.95
E ₁	44 55.50	54 1.70	51.55	24.50	14 58.30	—	31.90	56.50
2	45 3.60	5.95	54.55	27.20	15 1.00	—	34.50	32 59.90
3	12.25	10.00	2 57.50	30.00	3.35	—	37.05	33 3.15
4	20.35	14.25	3 0.30	32.65	6.00	24 31.00	39.55	6.55
5	17 45 28.90	17 54 18.40	18 3 3.40	18 6 35.45	18 15 8.60	18 24 39.70	18 28 42.20	9.65
F ₁								16.25
2								19.70
3								22.90
4								26.00
5								18 33 29.25

July 30th

Eq. Int.

ζ Aquilae	(P) ι Lyrae	δ Dracon.	ϵ Dracon.	(P) θ Cygni	γ Aquilae	α Aquilae	ϵ Dracon.
E.	E.	u.c. E	u.c. E	E.	E.	E.	u.c. E.
		^{h m s} 19 14 13.10	^{h m s} 19 20 13.00				^{h m s} 19 50 29.90
		14 6.90	20 4.10				22.00
		13 59.90	19 55.20				14.80
		53.30	46.40				50 7.50
		46.40	37.55				49 59.40
^{h m s} 18 59 59.70	^{h m s} 19 3 16.55	33.35	20.20	^{h m s} 19 33 39.80	^{h m s} 19 40 38.50	^{h m s} 19 45 0.25	44.75
57.00	13.60	26.70	11.50	35.95	35.90	44 57.75	—
54.50	10.35	19.95	19 2.40	32.00	33.25	55.00	29.80
51.95	7.10	13.26	18 53.50	28.20	30.90	52.55	21.90
49.25	3 4.05	13 6.30	45.00	23.95	28.25	49.95	49 14.35
43.90	2 57.70	12 53.00	27.00	16.10	22.90	44.70	—
41.40	54.35	46.55	18.40	12.20	20.25	42.00	48 52.45
38.90	51.25	39.80	9.65	8.10	17.55	39.50	45.00
36.00	48.25	32.85	18 0.60	4.30	15.00	37.00	37.55
33.60	45.15	26.20	17 51.95	33 0.30	12.50	34.35	29.70
28.10	38.80	13.05	34.60	32 52.25	7.20	29.00	15.35
25.55	35.80	12 6.40	19 17 25.80	48.50	4.70	26.55	48 7.50
22.90	32.45	11 59.90		44.40	40 2.20	24.00	—
20.35	29.35	52.75		40.40	39 59.50	21.55	—
18 59 17.65	19 2 26.20	46.05		36.50	19 39 56.85	19 44 18.70	47 45.20
		32.90		28.45			30.35
		26.50		24.35			23.00
		19.80		20.60			15.35
		13.00		16.55			19 47 7.75
		19 11 6.15		19 32 12.35			—

July 30th

August 1.

Eq. Int.

Eq. Int.

		κ Ophiuchi	ϵ Urs. Min.	δ Herculi	44 Ophiuchi	Groomb. 966	β Dracon.	ι Dracon.
		W.	u.c. W.	W.	W.	L.C. W.	W.	W.
B ₁			16 ^h 54 ^m 57.75					17 ^h 36 ^m 14.10
2			55 16.15					21.00
3			35.20					28.10
4			53.95					35.10
5			56 13.15					42.30
C ₁		16 ^h 51 ^m 25.50	56 57.20	17 ^h 8 ^m 37.25	17 ^h 18 ^m 21.00	17 ^h 24 ^m 2.75	17 ^h 27 ^m 9.00	36 56.70
2		28.00	57 10.15	39.90	23.75	23 52.85	13.25	37 3.40
3		30.70	29.10	42.50	26.55	42.80	17.45	11.00
4		33.35	57 48.35	45.00	29.35	33.80	21.70	17.50
5		35.80	58 7.50	47.80	32.00	23.95	25.75	25.00
D ₁		41.00	58 45.35	53.00	37.80	23 4.30	34.15	39.00
2		43.65	59 3.75	55.75	40.60	22 54.15	38.40	46.15
3		46.20	22.70	8 58.45	43.35	43.90	42.50	37 52.90
4		48.85	16 59 41.55	9 1.00	46.20	34.00	46.90	38 0.00
5		51.45	17 0 0.60	3.80	49.00	24.25	51.20	7.00
E ₁		56.65	37.85	9.00	54.75	22 4.45	27 59.50	21.70
2		57 59.30	0 57.10	11.80	18 57.50	21 53.10	28 3.55	28.55
3		52 1.85	1 16.40	14.30	19 0.20	45.00	7.55	35.60
4		4.50	35.65	16.90	3.00	35.15	11.70	43.00
5		16 52 7.20	1 54.15	17 9 19.60	17 19 5.90	17 21 25.50	17 28 16.40	38 49.90
F ₁			2 32.35					39 4.00
2			2 51.90					10.95
3			3 10.50					18.20
4			29.55					25.45
5			17 3 49.05					17 39 32.35

Exchange of Signals with Washington.

August 1

μ Herculis	ϕ' Draco	γ Dracon ^(P)	δ Herculis	ϵ Sagitt.	δ Urs. Min.	χ Draconis, U.C.	
W.	U.C. W.	W.	W.	W.	U.C. W.	W.	E.
						18 21 33.45	18 25 33.30
						41.80	24.85
						50.60	16.25
						21 58.95	25 7.90
						22 7.50	24 58.90
17 41 13.60	17 43 17.30	17 53 15.60	18 2 19.70	18 5 55.00	18 8 20.25	24.80	41.85
16.55	25.90	19.40	22.65	5 57.65	8 56.30	32.80	33.40
19.50	34.20	23.45	25.50	6 0.50	9 40.05	41.90	24.90
22.35	42.55	27.60	28.50	3.20	10 22.95	22 50.60	15.95
25.30	43 50.80	31.70	31.40	6.00	11 6.75	18 23 0.00	18 24 7.70
30.90	44 7.95	39.90	37.20	11.50	12 33.85		
33.95	15.95	44.10	40.10	14.25	13 16.50		
36.90	24.70	48.25	43.00	16.95	14 0.20		
39.80	32.90	52.55	46.00	19.70	14 42.95		
42.60	41.25	53 56.60	48.90	22.40	15 26.70		
48.40	44 58.25	54 4.60	54.70	27.90	16 52.85		
51.25	45 6.00	8.60	2 57.75	30.70	17 36.20		
54.10	14.50	12.75	3 0.60	33.45	18 19.85		
57.00	23.00	17.00	3.55	36.20	19 1.55		
17 41 59.95	17 45 31.55	17 54 21.10	18 3 6.45	18 6 38.95	18 19 46.10		

August 1st cont.

	1 Aquilae	51 Cephei	β Lyrae	σ Sagitt.	ζ Aquilae	d Sagitt.	δ Dracon.	τ Dracon.
	E.	L.C. E.	E.	E.	E.	E.	u.c. E.	u.c. E.
B ₁							19 ^h 14 ^m 15.80	19 ^h 20 ^m 15.10
2							9.25	20 6.35
3							14 2.70	19 57.80
4							13 55.70	48.75
5							49.10	40.30
C ₁	18 ^h 28 ^m 45.35		18 ^h 45 ^m 55.95	18 ^h 47 ^m 53.20	19 ^h 0 ^m 2.95	19 ^h 10 ^m 41.00	35.60	22.40
2	42.95		53.90	50.30	19 0 0.20	38.25	29.15	13.95
3	40.20		49.90	47.50	18 59 57.50	35.50	22.40	19 4.80
4	37.70	18 35 12.75	46.90	44.50	55.00	32.90	15.60	18 55.80
5	35.20	36 4.90	43.70	41.70	52.30	30.20	13 9.15	47.35
D ₁	29.90	37 51.65	37.55	36.00	47.05	24.70	12 55.45	29.85
2	27.25	38 45.85	34.55	33.00	44.50	22.00	48.90	20.85
3	24.75	39 37.25	31.45	30.30	41.80	19.05	42.55	12.00
4	22.00	40 30.45	28.30	27.40	39.15	16.60	35.75	18 3.00
5	19.55	41 23.85	25.40	24.55	36.60	13.80	29.00	17 54.40
E ₁	14.35	43 10.00	19.25	18.75	31.30	8.25	15.70	36.95
2	11.80	18 44 2.90	16.20	15.90	28.70	5.80	9.00	28.15
3	9.15		13.15	13.00	26.00	3.10	12 2.50	19.20
4	6.70		10.15	10.25	23.45	10 0.40	11 55.90	10.45
5	18 28 4.00		18 45 6.95	18 47 7.40	18 59 20.70	19 9 57.60	49.00	17 1.65
F ₁							35.65	16 43.90
2							29.00	35.00
3							22.05	26.25
4							15.70	17.15
5							19 11 8.95	19 16 8.40

August 1-

Eq. Int.

(P)	β Cygni	κ Aquila	γ Aquila	δ Aquila	ϵ Dracon.	λ Urs. Min.	θ Aquarii
	E.	E.	E.	E.	u.c. E.	u.c. E.	E.
					19 50 32.00		
					24.40		
					17.00		
					9.70		
					50 2.00		
	19 26 7.00	19 30 31.30	19 40 41.55	19 45 3.50	49 47.00	20 11 26.75	20 10 35.80
	3.95	28.80	39.00	45 0.85	39.75	9 9.70	33.00
	26 1.25	26.25	36.45	44 58.20	32.15	6 56.85	30.50
	25 58.40	23.70	33.95	55.75	24.90	4 36.30	28.00
	55.35	20.90	31.25	53.00	17.95	20 2 20.20	25.50
	49.70	15.90	26.00	47.90	49 2.45	19 57 45.10	20.25
	46.80	13.40	23.45	45.40	48 55.25	55 27.60	17.80
	43.70	10.70	20.80	42.65	47.55	19 53 13.05	15.15
	40.90	8.10	18.25	40.00	40.00		12.60
	37.90	5.65	15.65	37.60	32.65		10.15
	32.25	30 0.40	10.40	32.50	17.70		4.85
	29.50	29 58.80	7.80	29.80	10.30		10 2.25
	26.55	55.20	5.10	27.05	48 2.60		9 59.70
	23.70	52.75	40 2.55	24.60	47 55.10		57.00
	19 25 20.80	19 29 50.10	19 39 59.95	19 44 21.80	47.80		20 9 54.65
					32.60		
					25.45		
					17.75		
					10.40		
					19 47 2.65		

Exchange of Signals with St. Pierre.

(see P. 37)

Aug. 1st cont.Aug. ⁵/₂ Aug. 4

Eq. Int.

A Draconis

π Aquarii		γ Dracon.		γ Aquarii		226 Cephei		ζ Pegasi		ϵ Cephei		δ Ophiuchi		γ Draco.	
E.		L.C. E.		E.		u.c. E.		W.		u.c. W.		W.		E.	
B ₁		20 ^h 21 ^m 42. ^s 45				20 ^h 32 ^m 37. ^s 00									
2		21 53.70				26.90									
3		22 5.00				16.60									
4		16.00				32 6.75									
5		25.70				31 56.50									
C ₁	20 ^h 19 ^m 15.25	48.40	20 ^h 29 ^m 17.70	35.95	20 ^h 34 ^m 54.25					16 ^h 27 ^m 36.40	16 ^h 23 ^m 15.90				
2	12.75	22 58.70	15.00	25.80	56.90					43.90	10.45				
3	10.15	23 9.65	12.45	15.58	34 59.45					50.90	23 4.95				
4	7.60	20.45	10.05	31 4.95	35 2.20					27 58.00	22 59.50				
5	5.00	31.00	7.50	30 55.20	4.70					28 5.40	54.50				
D ₁	19 0.00	23 53.00	29 2.30	34.00	9.95					19.80	43.35				
2	18 57.25	24 3.90	28 59.65	23.55	12.50					27.00	38.00				
3	54.80	15.15	57.05	13.60	15.00					33.85	32.45				
4	52.25	25.60	54.65	30 3.85	17.85					41.00	27.35				
5	49.75	36.45	52.05	20 29 52.60	20.30	20 45 31.60				48.30	21.70				
E ₁	44.55	24 57.70	46.90		25.60	43.90	29 2.55	10.95							
2	42.00	25 9.00	44.55		28.30	50.15	9.70	22 5.60							
3	39.50	19.80	20 28 41.85		30.80	45 56.00	16.95	21 59.85							
4	36.85	30.55	—		33.35	46 2.70	24.00	54.65							
5	20 18 34.25	25 41.50	—		20 35 35.85	8.75	16 29 31.50	16 21 49.00							
F ₁		26 3.00				21.05									
2		13.95				27.40									
3		25.45				33.15									
4		35.80				39.60									
5		20 26 47.10				20 46 45.60									

(For commencement of Aug. 5, A. Draconis, ³⁷
August 4- see P. 36.) August 5-

3 Ophiuchi γ Herculis		K Ophiuchi & Urs. Min.		2' Herculis		Gr. 966		3 Ophiuchi γ Herculis	
E.	E.	E.	^{u.c.} E.	E.		^{L.C.} E.		M.	M.
16 ^h 30 ^m 44.85	16 ^h 39 ^m 14.00	16 ^h 52 ^m 14.60						16 ^h 30 ^m 5.80	16 ^h 38 ^m 23.65
42.25	10.80	11.90						8.30	26.95
39.60	7.45	9.55						11.00	30.35
37.00	4.15	6.85						13.55	33.70
34.35	39 0.60	52 4.35						16.15	36.90
29.20	38 54.40	51 59.10				17 ^h 22 ^m 33.00		21.30	43.50
26.55	51.00	56.55				42.60		24.00	46.80
23.80	47.80	53.90	16 ^h 59 ^m 28.40			22 52.30		26.50	50.05
21.25	44.55	51.25	~~59 7.80~~			17 23 2.40		29.20	53.45
18.75	41.00	48.75	58 50.40					31.85	38 56.75
13.55	34.40	43.45	58 12.80	17 ^h 8 ^m 55.45				37.00	39 3.30
10.90	31.00	40.90	57 54.35	52.80				39.80	6.40
8.20	27.70	38.40	—	50.05				42.20	9.90
5.70	24.30	35.80	—	47.50				44.95	13.20
16 30 3.00	16 38 21.00	16 51 33.05	—	17 8 44.95				16 30 47.50	16 39 16.60
			56 19.17						
			55 59.90						
			41.00						
			21.10						
			16 55 2.25						
			Reg. 7 + 2						

Aug 5th cont.

Eq. Int.

Eq. Int.

	κ Ophiuchi	ϵ Urs. Min.	δ Herculis	44 Ophiuchi	Groomb. 966	β Dracon.	ω Dracon.	μ Herculis
	N.	u.c. N.	E.	E	L.C. E.	E.	u.c. E.	E.
B ₁		h m s 16 55 5.70					h m s 17 39 41.35	
2		23.90					34.30	
3		55 43.30					27.15	
4		56 2.15					20.20	
5		21.40					39 13.00	
C ₁	h m s 16 51 35.80	56 59.20	h m s 17 9 29.65	h m s 17 19 15.95	h m s 17 21 36.45	h m s 17 28 25.90	38 58.95	h m s 17 42 9.95
2	38.25	57 18.35	27.00	13.35	46.25	21.80	51.80	7.00
3	41.00	36.75	24.35	10.50	21 56.45	17.35	44.80	3.95
4	43.60	57 56.30	21.70	7.65	22 6.50	13.20	37.60	42 1.15
5	46.00	58 15.20	19.00	19 4.90	16.00	9.00	30.90	41 58.45
D ₁	57.40	58 53.35	13.75	18 59.15	36.25	28 0.70	16.20	52.65
2	53.90	59 12.10	11.00	56.50	45.90	27 56.55	9.35	49.80
3	56.50	31.15	8.45	53.80	22 56.00	52.35	38 2.05	46.90
4	51 59.00	16 59 50.20	5.75	50.90	23 6.15	47.95	37 54.80	43.80
5	52 1.60	17 0 8.70	9 3.15	48.00	15.55	43.90	48.00	41.00
E ₁	6.95	0 46.75	8 57.85	42.40	35.60	35.50	33.85	35.25
2	9.35	1 15.55	55.30	39.65	45.00	31.40	26.70	32.45
3	12.00	24.95	52.55	36.85	23 55.20	27.25	19.75	29.55
4	14.60	1 43.90	50.00	34.05	24 5.30	23.00	12.70	26.60
5	16 52 17.15	2 22.75	17 8 47.30	17 18 31.00	17 24 14.90	17 27 18.75	37 5.60	17 41 23.60
F ₁		40.25					36 51.40	
2		2 59.65					44.30	
3		3 18.95					37.30	
4		37.85					30.00	
5		17 3 57.10					17 36 23.00	

Aug. 5thAug. 6th

Eg. Int.	Eg. Int.	Eg. Int.	Eg. Int.	Eg. Int.	Eg. Int.		
γ^1 Dracon.	γ^2 Dracon.	^(P) 35 Dracon.	8 Urs. Min.	γ Dracon.	A Dracon.	3 Gphiuche	^(P) 3 Herculi.
E	E.	u.c. E.	u.c. E.	E.	u.c. E.	E.	E.
17 ^h 46 ^m 31.00	17 ^h 46 ^m 33.00	17 ^h 58 ^m 11.15	18 ^h 24 ^m 11.35		16 ^h 30 ^m 16.60	16 ^h 31 ^m 5.65	
22.45	24.45	57 59.30	23 27.30		9.45	2.95	
13.85	15.70	48.10	22 43.65		30 2.00	31 0.45	
46 5.45	46 7.25	36.75	22 0.60		29 55.10	30 57.90	
45 57.00	45 58.80	25.70	21 17.25		47.90	55.15	
40.00	42.00	57 2.80	19 50.85	16 ^h 23 ^m 20.70	33.60	50.00	16 ^h 37 ^m 14.10
31.80	33.65	56 51.30	19 7.25	15.40	26.40	47.40	10.80
23.80	25.35	39.85	18 24.00	9.90	19.20	44.80	7.80
15.35	17.20	28.60	17 40.90	23 4.80	12.45	42.20	4.80
45 6.65	45 8.65	56 17.35	16 57.60	22 59.10	29 5.00	16 30 39.65	37 1.80
44 49.95	44 51.70	55 54.30	15 30.35	48.20	28 50.35		36 55.75
41.55	43.45	43.10	14 47.35	42.90	43.40		52.80
33.40	35.25	31.95	14 4.90	37.35	36.15		49.70
25.00	26.80	20.45	13 21.55	32.10	28.90		46.70
44 16.65	18.60	55 9.00	12 38.05	26.50	21.90		43.75
43 59.60	44 1.50	54 46.10	11 11.25	15.80	7.70		37.70
51.70	43 53.30	34.70	10 26.75	10.40	28 0.60		34.90
43.30	44.85	23.35	9 44.60	22 5.00	27 53.50		31.80
35.00	36.70	12.45	9 1.15	21 59.70	46.10		28.85
26.20	28.20	54 0.80	8 16.90	16 21 54.00	39.00		16 36 25.70
9.55	11.75	53 38.10	6 50.75		24.70		
43 0.75	43 2.90	26.90	6 7.60		17.50		
42 52.60	42 54.55	15.35	5 23.85		10.40		
44.50	46.40	53 4.30	4 39.45		27 3.00		
17 42 35.85	17 42 38.00	17 52 52.10	18 3 56.80		16 26 55.90		

August 6th cont.

Eq. Int.

Eq. Int.

	η Herculis	κ Ophiuchi	ϵ Urs. Min. u.c. E.	δ Herculis	44 Ophiuchi	Groomb. 966 L.C. M.	β Dracon	ω Dracon u.c. M.
B ₁			17 ^h 3 ^m 58.25					17 ^h 36 ^m 25.65
2			39.05					32.70
3			19.80					39.85
4			3 0.95					46.95
5			2 42.30					36 54.00
C ₁	16 ^h 39 ^m 18.95	16 ^h 52 ^m 19.75	2 3.90	17 ^h 8 ^m 50.00	17 ^h 18 ^m 33.90	17 ^h 24 ^m 17.25	17 ^h 27 ^m 21.45	37 8.10
2	15.50	17.05	45.35	52.70	36.80	24 7.40	25.60	15.30
3	12.35	14.50	26.20	55.35	39.60	23 57.45	29.80	22.60
4	8.90	12.00	1 7.10	57.80	42.35	48.20	33.90	29.60
5	39 5.90	9.35	0 48.30	9 0.30	45.15	37.50	38.10	36.60
D ₁	38 59.25	4.15	17 0 10.40	5.85	50.60	17.80	46.40	50.90
2	55.80	52 1.55	16 59 51.10	8.50	53.55	23 7.85	50.60	37 57.85
3	52.60	51 59.15	32.55	11.10	56.20	22 58.20	54.80	38 4.95
4	49.30	56.40	59 13.15	13.60	18 59.20	48.65	27 59.00	12.90
5	45.90	53.90	58 54.55	16.45	19 2.05	38.55	28 3.20	19.10
E ₁	34.35	48.60	58 16.20	21.65	7.55	18.35	11.65	33.15
2	36.00	46.00	57 57.65	24.45	10.30	22 8.85	15.80	40.20
3	32.60	43.35	38.60	27.00	13.20	21 59.00	19.90	47.35
4	29.40	40.80	19.50	29.65	15.90	49.55	24.20	38 54.70
5	16 38 26.10	16 51 38.20	57 0.60	17 9 32.35	17 19 18.80	17 21 39.50	17 28 28.35	39 1.80
F ₁			56 22.85					15.95
2			56 3.85					23.00
3			55 44.65					30.00
4			25.00					37.35
5			16 55 6.60					17 39 44.55

August 6th

Eq. Int. Eq. Int.

μ Herculis	ν Dracon.	ν^2 Dracon.	γ Dracon.	(P) δ Herculis	ι Sagitt.	δ Urs. Min. u.c.
N.	N.	N.	N.	N.	N.	N.
	^{h m s} 17 42 38.75	^{h m s} 17 42 40.65				
	47.35	49.25				
	42 56.00	42 57.85				
	43 4.05	43 6.20				
	12.50	14.45				
^{h m s} 17 41 26.50	29.50	31.60	^{h m s} 17 53 27.90	^{h m s} 18 2 32.35	^{h m s} 18 6 7.90	^{h m s} 18 8 21.55
29.40	37.90	39.60	31.95	35.20	10.70	9 4.95
32.30	46.30	48.00	35.90	38.15	13.40	9 48.10
35.10	43 54.50	43 56.20	40.15	41.10	16.00	10 31.50
38.00	44 2.75	44 4.75	44.10	44.10	18.75	11 14.30
43.80	19.85	21.60	52.60	49.85	24.35	12 42.15
46.75	28.00	29.70	53 56.55	52.80	27.00	13 25.20
49.70	36.50	37.90	54 0.55	55.70	29.70	14 7.55
52.55	44.50	46.50	4.80	2 58.70	32.45	14 50.85
41 55.50	44 53.25	44 54.90	9.00	3 1.70	35.25	15 34.00
42 1.35	45 9.70	45 11.70	17.15	7.45	40.70	17 0.70
4.00	18.40	19.95	21.15	10.35	43.40	17 44.05
7.00	26.35	28.35	25.45	13.25	46.15	18 26.90
9.85	34.95	36.95	29.50	16.20	48.90	19 10.60
17 42 12.70	45 43.50	45 45.20	17 54 33.75	18 3 19.10	18 6 57.75	18 19 54.20
	46 0.55	46 2.10				
	8.55	10.50				
	16.90	18.85				
	25.30	27.00				
	17 46 33.75	17 46 35.80				

August 6th cont.

Eq. Int.

1878

X Dracon. U.C.		1 Aquila	2 Lyrae	3 Aquila	(P) 1 Lyrae	2 Sagitt.	8 Dracon	
N.	E.	E.	E.	E.	E.	E.	E.	
B ₁	18 ^h 21 ^m 45.15	18 ^h 25 ^m 45.50					19 ^h 14 ^m 28.15	
2	21 53.65	37.25					21.50	
3	22 2.45	28.35					14.80	
4	10.95	19.65					8.00	
5	19.60	25 11.45					14 1.60	
C ₁	37.00	24 54.20	18 ^h 28 ^m 59.30	18 ^h 33 ^m 25.35	19 ^h 0 ^m 15.70	19 ^h 3 ^m 32.25	19 ^h 10 ^m 53.85	13 48.20
2	45.45	45.45	55.70	22.00	13.00	29.00	51.20	41.55
3	22 54.15	36.70	53.00	18.70	10.40	25.90	48.40	34.90
4	23 2.40	28.20	50.50	15.45	7.85	22.90	45.75	28.25
5	18 23 11.00	18 24 19.60	47.90	12.45	5.30	19.75	43.00	21.50
D ₁			42.80	5.65	19 0 0.00	13.30	37.75	8.20
2			40.15	33 2.30	18 59 57.30	10.25	34.85	13 1.50
3			37.55	32 59.05	54.55	7.00	32.30	12 54.80
4			35.00	55.75	52.00	3.95	29.50	48.00
5			32.40	52.55	49.35	3 0.90	26.80	41.55
E ₁			27.20	46.00	44.15	2 54.55	21.40	28.00
2			24.60	42.65	41.40	51.35	18.60	21.40
3			22.10	39.45	38.95	48.00	15.90	14.65
4			19.45	36.15	36.35	45.00	13.15	8.20
5			18 28 16.95	18 32 32.85	18 59 33.60	19 2 41.80	19 10 10.45	12 1.40
F ₁								11 48.05
2								41.35
3								34.80
4								27.90
5								19 11 21.25

August 6th

Eq. Int.		(P)							
α Dracon.		β Cygni		κ Aquila		γ Aquila		δ Aquila	
u.c.								ϵ Draconis, u.c.	
E.		E.		E.		E.		E.	
								W.	
h m s									
19 20 27.50									
18.85									
9.90									
20 1.30									
19 52.60									
h m s		h m s		h m s		h m s		h m s	
34.80		19 26 19.75		19 30 44.35		19 41 9.95		19 45 16.20	
25.70		16.80		41.70		7.50		13.70	
16.95		13.90		39.10		4.90		11.00	
19 7.75		11.15		36.50		41 2.25		8.50	
18 59.20		8.30		34.00		40 59.65		6.00	
41.75		26 2.40		28.65		54.30		45 0.70	
32.80		25 59.60		26.20		57.75		44 58.10	
24.20		56.55		23.60		49.20		55.55	
15.30		53.70		21.00		46.70		52.85	
18 6.80		50.85		18.50		44.10		50.35	
h m s		h m s		h m s		h m s		h m s	
17 48.70		45.00		13.25		38.70		45.20	
40.30		42.30		10.75		36.25		42.70	
31.15		39.25		8.15		33.80		40.00	
22.40		36.40		5.50		31.00		37.50	
17 13.50		19 25 33.45		19 30 3.00		19 40 28.55		19 44 34.80	
16 56.00								48 0.10	
47.25								47 45.00	
38.20								37.75	
29.50								30.20	
19 16 20.60								22.60	
								19 47 15.00	
								50 14.60	
								22.00	
								29.60	
								36.85	
								19 50 44.85	

Exchange of Signals with St. Pierre & Washington.

August 7, 1872

Eq. Int.

	A Dracon.	3 Ophiuchi	4 Herculi	11 Ophiuchi	ε Urs. Min.	α' Herculi	44 Ophiuchi	Groomb. 966
	u.c.				u.c.			L.C.
	M.	M.	M.	M.	M.	M.	M.	M.
B ₁					16 ^h 55 ^m 10. ^s 05			
2					28.95			
3					55 48.30			
4					56 6.95			
5					56 26.20			
C ₁	16 ^h 27 ^m 42. ^s 30	16 ^h 30 ^m 11. ^s 40	16 ^h 38 ^m 29. ^s 05	16 ^h 51 ^m 41. ^s 25	57 4.15	17 ^h 8 ^m 53. ^s 00	17 ^h 18 ^m 36. ^s 90	17 ^h 24 ^m 20. ^s 70
2	49.35	14.00	32.45	43.90	23.25	55.75	39.70	10.45
3	27 56.40	16.60	35.85	46.40	57 42.05	8 58.30	42.60	24 0.95
4	28 3.50	19.30	39.15	49.00	58 0.65	9 0.70	45.30	23 51.55
5	10.60	21.85	42.50	51.50	19.80	3.70	48.15	41.25
D ₁	25.20	27.10	49.05	56.85	58 58.25	8.85	53.80	21.10
2	32.30	29.70	52.45	51 59.40	59 16.85	11.55	56.50	11.25
3	39.55	32.35	55.50	52 2.10	35.80	14.10	18 59.35	23 1.65
4	46.35	34.80	38 58.90	4.80	16 59 54.85	16.65	19 2.10	22 57.65
5	28 53.75	37.40	39 2.20	7.25	17 0 13.65	19.40	5.00	41.95
E ₁	29 8.10	42.60	8.85	12.45	0 51.80	24.65	10.55	22.35
2	15.00	45.30	12.20	15.00	1 10.65	27.25	13.50	12.50
3	22.30	47.90	15.35	17.65	29.60	30.00	16.15	22 2.50
4	29.30	50.50	18.60	20.20	1 48.50	32.70	18.95	21 52.10
5	16 29 36.55	16 30 53.00	16 39 21.85	16 52 22.75	2 7.65	17 9 35.35	17 19 21.80	17 21 42.10
F ₁					2 46.00			
2					3 4.30			
3					23.50			
4					3 42.50			
5					17 4 1.70			

August 7th

Eq. Int.		Eq. Int.		Eq. Int.			
β Dracon.	ω Dracon.	μ Herculis	δ Dracon.	ν^2 Dracon.	γ Dracon.	ϵ Herculis	μ Sagitt.
N.	u.c. N.	N.	u.c. N.	u.c. N.	N.	E.	E.
	^{h m s} 17 36 28.90		^{h m s} 17 42 41.90	^{h m s} 17 42 43.70			
	35.85		50.25	42 52.00			
	42.90		42 59.00	43 0.85			
	49.90		43 7.00	9.00			
	36 57.20		15.25	17.00			
^{h m s} 17 27 24.20	37 11.45	^{h m s} 17 41 29.30	32.10	33.90	^{h m s} 17 53 30.95	^{h m s} 18 3 22.00	^{h m s} 18 6 54.55
28.50	18.35	32.40	40.50	42.35	34.90	19.00	51.90
32.65	25.80	35.25	48.60	50.80	39.00	16.05	49.20
36.95	32.75	37.90	43 57.55	43 59.30	43.05	13.35	46.40
41.00	39.65	40.95	44 5.75	44 7.80	47.30	10.30	43.65
49.35	37 53.95	46.80	22.60	24.65	55.40	4.55	38.10
53.70	38 0.90	49.65	31.00	32.60	53 59.50	3 1.70	35.50
27 57.70	8.25	52.65	39.10	41.00	54 3.60	2 58.55	32.65
28 2.00	15.15	55.35	47.60	49.65	7.80	55.60	30.00
6.25	22.20	41 58.40	44 56.10	44 57.65	12.00	52.65	27.35
14.60	36.40	42 4.20	45 13.00	45 14.40	20.10	46.90	21.75
18.85	43.65	6.90	21.25	23.00	24.30	44.05	19.00
23.00	50.60	9.80	29.60	31.55	28.35	41.00	16.35
27.30	38 57.50	12.80	38.05	40.00	32.50	38.20	13.50
17 28 31.45	39 4.60	17 42 15.70	45 46.20	45 48.20	17 54 36.60	18 2 35.25	18 6 10.85
	19.00		46 3.05	46 5.00			
	26.15		11.45	13.30			
	32.90		19.80	21.90			
	40.25		28.05	30.20			
	17 39 47.35		17 46 36.60	17 46 38.60			

August 7, cont.

	δ Urs. Min. u.c. E.	ϵ Aquilae E.	α Lyrae E.	γ Cephei E.C. E.	β Lyrae E.	σ Sagitt. E.	(P) β Lyrae E.	(P) ϵ Lyrae E.
B ₁								
2								
3								
4								
5								
C ₁	18 19 56.20	18 29 1.10	18 32 28.30		18 46 11.70	18 48 9.00	18 52 20.75	18 54 35.95
2	19 11.80	28 58.65	25.00		8.50	6.20	17.00	33.20
3	18 29.00	56.15	21.80		5.50	3.20	13.55	30.60
4	17 45.50	53.50	18.45	18 35 33.25	46 2.45	48 0.40	9.95	28.05
5	17 2.75	51.00	15.30	36 26.65	45 59.35	47 57.60	52 6.55	25.35
D ₁	15 35.15	45.70	8.60	38 12.45	53.20	57.85	57 59.35	19.90
2	14 53.00	43.25	5.40	39 5.90	50.25	49.00	55.80	17.30
3	14 9.00	40.60	31 2.10	58.30	47.10	46.10	52.25	14.70
4	13 25.60	38.00	31 58.90	40 52.25	44.00	43.20	48.75	12.10
5	12 42.60	35.45	55.65	41 45.20	41.00	40.40	45.15	9.35
E ₁	11 15.55	30.15	49.00	43 31.55	34.95	34.80	38.05	4.00
2	10 33.00	27.60	45.60	18 44 23.25	32.00	31.85	34.60	54 1.50
3	9 49.30	25.00	42.40		28.95	29.00	31.00	53 58.80
4	9 10.15	22.45	39.15		25.80	26.05	27.50	56.25
5	18 8 22.60	18 28 19.80	18 31 35.70		18 45 22.60	18 47 23.20	18 51 24.00	18 53 53.55
F ₁								
2								
3								
4								
5								

August 7th

		Eq. Int.		Meridian Circle				
ζ Aquila	δ Sagitt	δ Dracon	τ Dracon	κ Aquila	γ Aquila	α Aquila	β Aquila	
E.	E.	E.	u.c. E.					
		19 14 31.25	19 20 30.45	19 30 13.45	19 40 23.40	19 44 45.25	19 49 14.60	
		24.65	21.70					
		17.90	12.90	B'	15.40	25.50	47.35	16.70
		11.15	20 4.00					
		14 4.35	19 55.35	C'	17.50	27.65	49.35	18.75
19 0 18.60	19 10 56.80	13 51.20	37.85					
16.00	54.10	44.40	28.75					
13.45	51.40	37.70	19.95	A	21.65	31.85	53.50	22.90
10.80	48.75	31.15	11.00					
8.15	46.00	24.40	19 2.40	B	23.70	33.80	55.60	25.00
2.70	40.55	11.00	18 44.70	C	25.75	35.90	57.75	27.20
19 0 0.25	37.85	13 4.40	35.70					
18 59 57.55	35.15	12 57.90	27.00	D	27.90	38.00	44 59.80	29.00
54.95	32.50	50.95	18.20					
52.35	29.80	44.50	18 9.50	E	30.00	40.10	45 19.0	31.20
47.00	24.35	31.00	17 51.55					
44.40	21.60	24.45	42.90					
41.80	19.00	17.70	34.25	A ²	34.10	44.30	6.15	35.40
39.15	16.25	11.10	25.35					
18 59 36.45	19 10 13.40	12 4.35	17 16.40	B ²	36.20	46.35	8.30	37.50
		11 51.00	16 58.95	C ²	38.25	48.45	11.55	39.60
		44.35	50.10					
		37.65	41.15					
		30.95	32.30					
		19 11 24.15	19 16 23.35					

Aug. 7th cont.

Meridian Circle.

August 8th

Eq. Int.

	λ Urs. Min.	λ Aquila	μ Ophiuchi	ϵ Urs. Min.	δ Herculis	μ Ophiuchi	χ Herculis	α Ophiuchi
			E.	u.c. E.	E.	E.	E.	E.
A' B ₁		19 ^h 58 ^m 6.30		17 ^h 4 ^m 4.65				
2				3 45.65				
B' 3		8.40		26.45				
4				3 7.80				
C' 5		10.45		2 48.20				
C ₁			16 ^h 52 ^m 25.80	2 10.00	17 ^h 9 ^m 38.30	17 ^h 19 ^m 24.65	17 ^h 24 ^m 19.90	17 ^h 29 ^m 49.20
2			23.25	1 57.80	35.65	21.90	16.05	46.60
A 3		14.65	20.50	32.90	33.00	19.00	12.15	43.85
a 4	19 ^h 50 ^m 51.15		18.00	1 13.85	30.40	16.05	8.45	41.30
B 5	51 46.05	16.55	15.45	0 55.45	27.80	13.60	24 4.50	38.60
b	52 40.70							
C D ₁	53 34.45	18.65	10.20	17 0 17.00	22.50	7.80	23 56.90	33.45
e 2	54 30.90		7.55	16 59 58.25	19.80	5.00	53.00	30.80
D 3	55 27.80	20.80	4.85	39.25	17.05	19 2.20	49.20	28.10
d 4	19 56 20.80		52 2.45	20.10	14.55	18 59.50	45.30	25.50
E 5		22.90	51 59.85	59 1.40	11.80	56.50	41.45	22.80
E ₁			54.65	58 23.35	6.50	51.00	33.80	17.60
2			51.95	58 4.25	4.00	48.00	30.00	15.00
A ² 3		27.00	49.50	57 45.25	9 1.20	45.30	26.10	12.35
4			46.90	26.15	8 58.75	42.65	22.20	9.80
B ² 5		29.05	16 51 44.20	57 7.40	17 8 56.00	17 18 39.75	17 23 18.35	17 29 7.00
C ² J ₁		19 58 31.15		56 29.50				
2				56 10.35				
3				55 51.00				
4				32.35				
5				16 55 13.35				

August 8th

Eq. Int.

ω Dracon.	μ Herculis	γ Dracon.	γ Dracon.	α Herculis	α Sagitt.	δ Urs. Min.
u.c.				(P)		u.c.
E.	E.	E.	E.	E.	E.	E.
h m s	h m s	h m s	h m s	h m s	h m s	h m s
17 39 50.20						
43.00						
35.90						
29.00						
21.75						
7.65	17 42 18.65	17 45 49.45	17 54 39.65	18 3 25.00	18 6 57.65	18 19 59.75
39 0.35	15.75	40.95	35.45	22.00	54.90	19 15.85
38 53.60	12.75	32.55	31.30	19.30	52.10	18 32.20
46.40	10.00	24.10	27.25	16.35	49.45	17 48.60
39.40	7.05	45 15.80	23.25	13.30	46.70	17 6.50
24.95	42 1.25	44 58.65	14.90	7.55	41.20	15 39.85
17.80	41 58.40	50.40	10.90	4.60	38.45	14 56.10
10.90	55.50	42.20	6.60	3 1.75	35.70	14 12.50
38 4.00	52.60	34.00	54 2.60	2 58.75	33.00	13 30.00
37 56.80	49.70	25.20	53 58.35	55.85	30.30	12 45.95
42.65	43.90	8.60	50.25	50.10	24.75	11 19.55
35.65	41.00	44 0.30	46.25	47.10	21.95	10 36.75
28.50	38.05	43 57.90	42.30	44.20	19.20	9 53.70
21.30	35.25	43.65	38.00	41.20	16.55	9 10.30
37 14.30	17 41 32.40	17 43 35.00	17 53 33.90	18 2 38.25	18 6 13.70	18 8 26.50
36 59.90						
53.00						
46.05						
38.40						
17 36 31.50						

August 8 cont.

	α Draconis, U.C.		γ Aquilae	α Lyrae	δ Cephei L.C.	β Lyrae	σ Sagittae	^(P) γ Lyrae
	E.	N.	N.	N.	N.	N.	N.	N.
B ₁								
2								
3								
4								
5								
C ₁			h m s	h m s		h m s	h m s	h m s
2			18 28 22.90	18 32 38.90		18 45 25.80	18 47 26.30	18 51 27.00
3			25.45	42.25		28.90	29.05	30.55
4			28.00	45.60		31.90	32.00	34.15
5			30.70	48.90	18 44 25.35	35.00	34.90	37.60
			33.25	52.20	43 32.65	38.05	37.70	41.00
D ₁			38.45	32 58.65	41 45.80	44.00	43.45	48.30
2			41.00	33 1.80	40 52.15	47.00	46.30	51.90
3			43.70	5.15	40 1.30	50.20	49.00	55.55
4			46.20	8.45	39 7.10	53.25	51.95	51 59.00
5			48.80	11.70	38 21.40	45 56.40	47 54.80	52 2.55
E ₁	h m s	h m s						
2	18 23 16.90	18 24 26.10	53.85	18.30	36 27.40	46 2.55	48 0.50	9.55
3	23 8.55	34.65	56.45	21.60	18 35 33.65	5.50	3.50	13.00
4	22 59.90	43.30	28 59.00	24.90		8.55	6.30	16.60
5	51.30	24 51.80	29 1.65	28.25		11.65	9.10	20.30
	42.80	25 0.70	18 29 4.20	18 33 31.45		18 46 14.75	18 48 11.90	18 52 23.75
F ₁	25.25	17.90						
2	16.80	26.30						
3	22 8.00	34.95						
4	21 59.70	43.90						
5	18 21 51.00	18 25 52.40						

Aug. 8thAugust 9th

Eq. Int.

(P) ε Lyrae	ζ Aquila	κ Ophiuchi	ε Usc. Min. u.c.	δ Herculis	44 Ophiuchi	Groom. 966 s.c.	κ Ophiuchi
M.	M.	M.	M.	M.	M.	M.	M.
			16 ^h 55 ^m 16.15				
			34.40				
			55 54.30				
			56 12.90				
			31.95				
18 ^h 53 ^m 56.65	18 ^h 59 ^m 39.55	16 ^h 51 ^m 46.65	57 10.20	17 ^h 8 ^m 58.25	17 ^h 18 ^m 42.20	17 ^h 24 ^m 25.60	17 ^h 29 ^m 9.55
53 59.30	42.15	49.25	28.60	9 0.95	45.00	15.45	12.15
54 1.95	44.90	57.90	57 47.60	3.65	47.90	24 5.65	14.80
4.55	47.45	54.45	58 7.10	6.30	50.60	23 56.00	17.50
7.20	50.10	51 57.00	58 25.65	8.85	53.40	46.50	20.10
12.55	55.40	52 2.30	59 4.20	14.35	18 58.95	26.40	25.40
15.20	18 59 58.10	4.90	23.15	16.80	19 1.80	16.35	27.95
17.75	19 0 0.75	7.50	16 59 41.65	19.50	4.50	23 6.70	30.65
20.50	3.25	10.00	17 0 0.50	22.20	7.50	22 57.30	33.15
22.05	6.00	12.80	19.60	24.90	10.30	47.20	35.90
28.45	11.20	17.90	0 58.10	30.00	15.90	27.25	41.20
31.00	13.80	20.45	1 16.60	32.65	18.65	17.30	43.75
33.75	16.50	23.00	35.55	35.50	21.40	22 7.50	46.40
36.35	19.00	25.60	1 54.55	38.00	24.20	21 57.50	49.00
18 54 39.00	19 0 21.75	16 52 28.25	2 13.95	40.80	17 19 27.00	17 21 47.70	17 29 57.60
			2 51.55	46.00			
			3 10.10	48.75			
			29.90	51.35			
			3 48.25	53.90			
			17 4 7.65	17 9 56.70			

August 9th cont.

Eq. Int.		Eq. Int.		Eq. Int.		Eq. Int.		Eq. Int.	
w Dracon		u Herculis		v ¹ Dracon		v ² Dracon		y Dracon	
u.c.		u.c.		u.c.		u.c.		u.c.	
M.		M.		M.		M.		M.	
B ₁	17 ^h 36 ^m 34.40			17 ^h 42 ^m 47.25		17 ^h 42 ^m 49.00			
2	41.50			42 55.60		42 57.60			
3	48.40			43 4.20		43 6.00			
4	36 55.80			12.45		14.40			
5	37 2.95			20.60		22.55			
C ₁	17.00	17 ^h 41 ^m 34.70	37.40	39.45	17 ^h 53 ^m 36.35	18 ^h 59 ^m 40.70	18 ^h 6 ^m 16.15	18 ^h 8 ^m 45.10	
2	24.00	37.60	46.00	47.70	40.40	43.75	18.95	9 12.75	
3	30.85	40.55	43 54.60	43 56.15	44.60	46.65	21.55	9 55.95	
4	38.10	43.45	44 2.70	44 4.90	48.70	49.55	24.30	10 40.30	
5	45.20	46.35	11.35	13.10	53 52.65	52.45	27.10	11 23.20	
D ₁	37 59.50	52.10	28.00	29.80	54 0.90	18 ^h 59 ^m 58.25	32.55	12 50.65	
2	38 6.50	55.00	36.40	38.35	5.00	18 3 1.15	35.15	13 32.95	
3	13.70	41 57.90	44.70	46.35	9.20	4.05	38.10	14 16.50	
4	20.65	42 0.80	44 53.15	44 55.00	13.35	7.00	40.75	14 59.40	
5	27.95	3.60	45 1.70	45 3.65	17.50	10.00	43.60	15 43.10	
E ₁	42.05	9.45	18.55	20.40	25.70	15.80	48.90	17 16.00	
2	48.90	12.40	26.65	28.55	29.65	18.65	57.80	17 52.95	
3	38 55.90	15.20	35.00	36.90	33.70	21.70	54.55	18 35.50	
4	39 2.90	18.20	43.35	45.35	37.80	24.50	6 57.20	19 18.85	
5	10.30	17 42 21.00	45 52.00	45 53.80	17 54 42.10	18 3 27.50	18 7 0.00	18 20 2.85	
F ₁	24.45		46 8.50	46 10.20					
2	31.50		17.00	18.80					
3	38.65		25.10	27.00					
4	45.70		34.10	35.90					
5	17 39 52.90		17 46 42.15	17 46 44.35					

August 9th

(P) α Draconis, U.C.		α Lyrae	51 Cephei	β Lyrae	σ Sagitt	(P) β Lyrae	(P) ϵ Lyrae
W.	E.	E.	L.C. E.	E.	E.	E.	E.
<i>h m s</i>	<i>h m s</i>						
18 21 53.90	18 25 54.35						
22 2.35	45.85						
10.90	37.15						
19.35	28.65						
28.10	19.80						
		<i>h m s</i>		<i>h m s</i>	<i>h m s</i>	<i>h m s</i>	<i>h m s</i>
45.20	25 2.75	18 33 33.80		18 46 17.00	18 48 14.30	18 52 26.20	18 54 41.25
22 53.85	24 54.15	30.55		14.00	11.45	22.70	38.60
23 2.55	45.65	27.35		11.00	8.60	19.00	36.00
11.30	36.95	24.00	18 35 37.15	7.80	5.80	15.50	33.40
18 23 19.75	18 24 28.10	20.70	36 30.70	46 4.80	48 2.90	12.00	30.75
		14.00	38 16.90	45 58.70	47 57.00	4.90	25.45
		10.80	39 9.55	55.75	54.20	52 1.40	22.70
		7.65	40 2.55	52.55	57.35	51 57.85	20.10
		4.40	40 55.65	49.50	48.55	54.30	17.45
		33 1.00	41 48.40	46.50	45.60	50.75	14.90
		32 54.35	43 34.25	40.20	39.90	43.70	9.60
		57.15	18 44 27.50	37.20	37.00	40.15	7.00
		47.80		34.25	34.30	36.60	4.40
		44.65		31.10	31.30	33.00	54 1.75
		18 32 41.25		18 45 28.00	18 47 28.55	18 51 29.40	18 53 58.90

August 9th cont.

Eq. Int. Eq. Int. Meridian Circle.

	3 Aquilæ	d Sagitt.	δ Dracon.	ε Dracon.	κ Aquilæ	θ Cygni	γ Aquilæ	α Aquilæ
	E.	E.	u.c. E.	u.c. E		(P) 1/2		
B ₁			h m s 19 14 36.90	h m s 19 20 36.70	A' h m s 19 30 18.50	h m s 19 34 35.80	h m s 19 40 28.70	h m s 19 44 50.50
2			30.35	27.60				
3			23.60	18.90	B' 20.70	38.90	30.85	52.60
4			16.85	10.30				
5			14 10.25	20 1.60	C' 22.80	42.20	33.00	54.70
C ₁	h m s 19 0 24.00	h m s 19 11 2.15	13 36.80	19 43.45				
2	21.45	10 59.40	50.25	34.65				
3	18.80	56.75	43.55	25.85	A 27.00	48.40	37.00	44 58.90
4	16.20	54.00	36.90	16.95				
5	13.55	51.30	30.35	19 8.25	B 29.00	51.55	39.10	45 0.90
D ₁	8.20	45.70	16.90	18 50.80	C 31.05	54.70	41.20	3.00
2	5.60	43.00	10.30	41.65				
3	3.00	40.35	13 3.68	33.20	D 33.10	34 57.80	43.25	5.00
4	19 0 0.30	37.75	12 56.90	24.35				
5	18 59 57.60	35.00	50.20	18 15.30	E 35.25	35 1.00	45.40	7.15
E ₁	52.50	29.60	36.80	17 57.70				
2	49.90	26.90	30.20	49.00				
3	47.20	24.05	23.35	40.30	A ² 39.35	7.30	49.60	11.40
4	44.55	21.45	16.65	31.40				
5	18 59 41.85	19 10 18.75	12 10.00	22.55	B ² 41.50	10.35	51.80	13.55
F ₁			11 56.65	17 5.00	C ² 19 30 43.55	19 35 13.30	19 40 53.80	19 45 15.60
2			50.00	16 56.25				
3			43.45	47.00				
4			36.75	38.35				
5			19 11 29.85	19 16 29.40				

August 9th
Meridian Circle.

	β Aquila	λ Urs. Min	ϵ Aquila ^(P)	θ Aquila	κ Cephei u.c.	π Capricorn	ϵ Delphinii	Groomb. 3241
A'	19 ^h 49 ^m 19.90		19 ^h 58 ^m 11.65	20 ^h 5 ^m 0.50	20 ^h 12 ^m 46.90	20 ^h 20 ^m 17.70	20 ^h 27 ^m 24.20	20 ^h 30 ^m 25.55
B'	21.90		13.65	2.50	12 56.40	19.90	26.35	32.55
C'	24.00		15.70	4.65	13 6.15	21.90	28.45	39.35
A	28.25		19.85	8.65	24.90	26.20	32.60	52.60
a		19 ^h 50 ^m 58.25			29.60			55.80
B	30.25	51 50.40	22.00	10.85	34.40	28.40	34.70	30 59.25
b		52 48.45			39.20			31 2.35
C	32.25	53 41.15	24.00	12.90	43.90	30.60	36.75	5.80
c		54 37.15			48.75			9.00
D	34.40	55 31.25	26.05	15.00	53.25	32.80	38.85	12.55
d		56 27.00			57.85			15.80
E	36.45	19 56 27.00	28.10	16.90	14 3.00	35.00	41.00	19.00
A ²	40.65		32.40	21.00	21.40	39.40	45.05	32.95
B ²	42.65		34.30	23.20	30.80	41.50	47.25	39.25
C ²	19 49 44.80		19 58 36.40	20 5 25.15	20 14 40.30	20 20 43.65	20 27 49.45	20 31 46.10

August 9th cont.

Merid. Circle.

Eq. Int.

	Δ Cygni	Δ Pegasi	δ Cephei	δ Piscium	ϵ Piscium	Groomb. 4163	* pr. Δ Androm.
		E.	u.c. E.	E.	E.	u.c. E.	E.
B ₁	A' h m s 20 37 17.95		h m s 23 15 28.80			h m s 23 51 18.95	
2			22.65			9.60	
3	B' 20.80		15.75			51 0.70	
4			9.00			50 57.45	
5	C' 23.80		15 2.40			42.35	
C ₁		23 h m s 16.10	14 49.00	23 h m s 22 20.85	23 h m s 34 14.50	24.15	h m s 0 0 53.55
2		13.50	42.45	18.30	11.90	14.95	50.40
3	A 29.45	10.85	35.55	15.80	9.30	50 5.80	47.60
4		8.15	28.90	13.20	6.85	49 56.70	44.70
5	B 32.55	5.60	22.40	10.55	34 4.15	47.75	41.85
D ₁	C 35.35	23 0 0.20	8.95	5.35	33 59.00	29.45	36.00
2		22 59 57.80	14 2.20	2.95	56.45	20.15	33.10
3	D 38.25	55.00	13 55.55	22 0.30	53.80	11.00	30.10
4		52.40	49.00	21 57.80	51.30	49 2.20	27.40
5	E 41.30	49.75	42.25	55.05	48.80	48 52.90	24.50
E ₁		44.40	29.00	50.05	43.50	34.85	18.60
2		41.95	22.45	47.60	41.00	25.85	15.70
3	A ² 47.00	39.00	15.60	44.90	38.55	16.45	12.75
4		36.50	9.10	42.35	35.90	48 7.25	9.90
5	B ² 49.95	22 59 33.70	13 2.25	23 21 39.70	23 33 33.25	47 58.10	0 0 7.00
F ₁	C ² 52.90		12 48.70			39.70	
2			42.25			30.80	
3			35.45			21.85	
4			28.85			12.55	
5			23 12 22.00			23 47 3.70	

Exchange of Signals with St. Pierre & Washington.

Aug. 9th

August 17

Aug. 18th

		Eq. Int.		Eq. Int.		Eq. Int.		Eq. Int.	
α Androm.	γ Pegasi	ω Dracon.	ψ Dracon.	ψ^2 Dracon.	χ Dracon.	ϵ Dracon.	ϵ Urs. Min.		
E.	E.	N.	N.	N.	N.	E.	E.		
		^{h m s}	^{h m s}	^{h m s}	^{h m s}	^{h m s}	^{h m s}		
		17 36 17.15	17 42 30.15	17 42 31.80	18 21 36.30	19 20 19.00	17 6 4.45		
		24.20	38.55	40.30	45.00	10.15	5 45.90		
		31.05	47.00	48.95	21 53.55	20 1.30	26.35		
		38.25	42 55.40	42 57.00	22 2.10	19 52.50	5 7.45		
		45.40	43 3.70	43 5.55	10.90	43.65	4 48.20		
^{h m s}	^{h m s}								
0 2 41.60	0 7 31.70	36 59.50	19.65	22.55	28.10	25.95	4 10.55		
38.50	29.00	37 6.70	28.90	30.80	36.50	17.00	3 51.15		
35.60	26.50	13.80	37.55	39.05	45.00	19 8.45	31.85		
32.70	23.75	20.75	45.55	47.60	22 53.75	18 59.50	3 13.10		
29.80	21.00	27.90	43 53.80	43 56.10	23 2.40	50.90	2 53.55		
24.10	15.70	42.00	44 11.00	44 12.80	19.60	32.90	2 16.75		
21.10	13.00	49.00	19.20	21.20	28.20	24.25	1 57.25		
18.30	10.30	37 56.15	27.60	29.40	36.55	15.55	37.70		
15.50	7.70	38 3.15	36.15	37.85	45.35	18 6.55	19.12		
12.50	7 5.15	10.40	44 44.30	44 46.20	23 53.90	17 57.80	1 0.70		
6.65	6 59.90	24.55	45 1.05	45 2.95	24 11.25	40.25	0 22.25		
3.75	57.35	31.45	9.45	11.30	19.55	31.45	17 0 4.00		
2 0.80	54.65	38.80	17.50	19.65	28.35	22.50	16 59 44.20		
1 57.85	52.00	45.90	26.30	28.00	36.70	13.55	25.90		
0 1 54.95	0 6 49.40	38 53.05	34.80	36.60	24 45.55	17 4.90	59 6.60		
		39 7.00	51.60	45 53.45	25 2.85	16 47.55	58 28.65		
		14.05	45 59.90	46 1.80	11.30	38.35	58 9.70		
		21.30	46 8.10	10.40	20.70	29.40	57 50.75		
		28.50	16.40	18.40	28.90	20.65	32.35		
		17 39 35.55	17 46 25.00	17 46 27.00	18 25 37.15	19 16 12.00	16 57 12.35		

Clock and Arbitrary Signals - 1872.

July 20th July 21st July 22nd

Arbitrary Sig ^s		St. Pierre Chronometer		Washington Clock.		St. Pierre Chronometer		Sig ^s from Brest.
Wash ⁿ . Time.	Wash ⁿ . Time.	St. Pierre Time.	Cambridge Time.	Cambridge Time.	Wash ⁿ . Time.	St. Pierre Time.	Cambridge Time.	
19 29 42.30	19 37 13.32	20 47 1.00	19 46 9.80	20 12 40.40	19 49 1.00	21 38 29.00	20 45 32.92	21 3 17.66
48.32	16.26		11.80	41.40			34.91	22.73
29 54.37			13.80	42.42			36.91	27.77
19 30 0.32			15.75	43.40			38.92	32.73
8.34			17.75	44.40			40.91	37.73
15.35		18 00	19.75	45.40	6.00	40 00	42.91	42.77
24.35			21.75	46.41			44.92	47.77
33.48			23.76	47.40			46.91	52.84
41.41			25.75	48.41			48.93	3 57.80
49.40			27.75	49.42			50.92	4 2.85
30 58.38		28 00	29.76	50.41	11.00	49 00	52.92	7.82
31 13.72			31.75	51.40			54.92	12.80
	41.38		33.77	52.40			56.92	17.90
			35.77	53.40			58.91	22.90
	45.33	38 00	37.76	54.40		46 00	0.93	27.86
	47.50		39.75	55.41	16.00	45 58 00	2.93	32.85
	49.40	38 00	41.76	56.41		46 00	4.92	37.90
	37 51.89		43.75	57.41			6.91	42.90
			45.77	58.40			8.92	47.80
			47.76	12 59.41			10.91	52.90
		48 00	49.77	13 0.40	21.00	46 10 00	12.92	4 57.92
	38 2.37		51.75	1.41		37 00	14.92	5 2.92
	5.40		53.76	2.40			16.92	7.98
	8.45		55.76	3.40			18.90	12.92
			57.76	4.40			20.90	18.10
	12.36	48 58 00	46 59.77	5.40	26.00	20 00	22.92	
	15.30		47 1.55	6.41			24.92	
	18.37		3.74	7.40			26.92	
	21.27		5.75	8.41			28.93	
	24.37		7.74	9.40			30.92	
	27.40	48 00	9.77	10.43	31.00	30 00	32.92	
	31.32		11.75	11.41			34.92	
19 38 36.40			13.76	12.40			36.92	
			15.75	13.40			38.92	
			17.74	14.40			40.90	
		48 00	19.74	15.40	36.00	40 00	42.91	
			21.75	16.40			44.92	
			23.75	17.40			46.92	
			25.77	18.40			48.92	
		48 00	27.75	19.40			50.94	
			29.76	20.41	41.00	49 00	52.91	
			31.77	21.40			54.92	
			33.76	22.40			56.92	
			35.75	23.40			58.91	
		48 00	37.75	24.40	46.00	47 00	0.92	
			39.76	25.40			2.92	
			41.74	26.40			4.92	
			43.75	27.40			6.92	
			45.75	28.40			8.92	
			47.76	29.40			10.90	
		48 00	49.75	30.40	57.00	47 10 00	12.92	
			51.76	31.40		38 00	14.91	
			53.75	32.40			16.92	
			55.76	33.40			18.92	
			57.78	34.40			20.92	
		48 00	47 59.75	35.40	56.00	20 00	22.92	
			48 1.76	36.40			24.91	
			3.73	37.40			26.91	
			5.76	38.40			28.92	
			7.77	-			30.91	

July 22nd cont.July 23rdJuly 25th

Washington Clock.		St. Pierre Chronom.		Washington Clock.		Washington Clock.		Washington Clock.	
Cambridge Time	Wash. Time	St. Pierre Time	Cambridge Time	Cambridge Time	Wash. Time	Cambridge Time	Wash. Time	Cambridge Time	Wash. Time
h m s	h m s	h m s	h m s	h m s	h m s	h m s	h m s	h m s	h m s
23 47 39.99	23 24 8.00	21 7 8.00	20 7 5.84	20 31 39.50	20 8 8.00	21 5 38.85	20 42 8.00	21 20 23.81	20 56 45.00
42.00			7.80	40.49		40.85		24.83	
44.00			9.80	41.50		42.85		25.82	
45.99			11.80	42.49		44.81		26.83	
48.00			13.80	43.50		46.83		27.85	
50.00	10.00	12 8.00	15.80	44.50	6 8.00	48.84	11 10.00	28.82	50.00
51.99			17.80	45.50		50.85		29.85	
53.99			19.80	46.49		52.85		30.85	
56.00			21.80	47.49		54.82		31.82	
57.98			23.80	48.50		56.85		32.80	
47 59.99	21 20.00	22 20.00	25.80	49.50	11 10.00	58.85	20 20.00	33.80	56 55.00
48 2.00			27.81	50.50		0.81		34.81	
4.00			29.81	51.50		2.85		35.80	
6.00			31.81	52.50		4.82		—	
8.00			33.80	53.49		6.81		—	
10.00	31 30.00	32 30.00	35.80	54.50	16 20.00	8.82	31 30.00	38.80	57 0.00
11.99			37.80	55.50		10.85		39.80	
13.99			39.80	56.48		12.85		40.80	
15.97			41.80	57.49		14.82		41.81	
18.00			43.80	58.49		16.80		42.80	
20.00	41 30.00	42 30.00	45.80	59.50	21 20.00	18.81	41 30.00	43.80	5.00
22.98			47.80	0.47		20.81		44.80	
23.99			49.81	1.49		22.82		46.84	
25.98			51.81	2.49		24.81		48.82	
28.00			53.81	3.49		26.81		50.82	
29.99	51 30.00	7 52 30.00	55.80	4.50	26 20.00	28.83	51 30.00	52.84	14.00
32.00			57.80	5.50		30.82		54.82	
33.99			59.80	6.49		32.80		56.82	
35.00			1.81	7.50		34.85		58.80	
36.00			3.84	8.48		36.85		0.80	
37.00	24 58.00	8 2 30.00	5.82	9.50	31 30.00	38.85	43 30.00	2.80	24.00
38.00			7.80	10.50		40.85		4.82	
40.00			9.80	11.50		41.85		6.82	
41.00			11.80	12.48		42.80		8.82	
42.00			13.80	13.49		43.80		10.83	
43.00	25 8.00	12 11.00	15.80	14.48	36 30.00	44.80	1 6.00	12.81	34.00
44.00			17.80	15.50		45.80		14.82	
45.00			19.80	16.48		46.81		16.80	
46.00			21.80	17.50		47.81		18.80	
47.00			23.80	18.48		48.81		20.80	
48.00	9 8.00	22 30.00	25.80	19.50	41 30.00	49.82	12 11.00	22.81	44.00
49.00			27.80	20.49		50.80		24.82	
50.00			29.80	21.50		51.80		26.80	
51.00			31.81	22.48		52.80		28.82	
52.00			33.80	23.50		53.80		30.80	
53.00	14 10.00	32 30.00	35.80	24.46	46 30.00	54.80	17 10.00	31.80	53.00
54.00			37.80	25.50		55.80		32.80	
55.00			39.80	26.50		56.82		33.80	
56.00			41.81	27.49		57.81		34.80	
57.00			43.80	28.46		58.80		35.80	
58.00	19 10.00	42 30.00	45.80	29.50	50 30.00	59.80	22 30.00	36.80	57 58.00
48 59.00			47.80	30.49		0.80		—	
49 0.00			49.81	31.49		1.80		38.82	
1.00			51.81	32.48		2.80		39.80	
2.00			53.80	33.50		3.80		40.80	
3.00	24 28.00	52 30.00	55.80	34.45	56 30.00	4.80	27 20.00	41.83	58 3.00
4.00			57.80	35.46		5.80		42.85	
5.00			59.80	36.46		6.80		—	
6.00			1.81	37.46		7.80		—	
7.00			3.82	—		8.80		—	

July 27thJuly 28thJuly 29th

Washington Clock.		St. Pierre Chronom.		Washington Clock.		Arbitrary	Washington Clock.	
Cambridge Time.	Wash. Time.	St. Pierre Time.	Cambridge Time.	Cambridge Time.	Wash. Time.	Sig. from St. Pierre	Cambridge Time.	Wash. Time.
<i>h m s</i>	<i>h m s</i>	<i>h m s</i>	<i>h m s</i>	<i>h m s</i>	<i>h m s</i>	<i>h m s</i>	<i>h m s</i>	<i>h m s</i>
20 15 38.24	19 52 8.00	21 30 2.00	20 30 12.00	20 46 37.69	20 22 1.00	21 37 26.15	21 38 37.84	21 14 1.00
39.24			14.00	38.66		31.30	39.84	
40.24			16.00	39.68		36.35	41.84	
41.24			18.00	40.66		41.55	43.82	
42.25			20.00	41.67		46.84	45.81	
43.25	5.00	12.00	22.00	42.66	6.00	51.92	47.85	11.00
44.26			24.00	43.69		56.79	49.80	
45.25			26.00	44.65		1.80	51.80	
46.25			28.00	45.69		6.66	52.80	
47.25			30.00	46.67		11.65	55.80	
48.25	10.00	22.00	32.00	47.69	11.00	16.48	57.79	21.00
49.24			34.00	48.66		21.36	59.80	
50.25			36.00	49.70		26.38	38 59.80	
51.25			38.00	50.69		31.52	39 1.80	
52.25			40.00	51.70		36.57	3.80	
53.23	16.00	32.00	42.00	52.68	16.00	41.77	4.80	
54.26			44.00	53.70		47.00	6.80	30.00
55.25			46.00	54.68		57.97	8.82	
56.25			48.00	55.70		38 57.00	10.82	
57.25			50.00	56.68		39 1.98	12.82	
58.25	21.00	42.00	52.00	57.70	21.00	7.00	14.82	
59.25			54.00	58.69		11.54	16.80	40.00
0.25			56.00	59.67		19.00	18.80	
1.25			30 58.00	46 59.67			20.80	
2.26			31 0.00	47 0.66			22.81	
3.25	25.00	30 52.00	1.99	1.69	26.00		24.81	15 50.00
4.26			4.00	2.66			26.82	
5.24			6.00	3.69			28.82	
6.26			8.00	4.66			30.80	
7.21			9.99	5.68			32.82	
8.25	31.00	31 2.00	12.00	6.66	31.00		34.80	16 0.00
9.22			13.99	7.68			38.84	
10.26			16.00	8.66			40.82	
11.26			17.99	9.69			42.82	
12.27	36.00	12.00	20.00	10.68	36.00		44.81	
13.22			22.00	11.67			46.82	10.00
14.25			24.00	12.69			48.82	
15.24			26.00	13.69			50.82	
16.26			28.00	14.68			52.80	
17.25	41.00	22.00	30.00	15.66	41.00		54.82	
18.23			32.00	16.65			56.82	20.00
19.24			34.00	17.69			39 58.83	
20.22			36.00	18.67			40 0.82	
21.25			38.00	19.68			2.81	
22.25	46.00	32.00	40.00	20.66	46.00		4.82	30.00
23.24			42.00	21.68			6.80	
24.23			44.00	22.66			8.82	
25.25			46.00	23.68			10.82	
26.26			48.00	24.67			12.81	
27.26	51.00	42.00	50.00	25.68	51.00		14.82	
28.24			52.00	26.68			16.80	40.00
29.22			54.00	27.67			18.81	
30.25			56.00	28.69			20.82	
31.23			31 57.99	29.69			22.80	
32.25	56.00	52.00	32 0.00	30.68	56.00		24.82	
33.25			2.00	31.68			26.80	50.00
34.23			4.00	32.66			28.82	
35.24			6.00	33.69			30.85	
36.25			8.00	34.68			32.83	
			10.00	35.68			34.82	

July 29th cont.July 30thAug. 1st

Aug. 6

St. Pierre Chronom.			Washington Clock.		St. Pierre Chronom.		St. Pierre Chronom.	
St. Pierre Time.	Cambridge Time.	Arbitrary Sigt. from St. Pierre	Cambridge Time.	Wash. Time.	St. Pierre Time.	Cambridge Time.	St. Pierre Time.	Cambridge Time.
h m s	h m s	h m s	h m s	h m s	h m s	h m s	h m s	h m s
23 2.00	22 2 14.00	22 7 12.10	21 51 38.80	21 28 1.00	22 5 1.00	21 5 22.40	22 10 2.00	21 10 42.40
	16.00	17.12	39.80			24.40		44.40
	18.00	21.99	40.80			26.40		46.40
	20.00	27.37	41.80			28.40		48.40
	22.00	31.92	42.80			30.40		50.40
		37.00			12			
12.00	23.99	42.00	43.86	6.00	12.00	32.40	12.00	52.40
	26.00	47.00	44.80			34.40		54.40
	28.00	52.00	45.81			36.40		56.40
	30.00	57.00	46.80			38.40	10	58.40
	32.00	8 2.00	47.81			40.40	11	0.40
		7.00			22			
22.00	34.00	12.00	48.80	11.00	22.00	42.40	22.00	2.40
	36.00	17.00	49.80			44.40		4.40
	38.00	21.98	50.80			46.40		6.40
	40.00	27.15	51.80			48.40		8.40
	42.00	32.10	52.80			50.40		10.40
		37.18			32			
32.00	44.00	42.15	53.80	16.00	32.00	52.40	32.00	12.40
	46.00	47.10	54.80			54.40		14.40
	48.00	52.15	55.80			56.40		16.40
	50.00	8 57.20	56.82			58.40		18.40
	51.99	9 2.20	57.80			6 0.40		20.40
		7.20			42			
42.00	54.00	12.20	58.80	21.00	42.00	2.40	42.00	22.40
	56.00		59.80			4.40		24.40
	2 58.00		0.80			6.40		26.40
	3 0.00		1.80			8.40		28.40
	2.00		2.80			10.00		30.40
2					52			
2 52.00	4.00		3.80	26.00	5 52.00	12.40	52.00	32.40
	6.00		4.81			14.40		34.40
	7.99		5.80			16.40		36.40
	10.00		6.83			18.40		38.40
	12.00		7.80			20.40		40.40
3					6 2.00	22.40	2.00	42.40
4 2.00	14.00		8.80	31.00		24.40		44.40
	15.99		9.82			26.40		46.40
	18.00		10.80			28.40		48.40
	20.00		11.82			30.40		50.40
	22.00		12.79					
					12			
12.00	24.00		13.80	36.00	12.00	32.40	12.00	52.40
	26.00		14.80			34.40		54.40
	28.00		15.80			36.40		56.40
	30.00		16.80			38.40		58.40
	32.00		17.80			40.40	11	0.40
							12	
22.00	34.00		18.80	41.00	22.00	42.40	22.00	2.40
	36.00		19.80			44.40		4.40
	38.00		20.80			46.40		6.40
			21.80			48.41		8.40
			22.80			50.40		10.40
					32			
32.00			23.80	46.00	32.00	52.41	32.00	12.40
	46.00		24.80			54.40		14.40
	48.00		25.80			56.40		16.40
	50.00		26.80			58.40		18.40
	52.00		27.80			6 0.42		20.40
					42			
42.00	54.00		28.80	51.00	42.00	2.40	42.00	22.40
	56.00		29.80			4.42		24.40
	3 58.00		30.80			6.40		26.40
	4 0.00		31.80			8.40		28.40
	2.00		32.80			10.41		30.40
					52			
52.00	4.00		33.80	56.00	52.00	12.40	52.00	32.40
	6.00		34.80			14.40		34.40
	8.00		35.80			16.40		36.40
	9.99		36.80			18.41		38.40
	12.00					20.40		40.40

Aug. 6th cont.Aug. 9th

Washington Clock.		St. Pierre Chronom.		Washington Clock.	
Cambridge Time.	Wash. ⁿ Time.	St. Pierre Time.	Cambridge Time.	Cambridge Time.	Wash. ⁿ Time.
<i>h m s</i>	<i>h m s</i>	<i>h m s</i>	<i>h m s</i>	<i>h m s</i>	<i>h m s</i>
21 31 53.72	21 8 4.00	22 55 0.00	21 55 52.90	22 21 2.75	21 57 2.00
54.73			54.89	4.77	
55.76			56.90	6.76	
56.72			55 58.90	8.75	
57.73			56 0.90	10.80	
58.72	6 5.00	10.00	56 2.90	12.75	12.00
31 59.72			4.88	14.80	
32 0.72			6.88	16.76	
1.74			8.90	18.75	
2.74			10.89	20.76	
3.75	18.00	20.00	12.90	22.76	22.00
4.75			14.90	24.78	
5.74			16.90	26.79	
6.73			18.90	28.79	
7.73	16 15.00	30.00	20.90	30.78	32.00
8.74			22.89	32.76	
9.75			24.90	34.78	
10.75			26.89	36.79	
11.75			28.87	38.78	
12.74	21 20.00	40.00	30.89	40.76	42.00
13.73			32.87	42.75	
14.74			34.89	44.78	
15.72			36.87	46.78	
16.73	26 25.00	55 50.00	38.88	48.78	
17.74			40.88	50.80	
18.71			42.85	52.79	57 52.00
19.73			44.89	54.80	
20.71			46.88	56.80	
21.75			48.87	58.80	
22.71	21 30.00	56 0.00	50.90	21 59.78	
23.74			52.89	22 2.79	58 2.00
24.73			54.89	4.81	
25.73			56.90	6.80	
26.72			55 58.90	8.80	
27.73	36 35.00	10.00	57 0.87	10.79	12.00
28.72			2.89	12.79	
29.75			4.89	14.80	
30.72			6.87	16.79	
31.74			8.90	18.79	
32.73	41 40.00	20.00	10.90	20.79	22.00
33.73			12.90	22.79	
34.74			14.89	24.79	
35.74			16.90	26.79	
36.72			18.90	28.78	
37.75	46 45.00	30.00	20.90	30.77	32.00
38.72			22.89	32.76	
39.73			24.89	34.76	
40.73			26.87	36.78	
41.72			28.88	38.78	
42.72	51 50.00	40.00	30.90	40.79	42.00
43.74			32.88	42.79	
44.73			34.90	44.76	
45.73			36.87	46.78	
46.73			38.87	48.79	
47.73	56 55.00	50.00	40.86	50.79	52.00
48.72			42.88	52.79	
49.73			44.90	54.80	
50.72			46.88	56.79	
51.72			48.89	58.80	
—			50.90	—	

