

ROYAL OBSERVATORY, GREENWICH.

TRANSITS OBSERVED WITH THE TRANSIT-CIRCLE
AND
COMPUTATIONS
OF
APPARENT RIGHT ASCENSION.

1873.

TRANSITS OBSERVED WITH THE TRANSIT-CIRCLE, AND COMPUTATIONS OF APPARENT RIGHT ASCENSION,

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of Collimation. (Level).		Seconds of Transit Cor- rected.	Tabular R. A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at 0 ^h Sidereal and (Lossing Rate).	Apparent R. A. of Center from the Observation.	Correction for Reduction to Mean R. A. 1873 Jan. 1.
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.		[Azimuth].							
				s	s	s	s	s	s	s	s	s		s	h	m	s	s	s	s	h	m	s	s
Jan. 1	1	☉ 1 L.	E	24.3 27.4	..	33.5 39.3	45.5	48.5	51.5	54.5	18. 47. 39.37	+ 0.09	} 50.45	[+ 1.82]	33.72	32.13	-1.59	-1.28	18. 48. 48.89	+ 2.18	
	2	☉ 2 L.	E	46.3 49.4	..	55.3 1.3	7.4	10.4	13.4	16.5	18. 50. 1.31	[+ 0.80]									
	3	ζ Aquilæ	E	.. 22.3	..	28.0 33.6	39.3	42.2	45.0	47.9	18. 59. 33.58										
	4	γ Aquilæ	E	58.5 1.4	..	7.0 12.6	18.2	21.0	23.9	26.8	19. 40. 12.57										
	5	α Aquilæ	E	20.6 23.4	..	28.9 34.3	40.1	42.8	45.7	48.5	19. 44. 34.43										
Jan. 2	6	α Aquarii.	G	2.1 4.9	..	10.5 15.7	21.4	24.0	27.0	29.8	21. 59. 15.83				15.96	13.79	-2.17	-1.76	21. 59. 13.87	+ 1.76	
	7	ω Piscium.	G	34.3 37.2	..	42.7 48.1	53.7	56.6	59.2	2.3	23. 52. 48.16				48.30	46.20	-2.10	[+ 0.36]	23. 52. 46.18	+ 1.20	
	8	α Andromedæ ...	G	34.5 37.8	..	44.2	..	2.8	6.0	0. 1. 50.24					50.40	48.24	-2.16	-2.12	0. 1. 48.28	+ 1.30	
	9	Bradley 6.	G	.. ..	..	39.5 2.4	26.1	37.7	49.2	1.0	0. 9. 2.51				2.92	..	..	..	0. 9. 0.80	+ 2.94	
	10	40 Piscium.	G	9.1 12.1	..	17.7 23.4	29.3	32.1	35.0	37.7	0. 13. 23.41				23.55	..	..	..	0. 13. 21.43	+ 1.14	
	11	43 Piscium.	G	50.5 53.4	..	59.0 4.6	10.3	13.3	16.1	19.0	0. 18. 4.65				4.79	..	..	..	0. 18. 2.67	+ 1.10	
	12	κ Draconis S.P. ...	G	23.7 32.2	40.5	49.0 5.3	..	..	38.1	46.8	0. 28. 5.45				5.37	..	..	..	12. 28. 3.24	- 0.36	
	13	W. B. (2) 0. 1057	G	.. ..	..	56.1 3.4	10.7	14.3	..	..	0. 42. 3.37				3.55	..	..	..	0. 42. 1.42	+ 1.17	
	14	W. B. (2) 0. 1062	G	.. ..	..	17.6 24.7	28.6	32.0	35.7	..	0. 42. 17.49				17.67	..	..	..	0. 42. 15.54	+ 1.17	
	15	ν Andromedæ ...	G	.. ..	..	.. ..	..	0.6	4.3	8.0	0. 42. 49.69				49.87	..	..	..	0. 42. 47.74	+ 1.17	
	16	h Piscium.	G	43.5 46.7	..	52.9 59.1	5.4	8.5	11.6	14.7	0. 50. 59.06				59.22	..	..	..	0. 50. 57.09	+ 1.02	
	17	ε Piscium.	G	8.6 11.4	..	16.9 22.4	28.0	30.8	33.6	36.4	0. 56. 22.41				22.55	20.35	-2.20	..	0. 56. 20.42	+ 0.84	
	18	Polaris. (E&E)	G	26.0 25.5	..	18.5 7.0	..	..	..	..	1. 12. 6.71				9.66	7.85	-1.81	..	..	..	
	19	Neptune.	G	26.1 28.9	..	34.3 39.9	45.5	48.2	51.1	54.0	1. 29. 39.90				40.04	..	..	..	1. 29. 37.90	..	
	20	ι Aurigæ.	G	.. 10.4	..	17.5 24.3	31.2	..	38.2	..	4. 41. 24.25				24.43	..	..	..	4. 41. 22.23	- 0.26	
	21	δ Orionis.	G	19.7 22.6	..	28.0 33.6	39.2	41.8	44.6	47.5	5. 25. 33.53				33.66	31.53	-2.13	..	5. 25. 31.46	- 0.42	
	22	α Leporis.	G	55.9 58.7	..	4.6 10.4	16.1	19.2	22.1	25.0	5. 27. 10.35				10.46	8.37	-2.09	..	5. 27. 8.26	- 0.62	
	23	δ Ursæ Min. S.P. (E&E)	G	8.8 55.3	42.0	29.0	..	..	..	..	6. 13. 3.28				2.25	0.69	-1.56	..	..	..	
	24	γ Geminorum ...	G	10.6 13.7	..	19.1 25.0	30.8	33.7	36.6	39.5	6. 30. 25.03				25.18	22.89	-2.29	..	6. 30. 22.96	- 0.46	
	25	Cephei 51. (E&E)	G	.. 48.0	..	42.5 36.0	31.5	..	..	..	6. 40. 35.72				37.23	35.33	-1.90	..	..	..	
	26	d' Cancri.	G	53.4 56.1	..	2.1 7.7	13.7	16.7	19.5	22.5	8. 16. 7.85				8.00	5.79	-2.21	..	8. 16. 5.76	- 0.42	
	27	Uranus.	G	39.2 42.0	..	47.7 53.6	59.5	2.5	5.4	8.4	8. 28. 53.68				53.83	..	..	..	8. 28. 51.58	..	
Jan. 3	28	☉ 1 L.	L	40.9 43.7	..	49.6 55.4	1.0	4.0	7.0	9.8	23. 9. 55.28	[+ 0.03]			55.35	..	..	13.61	23. 11. 18.39	..	
	29	κ Piscium.	L	56.0 58.7	..	4.3 9.7	15.4	18.0	20.9	23.5	23. 20. 9.71				9.80	23.90	14.10	[0.50]	..	..	
	30	ι Piscium.	L	55.7 58.6	..	4.1 9.6	15.3	18.0	20.7	23.6	23. 33. 9.60				9.70	23.77	14.07	..	..	..	
	31	30 Piscium.	L	57.5 0.4	..	5.8 11.5	17.0	19.7	22.6	25.4	23. 55. 11.39				11.47	..	..	..	23. 55. 25.58	+ 1.15	
	32	ε Piscium.	L	52.3 55.2	..	0.5 6.2	11.7	14.5	17.3	20.2	0. 56. 6.14				6.24	20.34	14.10	14.11	..	..	
	33	Polaris. (E&E)	L	27.0 26.0	..	16.5 5.5	0.0	..	54.0	49.5	1. 11. 48.06				52.31	6.84	14.53	..	..	..	
	34	Neptune.	L	9.7 12.4	..	18.0 23.5	29.2	31.9	34.7	37.5	1. 29. 23.51				23.61	..	..	..	1. 29. 37.75	..	
	35	ν Piscium.	L	20.9 23.5	..	29.0 34.5	40.1	42.9	45.6	48.4	1. 34. 34.51				34.61	48.75	14.14	..	..	..	
	36	τ Tauri.	L	8.5 11.5	..	17.5 23.5	29.4	32.4	35.4	38.3	4. 34. 23.37				23.50	37.59	14.09	..	..	..	
	37	ι Tauri.	L	28.0 31.2	..	36.8 42.6	48.5	51.5	54.3	57.3	4. 43. 42.62				42.74	..	..	..	4. 43. 56.95	- 0.23	
	38	B. F. 625.	L	2.4 5.6	..	11.5 17.6	23.5	26.7	29.6	32.7	4. 48. 17.50				17.63	..	..	..	4. 48. 31.84	- 0.24	
	39	δ Orionis.	L	3.4 6.2	..	11.7 17.3	22.7	25.5	28.3	31.2	5. 25. 17.19				17.28	31.53	14.25	..	..	..	
	40	Lalande 10705.	L	.. ..	..	.. ..	..	23.8	26.5	29.3	5. 33. 18.13				18.21	..	..	..	5. 33. 32.43	- 0.45	
	41	δ Ursæ Min. S.P. (E&E)	L	.. ..	..	.. ..	..	..	9.2	57.0	6. 12. 47.12				45.51	0.73	15.22	..	..	..	
	42	Cephei 51. (E&E)	L	.. 48.0	..	42.0 35.8	30.8	29.0	26.0	..	6. 40. 18.38				20.52	35.34	14.83	..	..	..	
	43	Procyon.	L	11.3 14.0	..	19.7 25.1	30.7	33.6	36.3	39.2	7. 32. 25.14				25.24	39.65	14.41	..	..	..	
Jan. 5	44	ι Ceti.	L	28.2 30.8	..	36.2 41.9	47.5	50.3	53.2	55.9	0. 12. 41.89				41.96	56.29	14.33	..	..	..	
	45	44 Piscium.	L	24.2 27.0	..	32.6 38.0	43.6	46.3	49.2	51.8	0. 18. 37.99				38.08	52.47	14.39	..	..	..	
	46	14 Ceti.	E	31.8 34.8	..	40.2 45.6	51.2	54.0	57.0	59.6	0. 28. 45.67				45.75	..	..	14.87	0. 29. 0.62	+ 0.99	

The observations of transits are usually made by the galvanic or chronographic method, the wires employed being generally P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P. Occasionally the observations are made by eye and ear (E & E); the wires then employed are N, O, P, T, X, Y, Z; in reversed order for stars S.P.

Reading of Transit-Micrometer, 31st 900.

Corrections to the times by Hardy for reduction to Sidereal Standard, applied to form Concluded Transit, Nos. 33, 41, and 42, -16st 90: -17st 00: and -17st 00.

Correction for passage of Semidiameter, No. 28, +68st 95.

January 1 and 2. The azimuthal error used is the mean of two determinations (+0st 58 and +1st 02) by tabular places of ε Piscium and Polaris, and of δ Ursæ Minoris S.P. and Cephei 51, on January 2.

January 1 and 2. The current from the Sidereal Standard having failed, the clock Hardy was used as transit clock.

January 3. The Sidereal Standard was again brought into use for the registration of transits.

January 3 to 5. The azimuthal error used is the mean of two determinations (-0st 22 and +0st 28) by tabular places of ε Piscium and Polaris, and of δ Ursæ Minoris S.P. and Cephei 51, on January 3.

January 3. The clock-rate having been determined only from clock stars observed on this day, the resulting R.A. of clock-stars has not been kept.

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of Collimation (Level). [Azimuth].	Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at 0 ^h Sidereal and [Losing Rate].	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873. Jan. 1.
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.								
				s	s	s	s	s	s	s	s	s								
Jan. 5	1	♂ Piscium	E	35.8	38.6	..	44.1	49.6	55.3	58.2	0.8	3.6	0.41.49.65	+0.09	49.75	4.64	14.89	14.87	....	
	2	20 Ceti	E	1.3	4.2	..	9.6	15.2	20.9	23.5	26.3	29.0	0.46.15.15	(+1.82)	15.23	30.10	14.87	[0.25]	....	
	3	♂ 1 L.	E	50.9	53.7	..	..	..	..	..	..	..	0.55.4.98	[+0.03]	5.07				0.56.25.78	
	4	μ Piscium	E	2.3	5.2	..	10.7	16.1	21.7	24.6	27.4	30.1	1.23.16.16		16.25				1.23.31.13	+0.71
Jan. 7	5	⊙ 1 L.	L	30.4	33.6	36.5	39.6	45.4	51.6	54.6	57.6	0.5	19.13.45.58	+1.00	56.25			14.73	19.15.11.22	
	6	⊙ 2 L.	L	51.8	54.9	57.8	0.8	6.7	12.8	15.8	18.9	21.8	19.16.6.75	(+1.19)				[0.30]	21.59.13.77	+1.78
	7	α Aquarii	L	44.9	47.7	50.4	53.2	58.7	4.2	7.0	9.8	12.6	21.58.58.66	[-0.15]	58.77	13.77	15.00		22.1.4.01	+1.99
	8	ι Pegasi	L	33.7	36.8	39.8	42.9	48.8	55.0	58.0	1.0	4.3	22.0.48.86		49.01	3.98	14.97		22.8.0.32	
	9	Venus 1 L.	L	30.4	33.4	36.2	39.1	44.6	50.3	53.2	56.0	58.9	22.7.44.62		44.72				....	
	10	Polaris ... (E&E)	L	21.5	20.0	..	11.0	2.0	..	52.5	50.0	47.5	1.11.42.57		48.26	3.26	15.00	15.03	....	
	11	♂ 1 L.	L	31.2	34.1	37.0	40.0	45.6	51.6	..	..	..	2.35.45.67		45.79				2.37.6.77	
	12	θ Canis Majoris ..	L	48.7	51.6	54.5	57.3	2.9	8.4	11.4	14.2	16.9	6.48.2.83		2.93	17.99	15.06		6.48.18.04	-0.64
	13	ζ ² Geminorum ...	L	5.2	8.1	11.2	14.0	19.8	25.7	28.8	31.7	34.7	6.56.19.85		19.98	35.08	15.10		6.56.35.10	-0.54
	14	γ Canis Majoris ..	L	31.7	34.8	37.6	40.5	46.2	52.0	54.9	57.8	0.5	6.57.46.16		46.25	1.44	15.19		6.58.1.37	-0.67
	15	δ Geminorum	L	2.7	5.7	8.6	11.6	17.5	23.6	26.5	29.5	32.4	7.12.17.50		17.64	32.78	15.14		7.12.32.76	-0.56
	16	β Cancri	L	8.8	11.6	14.4	17.3	22.8	28.5	31.4	34.2	37.0	8.9.22.83		22.95	38.08	15.13		8.9.38.08	-0.50
	17	η Cancri	L	52.2	55.3	58.2	1.1	6.9	13.0	15.9	19.0	21.8	8.25.6.98		7.11	22.24	15.13		8.25.22.24	-0.52
	18	Uranus 1 L.	L	..	..	37.6	40.4	46.3	..	..	..	..	8.27.46.28		46.66				8.28.1.80	
	19	Uranus 2 L.	L	..	..	..	..	..	52.8	55.6	58.5	1.6	8.27.46.78							
Jan. 8	20	⊙ 1 L.	C	52.2	55.1	58.2	1.0	7.1	13.2	16.2	19.2	22.1	19.18.7.08	(+0.96)	17.84			15.32	19.19.33.32	
	21	⊙ 2 L.	C	13.4	16.5	19.4	22.5	28.3	34.4	37.4	40.4	43.4	19.20.28.35	[+0.44]				[0.20]	22.12.29.23	
	22	Venus 1 L.	C	58.8	1.7	4.5	7.5	13.1	18.7	21.6	24.4	27.2	22.12.13.00		13.13				....	
	23	μ Andromedæ ...	WC	..	..	..	..	..	36.1	39.8	43.3	..	0.49.25.64		25.81	41.33	15.52	15.59†	....	
	24	ε Piscium	WC	50.5	53.4	56.2	59.0	4.6	10.0	13.0	15.6	18.4	0.56.4.46		4.60	20.28	15.68		....	
	25	Polaris ... (E&E)	C	..	..	..	13.0	3.0	58.0	54.0	..	..	1.11.43.23		47.41	2.46	15.05	15.52	....	
	26	Neptune	C	..	12.6	15.4	..	..	29.4	..	..	..	1.29.23.71		23.85				1.29.39.38	
	27	β Arietis	WC	6.5	9.5	12.4	15.3	21.1	27.0	30.0	33.1	36.0	1.47.21.15		21.30	36.89	15.59	15.59†	....	
	28	τ ¹ Arietis	C	23.2	26.3	29.2	32.1	38.0	43.9	47.0	49.8	52.8	3.13.37.97		38.12	53.63	15.51	15.52	3.13.53.67	+0.21
	29	66 Arietis	C	30.5	33.5	36.5	39.5	45.4	51.4	54.4	57.4	0.3	3.20.45.37		45.52				3.21.1.07	+0.17
	30	♂ 1 L.	C	57.8	0.8	3.7	6.7	12.7	18.7	21.6	24.6	27.6	3.27.12.63		12.78				3.28.35.13	
	31	Piazzi III. 128 ..	C	34.5	37.5	40.4	43.4	49.2	55.0	58.1	0.9	3.9	3.36.49.15		49.30				3.37.4.85	+0.09
	32	27 Tauri	C	6.0	9.0	12.0	15.1	21.0	27.1	30.0	33.1	36.1	3.41.20.99		21.13				3.41.36.68	+0.07
	33	Α ¹ Tauri	C	40.8	43.8	47.0	49.7	55.6	1.6	4.6	7.6	10.5	3.56.55.63		55.78	11.35	15.57		3.57.11.33	-0.01
	34	ω ¹ Tauri	C	15.9	19.0	21.8	24.7	30.5	36.4	39.4	42.2	45.2	4.1.30.51		30.66	46.19	15.53		4.1.46.21	-0.04
	35	δ ¹ Eridani	C	10.7	13.5	16.1	19.0	24.5	30.1	33.0	35.7	38.4	4.5.24.50		24.63	40.19	15.56		4.5.40.18	-0.21
	36	Piazzi IV. 31.	C	54.2	58.0	1.6	5.4	12.7	20.1	23.8	27.6	31.3	4.11.12.67		12.86				4.11.28.41	-0.11
	37	δ Ursæ Min. S.P. (E&E)	C	..	..	46.0	32.0	..	38.5	..	..	..	6.12.46.89		45.29	0.96	15.67		....	
	38	ν Geminorum	C	55.4	58.4	1.3	4.3	10.0	16.1	19.0	22.0	24.8	6.21.10.09		10.24	25.79	15.53		6.21.25.81	-0.50
	39	Piazzi VI. 126.	C	..	..	..	..	54.8	1.4	4.7	8.0	11.2	6.23.54.77		54.93				6.24.10.50	-0.58
	40	54 Aurigæ	C	1.7	5.0	8.0	11.2	17.5	23.6	26.8	30.0	33.1	6.31.17.36		17.32				6.31.33.09	-0.57
	41	Cephei 51. (E&E)	C	50.5	49.5	..	44.0	37.0	..	..	..	..	6.40.17.30		19.41	35.48	16.07		....	
	42	θ Canis Majoris ..	C	48.3	51.0	53.9	56.7	2.2	7.9	10.8	13.6	16.5	6.48.2.26		2.39	18.00	15.61		6.48.17.97	-0.65
Jan. 9	43	β Lyræ	HC	48.8	52.2	55.5	58.8	5.4	12.0	15.4	18.5	21.8	18.45.5.31	(+0.52)	5.41	21.27	15.86	15.70	18.45.21.25	+2.18
Jan. 10	44	γ Aquilæ	HC	41.3	44.1	46.9	49.6	55.2	0.9	3.8	6.6	9.4	19.39.55.25	[-0.81]	55.31	11.17	15.86	[0.18]	19.40.11.16	+2.10
	45	α Aquilæ	HC	3.2	6.0	8.9	11.6	17.2	22.7	25.5	28.4	31.2	19.44.17.13		17.19	33.06	15.87		19.44.33.04	+2.10

Polaris and other stars very near the pole are observed by eye and ear over the wires P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P.; using the Clock Hardy. The Intervals of the Wires of both systems are given in the Introduction.

Reading of Transit-Micrometer, 31.900; from January 7, ⊙ 1 L., 32.100.

Corrections to the times by Hardy for reduction to Sidereal Standard, applied to form Concluded Transit, Nos. 10, 25, 37, and 41, -19.00: -19.60: -19.70: and -19.70.

Corrections for passage of Semidiameter, Nos. 3, 9, 11, 22, and 30, +65.83: +0.59: +65.92: +0.59: and +66.80.

† This clock-error has been used in the reduction of the observations made with the Altazimuth.

January 6th 8^h. A new wire R was inserted in the wire frame of the Transit Circle, and the lenses of the object-glass were separated and cleaned.

January 7. The azimuthal error by tabular places of Polaris and θ Canis Majoris, allowing 0.07 for clock-rate.

January 8. The azimuthal error used is the mean of two determinations (+0.69 and +0.18), by tabular places of Polaris and τ¹ Arietis, and of δ Ursæ Minoris S.P. and Cephei 51, allowing 0.03 for clock-rate in the former case.

January 9 to 12. The azimuthal error by tabular places of Polaris and η Piscium on January 10.

3. Cloudy.

12. Tremulous and diffused; cloudy.

10. Very diffused and tremulous; observation unsatisfactory.

14. Tremulous.

15. Faint; cloudy.

11. Very cloudy.

26. Extremely faint; cloudy.

[4]

TRANSITS OBSERVED WITH THE TRANSIT-CIRCLE, AND COMPUTATIONS OF APPARENT RIGHT ASCENSION,

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of		Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at ^h Sidereal and (Lossing Rate).	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873, Jan. 1.	
														Collimation. (Level).	Azimuth.							
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.										h	m	s
				s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	h	m	s	s
Jan. 10	1	α Aquarii.....	HC	44.2	46.9	49.6	52.4	57.8	3.4	6.2	9.0	11.7	21.58.57.85	+1.00		57.90	13.75	15.85	15.70	21.59.13.76	+1.80	
	2	δ Pegasi.....	HC	33.0	36.0	39.2	42.1	48.0	54.2	57.3	0.3	3.4	22.0.48.10	(+0.52)		48.17	4.05	15.88	[0.18]	22.1.4.03	+1.92	
	3	π^2 Pegasi.....	HC	46.6	50.0	53.2	56.5	2.9	9.5	12.8	16.0	19.4	22.4.2.92	[-0.81]		3.02				22.4.18.89	+2.01	
	4	γ Cephei.....	HC	..	..	35.1	43.8	..	19.1	28.0	36.6	45.5	22.7.1.26			1.64				22.7.17.51	+4.19	
	5	Venus 1 L.....	HC	..	..	52.0	..	..	34.5	..	..	..	22.21.6.12			6.16				22.21.22.63		
	6	α Lacertæ.....	HC	..	..	..	..	..	54.0	58.4	2.6	7.0	22.25.45.46			45.61				22.26.1.48	+2.32	
	7	γ Ceti.....	C	2.7	5.6	8.4	11.0	..	22.1	24.8	27.7	30.5	0.23.16.53			16.57	32.32	15.75	15.84†	....		
	8	ϵ Piscium.....	C	50.4	53.2	56.0	58.8	4.3	9.9	12.7	15.4	18.1	0.56.4.25			4.31	20.26	15.95		....		
	9	Polaris....(E&E)	HC	..	..	..	..	..	56.0	52.0	48.0	45.0	1.11.39.63			44.94	0.81	15.87	15.88	....		
	10	η Piscium.....	HC	10.4	13.3	16.1	19.0	24.5	30.4	33.2	36.0	39.0	1.24.24.60			24.67	40.54	15.87		1.24.40.56	+0.82	
	11	Neptune.....	HC	..	13.6	16.5	19.3	24.9	..	33.2	36.0	38.8	1.29.24.78			24.84				1.29.40.73		
	12	ν Piscium.....	HC	19.0	21.7	24.4	27.3	32.7	38.3	41.1	43.9	46.7	1.34.32.73			32.78	48.67	15.89		1.34.48.67	+0.69	
	13	ϵ Tauri.....	HC	41.7	44.6	47.6	50.4	56.2	2.1	5.0	8.0	10.9	4.20.56.22			56.29	12.21	15.92		4.21.12.20	-0.11	
	14	Aldebaran.....	HC	7.8	10.8	13.6	16.5	..	28.0	31.0	33.8	36.7	4.28.22.21			22.28	38.21	15.93		4.28.38.19	-0.15	
	15	γ^2 Eridani.....	HC	5.5	8.8	11.9	15.0	21.5	27.9	31.2	34.6	37.8	4.30.21.51			21.54				4.30.37.45	-0.65	
	16	τ Tauri.....	HC	6.7	9.6	12.7	15.6	21.6	27.6	30.7	33.6	36.7	4.34.21.59			21.66	37.57	15.91		4.34.37.58	-0.17	
	17	δ Aurigæ.....	HC	35.2	38.6	42.0	45.4	52.3	59.2	2.8	6.1	9.5	4.43.52.28			52.38				4.44.8.30	-0.25	
	18	B. F. 625.....	HC	0.4	3.7	6.8	9.8	15.7	21.8	24.9	27.8	31.0	4.48.15.71			15.78				4.48.31.70	-0.23	
	19	δ Tauri.....	HC	52.1	55.3	58.2	1.2	7.4	13.5	16.6	19.5	22.6	4.50.7.32			7.39				4.50.23.31	-0.24	
	20	Groomb. 2427 S.P.	HC	..	..	48.0	59.0	21.6	..	53.9	..	16.6	5.5.21.37			20.85				17.5.36.77	+3.78	
	21	Rigel.....	HC	..	..	..	..	..	16.2	19.1	21.8	24.6	5.8.10.58			10.62	26.51	15.89		5.8.26.54	-0.44	
	22	δ 1 L.....	HC	43.0	46.1	49.2	52.4	58.5	4.6	7.8	11.0	14.1	5.14.58.46			58.53				5.16.23.16		
	23	γ 13g Tauri.....	HC	36.0	39.3	42.2	45.4	51.5	57.5	0.5	3.7	6.8	5.49.51.37			51.45				5.50.7.37	-0.46	
	24	γ Geminorum....	HC	53.6	56.5	59.6	2.5	8.5	14.5	..	23.6	..	5.56.8.49			8.56	24.48	15.92		5.56.24.48	-0.47	
	25	Cephei 51....(E&E)	HC	..	..	..	..	39.0	35.0	33.0	30.5	..	6.40.18.14			20.76	35.60	14.84		....		
	26	Castor.....	HC	58.0	1.3	4.6	7.8	14.3	21.0	24.2	27.4	30.7	7.26.14.30			14.40	30.33	15.93		7.26.30.34	-0.69	
	27	ξ Navis.....	HC	26.9	29.8	33.0	36.0	42.0	48.2	51.1	54.3	57.3	7.43.42.01			42.03	57.99	15.96		7.43.57.97	-0.79	
	28	Niobe.....	HC	27.0	..	..	..	44.7	..	..	..	..	8.1.44.28			44.38				8.2.0.32		
	29	Uranus.....	HC	0.3	3.4	6.3	9.2	15.0	20.9	23.8	26.8	29.7	8.27.14.98			15.05				8.27.30.99		
	30	ϵ Hydræ.....	HC	33.4	36.4	39.2	42.0	47.4	53.0	55.8	58.7	1.2	8.39.47.39			47.45	3.43	15.98		8.40.3.39	-0.50	
	31	Regulus.....	HC	6.6	9.4	12.3	15.1	..	26.3	29.2	32.0	35.0	10.1.20.67			20.74	36.65	15.91		10.1.36.70	-0.29	
Jan. 11	32	α Ceti.....	L	8.6	11.4	14.1	17.0	22.4	27.9	30.8	33.5	36.2	2.55.22.38			22.43	38.27	15.84	15.80†	....		
	33	δ Arietis.....	L	51.3	54.3	57.3	0.2	6.0	12.0	14.9	17.8	20.7	3.4.5.99			6.06	21.89	15.83	[0.32]	....		
Jan. 12	34	γ 20 Ceti.....	J	59.5	2.4	5.3	..	13.4	..	21.8	24.7	27.3	0.46.13.43			13.48	30.02	16.54	16.51	....		
	35	μ Andromedæ...	J	7.3	10.8	14.2	17.6	24.6	31.7	35.3	38.9	42.2	0.49.24.66			24.76	41.26	16.50	[0.39]	....		
	36	δ 1 L.....	C	17.2	20.4	23.6	26.8	33.0	39.4	42.5	45.7	48.9	7.6.33.00			33.08			16.51	7.7.58.35		
	37	δ Geminorum....	C	1.3	4.3	7.3	10.2	16.1	22.2	25.2	28.1	31.1	7.12.16.14			16.21	32.84	16.63		....		
Jan. 14	38	ν Leonis.....	C	55.6	58.4	1.2	3.9	9.4	15.0	17.7	20.4	23.2	11.30.9.36	-0.43 (+0.99)		9.40	26.71	17.31	17.14† [0.35]	....		
Jan. 15	39	ϵ Arietis.....	E	24.2	27.1	30.0	33.0	38.8	44.8	47.8	50.7	53.8	2.51.38.85	[+0.53]		38.90	56.79	17.89	17.85†	....		
	40	α Ceti.....	E	6.5	9.4	12.1	14.8	20.2	25.7	28.6	31.4	34.2	2.55.20.27			20.32	38.23	17.91	[0.43]	....		
	41	σ Tauri.....	L	27.3	30.1	33.0	35.6	41.3	46.9	49.7	52.5	55.3	3.17.41.24			41.28	58.65	17.37	17.26	....		
	42	f Tauri.....	L	20.2	23.2	25.8	28.6	34.3	39.9	42.8	45.6	48.4	3.23.34.25			34.29	51.60	17.31		....		
	43	ϵ Eridani.....	L	25.5	28.4	31.2	34.0	39.5	45.1	48.0	50.7	53.6	3.26.39.49			39.52	56.82	17.30		....		
	44	η Tauri.....	L	23.7	26.8	29.9	32.6	39.0	45.0	48.0	51.0	53.7	3.39.38.79			38.84	56.12	17.28		....		
	45	Nemesis.....	L	..	..	..	..	13.6	..	..	23.6	..	3.51.8.20			8.25				3.51.25.58		

The observations of transits are usually made by the galvanic or chronographic method, the wires employed being generally P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P. Occasionally the observations are made by eye and ear (E & E); the wires then employed are N, O, P, T, X, Y, Z; in reversed order for stars S.P.

Reading of Transit-Micrometer, 32" 100; from January 14, ν Leonis, 32" 200.

Corrections to the times by Hardy for reduction to Sidereal Standard, applied to form Concluded Transit, Nos. 9 and 25, -21" 10: and -21" 20.

Corrections for passage of Semidiameter, Nos. 5, 22, and 36, +0" 60: +68" 71: and +68" 64.

† These clock-errors have been used in the reduction of the observations made with the Altazimuth.

January 14 to 18. The azimuthal error by tabular places of Polaris and γ^2 Ceti on January 17, allowing 0" 02 for clock-rate.

5. Very faint; cloudy. Observed over wires P and Y.
33. Very faint; cloudy.

6, 21, 24, 28. Cloudy.
36, 42, 43. Faint; cloudy.

23. Very cloudy.
45. Extremely faint; only just visible.

MONTH DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of Collimation. (Level). [Azimuth].	Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at 0 ^h Sidereal and [Losing Rate].	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873, Jan. 1.
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.								
				s	s	s	s	s	s	s	s	s								
Jan. 15	1	♂ Eridani	L	..	..	..	..	..	14.1	16.8	19.6	22.4	4. 9. 8.40	-0.43	8.43			17.26	4. 9. 25.76	-0.18
	2	♂ Tauri	L	48.0	51.1	54.3	57.3	3.1	9.2	12.3	15.3	18.3	4. 16. 3.15	(+0.99)	3.21			[0.43]	4. 16. 20.55	-0.05
Jan. 16	3	Bradley 341	C	24.5	27.4	30.0	32.9	38.5	44.1	47.0	49.7	52.6	2. 19. 38.46	(+1.18)	38.51			17.96	2. 19. 56.51	+0.54
	4	♂ Ceti	C	40.1	43.1	45.8	48.6	54.2	59.6	2.5	5.2	8.0	2. 28. 54.06		54.12	12.13	18.01	[0.45]	....	
	5	♂ Arietis	C	3.1	6.1	9.0	12.0	18.0	23.9	26.8	29.8	32.7	2. 31. 17.87		17.93				2. 31. 35.94	+0.54
	6	♂ Arietis	C	0.3	3.4	6.1	9.0	14.6	20.4	23.3	26.2	29.0	2. 37. 14.64		14.70				2. 37. 32.71	+0.47
	7	41 Arietis	C	56.7	59.7	2.9	6.0	12.1	18.5	21.5	24.6	27.7	2. 42. 12.12		12.19				2. 42. 30.20	+0.51
	8	♂ Arietis	C	56.3	59.1	1.9	4.8	10.5	16.2	19.0	21.9	24.8	2. 44. 10.44		10.50	28.51	18.01		....	
	9	♂ Tauri	WC	..	41.5	..	47.3	53.3	..	2.3	5.2	8.4	3. 56. 53.29		53.35	11.29	17.94	17.87†	....	
	10	♂ Aquilæ	E	..	3.5	6.2	9.1	14.6	20.0	23.0	25.7	..	19. 44. 14.53	(+1.45)	14.59	33.14	18.55	18.14	19. 44. 33.12	+2.02
	11	♂ 1 L.	E	..	..	..	50.2	56.0	2.0	5.0	7.9	11.0	19. 56. 56.03					[0.48]	....	
	12	♂ 2 L.	E	0.8	3.9	6.8	9.9	15.6	21.8	24.8	27.5	30.6	19. 59. 15.68		5.90				19. 58. 24.44	
Jan. 17	13	Venus 1 L.	E	10.7	13.6	16.4	19.2	24.7	30.5	33.3	36.1	38.8	22. 51. 24.75		24.80				22. 51. 44.02	
	14	♂ Pegasi	E	51.6	54.5	57.4	0.1	5.8	11.5	14.4	17.3	20.1	22. 58. 5.79		5.86	24.46	18.60		22. 58. 24.46	+1.65
	15	♂ Piscium	E	0.8	3.7	6.4	9.2	14.6	20.3	23.0	25.8	28.6	23. 10. 14.65		14.71	33.30	18.59		23. 10. 33.31	+1.53
	16	♂ Piscium	E	13.5	16.3	19.1	21.8	27.4	33.0	35.8	38.6	41.4	23. 52. 27.37		27.44	46.06	18.62		23. 52. 46.06	+1.34
	17	♂ Andromedæ ...	E	13.6	16.8	20.0	23.2	29.4	35.7	38.8	42.0	45.2	0. 1. 29.34		29.43	48.03	18.60	18.62	0. 1. 48.05	+1.51
	18	♂ Pegasi	E	7.5	10.4	13.3	16.0	21.7	27.6	30.4	33.3	36.0	0. 6. 21.74		21.81	40.49	18.68		0. 6. 40.43	+1.33
	19	♂ Andromedæ ...	E	4.4	7.8	11.4	14.8	21.4	28.4	31.8	35.3	38.8	0. 11. 21.50		21.60				0. 11. 40.22	+1.56
	20	Groombridge 120.	E	..	..	..	..	..	14.4	41.0	7.8	35.0	0. 15. 21.33		21.17				12. 15. 39.79	-7.16
	21	4 Draconis S.P. ...	E	..	..	..	..	..	14.7	30.6	38.4	46.5	0. 24. 14.61		14.63				12. 24. 33.25	-1.51
	22	♂ Cassiopeiæ	E	10.7	15.3	19.8	24.5	33.6	42.9	47.4	52.1	56.9	0. 29. 33.59		33.70				0. 29. 52.32	+1.83
	23	Groombridge 120.	E	..	42.9	49.5	56.1	9.3	22.6	29.4	36.2	..	0. 34. 9.29		9.43				0. 34. 28.05	+2.37
	24	23 Cassiopeiæ ...	E	..	..	27.2	37.4	57.5	17.7	28.0	..	..	0. 38. 57.37		57.55				0. 39. 16.18	+3.23
	25	20 Ceti	E	57.5	0.2	3.0	5.8	11.2	16.9	19.6	22.4	25.4	0. 46. 11.28		11.34	29.96	18.62		0. 46. 29.98	+1.02
	26	Bradley 1730 S.P.	E	..	..	..	..	..	45.9	12.6	39.3	7.5	0. 47. 52.59		52.43				12. 48. 11.07	-5.83
	27	Bradley 1731 S.P.	E	..	..	..	..	..	53.6	19.8	46.8	..	0. 47. 59.92		59.76				12. 48. 18.40	-5.83
	28	72 Piscium	E	..	52.1	55.0	57.8	3.5	9.1	12.0	15.0	..	0. 58. 3.44		3.51				0. 58. 22.15	+1.06
	29	♂ Piscium	E	4.3	7.6	10.8	13.9	20.1	26.6	29.8	33.0	36.3	1. 4. 20.20		20.29				1. 4. 38.93	+1.16
	30	Polaris (E&E)	E	..	..	..	5.5	55.0	51.0	46.5	42.0	39.0	1. 11. 34.32		35.46	54.05	18.59		....	
	31	Neptune	E	..	20.1	22.9	25.7	31.2	36.9	39.6	42.5	..	1. 29. 31.21		31.27				1. 29. 49.92	
	32	♂ Ceti	E	10.4	13.2	15.8	18.7	24.2	29.8	32.6	35.4	38.0	2. 36. 24.17		24.23	42.84	18.61		2. 36. 42.90	+0.41
	33	41 Arietis	E	..	..	..	..	..	20.8	23.7	26.9	..	2. 42. 11.34		11.43				2. 42. 30.10	+0.52
	34	♂ Arietis	E	6.8	9.7	12.6	15.5	21.2	27.1	30.0	33.0	35.7	2. 48. 21.23		21.31				2. 48. 39.99	+0.44
	35	♂ Arietis	E	23.3	26.2	29.2	32.0	37.8	44.0	47.0	49.7	52.9	2. 51. 37.95		38.03	56.77	18.74		2. 51. 56.71	+0.43
	36	♂ Ceti	E	..	..	..	..	..	25.0	27.7	30.6	33.4	2. 55. 19.42		19.49	38.20	18.71		2. 55. 38.17	+0.31
	37	♂ Persei	E	25.7	29.4	32.9	36.4	43.4	50.3	53.8	57.5	1.0	2. 56. 43.31		43.40				2. 57. 2.08	+0.49
	38	9 Ursæ Min. S.P.	E	..	..	..	39.8	58.4	16.6	..	..	..	2. 59. 58.41		58.42				15. 0. 17.10	+0.83
	39	♂ Arietis	E	2.4	5.4	8.3	11.3	17.2	23.0	26.0	29.0	32.0	3. 7. 17.12		17.20				3. 7. 35.88	+0.34
	40	Piazzi III. 23 ...	E	11.7	15.2	..	..	..	..	..	..	..	3. 10. 28.33		28.42				3. 10. 47.10	+0.38
	41	♂ Tauri	L	4.4	7.4	10.4	13.3	19.4	25.4	28.4	31.4	34.3	4. 34. 19.31		19.39	37.53	18.14	18.11†	....	
	42	♂ Eridani	L	37.3	40.1	42.9	45.7	51.2	56.7	59.6	2.2	5.0	4. 38. 51.13		51.19	9.43	18.24		....	
	43	♂ Aurigæ	L	9.0	12.3	15.6	19.0	25.4	32.0	35.3	38.6	42.0	4. 48. 25.40		25.49	43.70	18.21		....	
	44	♂ Lyræ	H	59.6	3.3	6.6	10.2	17.1	24.3	27.8	31.5	34.9	18. 32. 17.18	(+1.03)	17.27	36.18	18.91	18.60	....	
Jan. 18	45	♂ 1 L.	H	56.7	59.7	2.7	5.7	11.5	17.5	20.5	23.5	26.4	20. 1. 11.52					[0.40]	....	
	46	♂ 2 L.	H	..	..	..	24.8	31.0	36.8	39.9	42.8	45.9	20. 3. 30.89		21.25				20. 2. 40.18	

Polaris and other stars very near the pole are observed by eye and ear over the wires P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P.; using the Clock Hardy. The Intervals of the Wires of both systems are given in the Introduction.

Reading of Transit-Micrometer, 32" 200.

Correction to the time by Hardy for reduction to Sidereal Standard, applied to form Concluded Transit, No. 30, -20" 70.

Correction for passage of Semidiameter, No. 13, +0" 62.

† These clock-errors have been used in the reduction of the observations made with the Altazimuth.

1. Cloudy.

2. Faint; cloudy.

3. Very faint; cloudy.

9. Hazy; very faint.

45, 46. Very tremulous; light cloud.

TRANSITS OBSERVED WITH THE TRANSIT-CIRCLE, AND COMPUTATIONS OF APPARENT RIGHT ASCENSION,

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of Collimation. (Level). [Azimuth].	Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at a Sidereal and [Leaving Rate].	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873, Jan. 1.
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.								
				s	s	s	s	s	s	s	s	s	h m s	"	s	s	s	s	h m s	s
Jan. 19	1	2 L.	C	39.7	42.6	45.5	48.3	53.9	59.6	2.6	5.2	8.2	12.48.53.90	-0.49	54.01	.	.	18.80	12.48.10.80	
	2	ε Virginis	C	18.0	21.0	23.7	26.6	32.0	37.8	40.7	43.5	46.3	12.55.32.12	(+2.56)	32.26	51.02	18.76	[-0.12]	....	
	3	θ Virginis	C	49.5	52.4	55.1	57.8	3.4	8.8	11.7	14.4	17.3	13.3.3.32	[+0.70]	3.43	22.10	18.67	....	....	
	4	Polaris S.P. (E&E)	C	..	..	3.0	1.0	56.0	44.0	..	36.5	..	13.11.35.65		32.78	51.64	18.86	1.11.51.51	+26.05	
	5	65 Virginis	C	..	..	16.5	19.3	24.7	30.4	33.3	35.9	38.7	13.16.24.78		24.89			13.16.43.62	+0.49	
	6	ζ Virginis	E	39.7	42.7	45.5	48.1	53.6	59.4	2.2	4.8	7.6	13.27.53.68		53.80	12.82	19.02	19.02†	....	
	7	η Virginis	E	23.3	..	29.0	31.7	37.2	42.9	45.6	..	51.4	13.34.37.25		37.35	56.22	18.87	....	....	
	8	τ Bootis	C	39.8	42.9	45.7	48.5	54.2	0.0	3.0	5.9	8.9	13.40.54.26		54.40	13.15	18.75	18.80	....	
	9	Mars 2 L.	C	1.8	4.7	7.5	10.3	15.7	21.5	24.3	27.0	30.0	13.50.15.80		15.90			13.50.34.35		
	10	α Lyræ	G	59.6	3.4	6.7	10.4	17.4	24.4	28.0	31.6	35.0	18.32.17.32		17.51	36.22	18.71	18.83	18.32.36.28	+2.07
																		[-0.08]		
Jan. 20	11	⊙ 1 L.	G	26.2	28.9	32.0	35.0	40.8	46.6	49.7	52.5	55.6	20.9.40.76		50.33			20.11.9.09		
	12	⊙ 2 L.	G	45.0	47.9	51.0	54.0	59.7	5.7	8.8	11.6	14.5	20.11.59.74							
	13	Polaris (E&E)	G	..	..	..	..	41.0	34.0	..	..	26.5	1.11.21.71	+2.18	32.31	51.19	18.88	18.75	1.11.51.06	+26.50
	14	ν Piscium	G	15.8	18.6	21.4	24.0	29.6	35.4	37.9	40.8	43.4	1.34.29.59		29.89	48.55	18.66	1.34.48.63	+0.81	
	15	Bradley 253.	G	47.0	50.6	53.7	57.3	..	..	..	..	21.3	1.48.4.09		4.49			1.48.23.23	+1.01	
	16	56 Andromedæ ..	G	59.8	3.4	..	10.0	17.0	23.9	27.3	30.6	34.0	1.48.16.89		17.29			1.48.36.04	+1.01	
	17	α Tauri	G	25.5	28.5	31.1	33.9	39.4	45.0	47.8	50.6	53.6	3.17.39.42		39.73	58.60	18.87	3.17.58.47	+0.25	
	18	ε Eridani	G	23.7	26.6	29.4	32.2	37.8	43.4	46.2	49.0	51.8	3.26.37.73		38.00	56.76	18.76	3.26.56.74	+0.07	
	19	α Persei	G	45.9	49.3	52.4	55.8	2.1	8.7	11.9	15.2	18.5	3.36.2.13		2.51			3.36.21.25	+0.25	
	20	Piazzi XV. 198 S.P.	G	54.0	59.9	6.0	12.4	24.5	36.6	42.7	48.8	55.0	3.44.24.56		24.17			15.44.42.91	+1.22	
	21	δ Ursæ Min. S.P. (E&E)	G	8.7	56.0	42.0	29.5	..	..	..	..	..	6.12.44.67	-0.49	43.60	1.90	18.30	18.13.2.33	+16.39	
	22	α Lyræ	P	59.6	3.3	6.8	10.4	17.4	24.4	28.0	31.6	35.2	18.32.17.36	[-1.36]	17.51	36.23	18.72	18.77	18.32.36.28	+2.06
																		[0.00]		
Jan. 21	23	Polaris (E&E)	P	..	..	..	..	38.0	33.0	32.5	28.0	1.11.24.95		31.57	50.33	18.76	....	....		
	24	Neptune	P	25.4	28.3	30.9	33.7	39.4	44.7	47.8	50.4	53.3	1.29.39.26		39.30			1.29.58.07		
	25	α Piscium	P	..	10.5	13.3	16.2	21.6	27.3	30.1	33.0	..	1.38.21.65		21.69	40.46	18.77	1.38.40.46	+0.83	
	26	67 Ceti	P	5.7	8.6	11.5	14.1	19.7	25.4	28.1	31.0	33.6	2.10.19.68		19.66	38.38	18.72	2.10.38.43	+0.54	
	27	ω ¹ Tauri	P	12.7	15.4	18.3	21.3	27.3	33.0	36.0	39.0	42.2	4.1.27.18		27.26	46.08	18.82	4.1.46.03	+0.07	
	28	δ Eridani	P	7.6	10.3	13.0	15.7	21.3	26.8	29.7	32.4	35.3	4.5.21.29		21.27	40.08	18.81	4.5.40.04	-0.10	
	29	Piazzi IV. 10.	P	53.3	59.7	6.3	12.7	25.4	38.6	45.0	51.5	58.2	4.8.25.49		25.86			4.8.44.63	-0.19	
	30	θ ² Tauri	P	51.7	54.5	57.4	0.1	5.8	11.8	14.6	17.5	20.4	4.21.5.92		5.98			4.21.24.75	-0.05	
	31	Piazzi IV. 111.	P	6.6	9.9	13.0	16.2	22.4	28.7	32.0	35.2	38.3	4.26.22.42		22.52			4.26.41.29	-0.06	
	32	Aldebaran	P	5.0	7.8	10.6	13.6	19.2	25.3	28.0	30.8	33.8	4.28.19.28		19.35	38.14	18.79	4.28.38.12	-0.08	
	33	δ Ursæ Min. S.P. (E&E)	P	9.5	58.0	44.0	29.5	4.0	..	..	..	..	6.12.46.14	[-1.87]	43.14	2.05	18.91	18.13.1.91	+16.24	
	34	Cephei 51. (E&E)	P	45.0	42.5	..	36.5	..	..	..	..	..	6.40.12.02		15.74	35.13	19.39	6.40.34.51	-20.53	
	35	δ Geminorum	P	..	2.2	5.1	8.0	14.0	20.1	23.3	26.4	..	7.12.14.10		14.15	32.91	18.76	7.12.32.92	-0.69	
	36	δ Leonis	L	28.0	30.8	33.7	36.4	41.8	47.4	50.2	53.0	55.8	10.53.41.84		41.84	0.36	18.52	18.51†	....	
	37	χ Leonis	L	55.8	58.7	1.4	4.2	9.8	15.4	18.2	20.9	23.7	10.58.9.72		9.73	28.22	18.49	....	....	
	38	α Lyræ	HC	59.6	3.4	7.0	10.4	17.4	24.6	28.1	31.7	35.3	18.32.17.43		17.57	36.25	18.68	18.69	18.32.36.23	+2.04
	39	Ceph. 51 S.P. (E&E)	HC	..	..	..	42.0	..	31.0	..	25.5	..	18.40.19.42		15.73	35.07	19.34	[-0.04]	6.40.34.39	-20.47
	40	β Lyræ	HC	46.2	49.6	52.7	56.0	2.6	9.3	12.6	15.9	19.2	18.45.2.61		2.71	21.45	18.74	18.45.21.37	+2.00	
	41	ζ Aquilæ	HC	59.6	2.4	5.3	8.1	13.7	19.4	22.3	25.1	28.0	18.59.13.71		13.74	32.40	18.66	18.59.32.40	+1.91	
Jan. 22	42	β Arietis	HC	3.3	6.4	9.3	..	18.0	..	27.2	29.9	33.0	1.47.18.10		18.15	36.70	18.55	18.65	1.47.36.80	+0.88
	43	Spica	C	57.2	0.0	2.8	5.7	11.2	16.9	19.7	22.4	25.4	13.18.11.20	[-1.67]	11.15	29.78	18.63	18.67†	....	
	44	ζ Virginis	C	40.5	43.4	46.0	48.9	54.2	59.8	2.6	5.4	8.1	13.27.54.26		54.25	12.92	18.67	[-0.03]	....	
	45	α ² Libræ	L	17.8	20.8	23.6	26.2	32.0	37.7	40.7	43.5	46.4	14.43.32.02		31.95	50.32	18.37	18.42	14.43.50.35	+0.99
	46	ξ ² Libræ	L	19.4	22.3	25.0	27.7	33.4	39.2	42.0	44.8	47.5	14.49.33.42		33.37	51.76	18.39		14.49.51.77	+0.97

The observations of transits are usually made by the galvanic or chronographic method, the wires employed being generally P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P. Occasionally the observations are made by eye and ear (E & E); the wires then employed are N, O, P, T, X, Y, Z; in reversed order for stars S.P.

Reading of Transit-Micrometer, 32".200; January 20, from Polaris to Piazzi XV. 198 S.P., 32".020.

Corrections to the times by Hardy for reduction to Sidereal Standard, applied to form Concluded Transit, Nos. 4, 13, 21, 23, 33, 34, and 39, -19".60: -19".00: -18".80: -18".40: -18".40: -18".40: and -18".40.

Corrections for passage of Semidiameter, Nos. 1 and 9, -61".95: and -0".28.

† These clock-errors have been used in the reduction of the observations made with the Altazimuth.

January 19 to January 20, δ Ursæ Minoris S.P. The azimuthal error by Polaris S.P. and Polaris, allowing +0".45 for change of R.A.

January 20, α Lyræ, to January 21, Aldebaran. The azimuthal error by tabular places of Polaris and α Piscium.

January 21, δ Ursæ Minoris S.P. to January 22, β Arietis. The azimuthal error from Cephei 51 and Cephei 51 S.P., allowing 0".01 for clock-rate and change of R.A.

January 22, Spica, to January 23, Polaris. The azimuthal error by tabular places of ε Piscium and Polaris on January 23.

13. Very cloudy.

35. Very faint, cloudy; observed in dark field.

39. Very faint.

42. Cloudy.

45. Tremulous.

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of Collimation. (Level). [Azimuth].	Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at 0 ^h Sidereal and (Losing Rate).	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873. Jan. 1.
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.								
				s	s	s	s	s	s	s	s	s								
Jan. 22	1	♂ Bootis	L	25.5	28.6	31.7	34.9	41.0	47.4	50.4	53.6	56.7	14. 58. 41.02	-0.49	41.11	59.45	18.34	18.42	14. 58. 59.51	+ 0.78
	2	♂ Libræ	L	25.0	28.0	31.0	33.8	39.7	45.6	48.4	51.4	54.4	15. 4. 39.64	(+2.56)	39.56	57.93	18.37	[-0.03]	15. 4. 57.96	+ 1.15
	3	♂ 2 L.	L	..	2.4	5.3	8.2	14.2	20.1	23.0	26.2	..	15. 14. 14.14	[-1.67]	14.06	..	..	..	15. 13. 24.50	..
	4	♂ Libræ	L	31.8	34.9	37.7	40.4	46.2	51.9	54.9	57.8	0.6	15. 20. 46.18	..	46.11	4.60	18.49	..	15. 21. 4.51	+ 1.21
	5	♂ Libræ	L	3.6	6.7	9.5	12.4	18.2	24.2	27.1	30.0	33.0	15. 34. 18.24	..	18.16	..	..	..	15. 34. 36.56	+ 1.32
	6	♂ Serpenti	L	55.7	58.5	1.2	4.0	9.6	15.1	18.0	20.7	23.6	15. 44. 9.54	..	9.55	27.98	18.43	..	15. 44. 27.95	+ 1.17
	7	♂ Scorpii	L	28.8	32.0	34.8	37.7	43.5	49.5	52.4	55.4	58.4	15. 57. 43.55	..	43.47	1.82	18.35	..	15. 58. 1.87	+ 1.44
	8	♂ Lyræ	L	0.1	3.8	7.2	10.6	17.8	24.9	28.4	32.0	35.4	18. 32. 17.73	..	17.88	36.27	18.39	..	18. 32. 36.28	+ 2.02
Jan. 23	9	⊙ 1 L.	L	5.3	8.1	11.0	14.0	19.7	25.9	28.8	31.6	34.6	20. 22. 19.82	..	..	..	..	..	20. 23. 47.32	..
	10	⊙ 2 L.	L	..	26.6	29.5	32.4	38.2	44.1	47.0	50.0	..	20. 24. 38.20	..	..	..	..	..	..	..
	11	Venus 1 L.	L	21.2	24.0	26.8	29.6	35.0	40.7	43.5	46.3	49.0	23. 16. 35.06	..	35.03	..	..	..	23. 16. 54.06	..
	12	♂ Piscium	L	47.7	50.7	53.4	56.2	1.6	7.3	10.0	12.9	15.6	0. 56. 1.65	..	1.67	20.11	18.44	18.39	0. 56. 20.03	+ 1.08
	13	Polaris (E&E)	L	1.5	0.5	..	55.0	40.5	37.0	33.0	..	..	1. 11. 23.13	..	30.27	48.71	18.44	..	....	..
Jan. 24	14	♂ Arietis	C	23.4	26.4	29.3	32.3	38.1	44.1	47.1	50.0	53.0	2. 51. 38.13	[-0.80]	38.22	56.67	18.45	18.54	2. 51. 56.78	+ 0.53
	15	♂ Persei	C	25.8	29.4	32.9	36.4	43.3	50.5	54.0	57.6	1.0	2. 56. 43.36	..	43.52	..	..	[0.18]	2. 57. 2.08	+ 0.61
	16	♂ Arietis	C	2.5	5.5	8.4	11.4	17.4	23.3	26.2	29.1	32.1	3. 7. 17.26	..	17.35	..	..	..	3. 7. 35.91	+ 0.43
	17	♂ Piazzi III. 38 ..	C	59.8	2.9	5.7	8.8	14.6	20.6	23.6	26.5	29.4	3. 13. 14.60	..	14.69	..	..	..	3. 13. 33.25	+ 0.39
	18	♂ Tauri	C	26.0	28.9	31.6	34.4	39.9	45.6	48.4	51.2	54.0	3. 17. 39.94	..	40.00	58.55	18.55	..	3. 17. 58.56	+ 0.30
	19	♂ Eridani	C	37.0	39.8	42.6	45.4	50.8	56.3	59.1	1.9	4.7	4. 38. 50.79	..	50.82	9.37	18.55	..	4. 39. 9.39	- 0.20
	20	♂ Ursæ Min. S.P. (E&E)	C	11.0	..	43.5	30.5	5.0	..	..	..	..	6. 12. 46.29	..	44.09	2.45	18.36	..	....	..
	21	Cephei 51 .. (E&E)	C	44.0	44.0	..	39.0	32.0	..	..	..	..	6. 40. 13.63	..	16.48	34.84	18.36	..	....	..
	22	Groomb. 2771 S.P.	C	15.0	20.8	26.5	32.6	44.4	..	..	..	..	7. 1. 44.42	..	44.24	..	..	..	19. 2. 2.83	+ 2.97
	23	51 Geminorum ..	C	32.2	35.2	38.0	41.0	46.6	52.4	55.3	58.2	1.0	7. 5. 46.59	..	46.68	5.36	18.68	..	7. 6. 5.27	- 0.66
	24	55 Draconis S.P.	C	..	..	..	..	..	8.7	15.4	22.2	29.0	7. 8. 55.42	..	55.19	..	..	..	19. 9. 13.78	+ 3.35
	25	♂ Draconis S.P. ..	C	33.4	40.4	47.6	54.9	9.4	..	..	..	..	7. 12. 9.45	..	9.20	..	..	..	19. 12. 27.79	+ 3.56
	26	♂ Geminorum	C	16.6	19.8	23.0	26.1	32.3	38.7	41.7	44.8	48.0	7. 17. 32.27	..	32.39	..	..	..	7. 17. 50.98	- 0.76
	27	68 Geminorum ..	C	49.3	52.1	55.1	57.8	3.5	9.4	12.2	15.2	18.0	7. 26. 3.56	..	3.65	..	..	..	7. 26. 22.25	- 0.69
	28	♂ Draconis S.P. ..	C	34.3	42.2	50.2	57.8	14.0	..	..	..	..	7. 32. 13.90	..	13.61	..	..	..	19. 32. 32.21	+ 3.99
	29	Pollux	C	59.0	2.1	5.3	8.4	14.5	20.8	24.1	27.1	30.3	7. 37. 14.55	..	14.67	33.30	18.63	..	7. 37. 33.27	- 0.80
	30	Uranus	C	28.3	31.4	34.3	37.3	43.0	48.8	51.9	54.9	57.8	8. 24. 43.02	..	43.12	..	..	..	8. 25. 1.72	..
	31	Regulus	C	4.2	7.1	9.8	12.6	18.4	24.0	27.0	29.7	32.5	10. 1. 18.30	..	18.38	36.97	18.59	..	10. 1. 37.00	- 0.61
	32	Jupiter 1 L.	C	8.3	..	14.0	..	22.5	..	31.1	..	36.8	10. 6. 22.49	..	..	..	..	..	..	..
	33	Jupiter 2 L.	C	11.6	..	17.3	..	25.7	..	34.3	..	40.0	10. 6. 25.73	..	..	..	..	..	10. 6. 42.81	..
Jan. 25	34	Arcturus	J	18.1	21.3	24.4	27.2	32.9	38.9	41.8	44.8	47.6	14. 9. 32.94	[-1.93]	33.00	51.67	18.67	18.53	..	..
	35	♂ Coronæ	J	43.5	46.5	49.8	52.8	59.0	5.2	8.4	11.3	14.4	15. 28. 58.90	..	58.98	17.74	18.76	[0.30]	..	..
	36	♂ Ophiuchi	E	27.6	30.5	33.4	36.3	41.9	47.6	50.4	53.4	56.0	17. 28. 41.84	..	41.87	0.76	18.89	18.67	17. 29. 0.81	+ 1.57
	37	♂ Lyræ	E	59.6	3.2	6.7	10.0	17.2	24.3	27.7	31.4	35.0	18. 32. 17.16	..	17.30	36.32	19.02	[0.37]	18. 32. 36.26	+ 1.97
	38	♂ Aquilæ	E	0.3	3.2	6.0	8.6	14.2	19.8	22.7	25.6	28.4	19. 44. 14.25	..	14.26	33.24	18.98	..	19. 44. 33.23	+ 1.92
	39	⊙ 1 L.	E	26.7	29.6	32.6	35.5	41.3	47.2	50.0	53.0	56.0	21. 30. 41.27	..	..	..	..	..	20. 32. 9.04	..
	40	⊙ 2 L.	E	44.4	47.5	50.4	53.2	59.0	5.1	7.7	10.8	13.7	21. 32. 59.02	..	..	..	..	..	..	..
	41	Venus 1 L.	E	34.8	37.6	40.4	43.1	48.6	54.3	57.0	59.8	2.5	23. 24. 48.61	..	48.57	..	..	..	23. 25. 8.25	..
	42	γ Cephei	E	..	..	..	..	43.4	8.0	20.6	33.0	44.5	23. 33. 43.47	..	44.27	..	..	..	23. 34. 3.30	+ 5.51
	43	♂ Andromedæ ..	E	13.2	16.4	19.6	22.6	28.8	35.2	38.3	41.4	44.7	0. 1. 28.84	..	28.92	47.94	19.02	19.04	0. 1. 47.96	+ 1.60
	44	γ Pegasi	E	7.2	10.0	13.0	15.7	21.4	27.3	30.0	33.0	35.8	0. 6. 21.43	..	21.46	40.41	18.95	..	0. 6. 40.50	+ 1.41
	45	κ Cassiopeiæ	E	..	..	..	..	25.9	37.6	43.7	49.6	55.6	0. 25. 25.76	..	26.10	..	..	..	0. 25. 45.14	+ 2.54

Polaris and other stars very near the pole are observed by eye and ear over the wires P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P.; using the Clock Hardy. The Intervals of the Wires of both systems are given in the Introduction.

Reading of Transit-Micrometer, 32".200.

Corrections to the times by Hardy for reduction to Sidereal Standard, applied to form Concluded Transit, Nos. 13, 20, and 21, -18".80 : -18".70 : and -18".70.

Corrections for passage of Semidiameter, Nos. 3, 11, and 41, -67".96 : +0".64 : and +0".65.

† This clock-error has been used in the reduction of the observations made with the Altazimuth.

January 24 to Jupiter 2 L. The azimuthal error by tabular places of δ Ursæ Minoris S.P. and Cephei 51.

January 24, Arcturus, to January 25, Jupiter 2 L. The azimuthal error used is the mean of two determinations (-1".72 and -2".14) by tabular places of β Ceti and Polaris, and of δ Ursæ Minoris S.P. and Cephei 51.

TRANSITS OBSERVED WITH THE TRANSIT-CIRCLE, AND COMPUTATIONS OF APPARENT RIGHT ASCENSION,

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of Collimation. (Level). [Azimuth].	Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at oh Sidereal and (Losing Rate).	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873, Jan. 1.
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.								
				s	s	s	s	s	s	s	s	s								
Jan. 25	1	δ Andromedæ ...	E	..	..	2.4	5.4	11.8	18.3	21.7	..	..	0.32. 11.86	-0.49	11.96			19.04	0.32. 31.01	+ 1.47
	2	β Ceti	E	38.1	41.2	44.1	47.1	52.8	58.8	1.6	4.5	7.5	0.36. 52.80	(+2.56)	52.70	11.73	19.03	[0.37]	0.37. 11.75	+ 1.06
	3	ζ Andromedæ ...	E	1.2	4.2	7.2	10.2	16.1	22.2	25.2	28.3	31.4	0.40. 16.16	-1.93	16.22				0.40. 35.27	+ 1.34
	4	γ Cassiopeïæ ...	E	14.4	20.0	25.5	31.1	..	53.2	58.8	4.3	9.8	0.48. 42.01		42.32				0.49. 1.37	+ 2.19
	5	Polaris ....(E&E)	E	0.5	0.0	..	49.0	40.0	..	..	..	..	1.11. 20.87		28.45	47.10	18.65		....	
	6	δ Ceti	E	25.2	28.0	30.6	33.4	38.8	44.4	47.2	50.0	52.8	2.32. 38.87		38.85	57.94	19.09		2.32. 57.93	+ 0.51
	7	35 Arietis	E	24.9	28.0	31.1	34.2	40.4	46.5	49.6	52.8	56.0	2.35. 40.32		40.40				2.35. 59.48	+ 0.68
	8	Groomb. 2146 S.P.	E	..	..	..	34.4	46.0	51.6	57.5	3.8	..	2.38. 34.38		34.05				14.38. 53.13	+ 0.15
	9	τ Persei	E	33.2	37.6	42.2	46.6	55.6	4.7	9.4	13.7	18.5	2.44. 55.62		55.85				2.45. 14.93	+ 0.85
	10	ρ ² Arietis	E	..	9.4	12.3	15.2	20.9	26.8	29.7	32.7	..	2.48. 20.94		20.98				2.48. 40.07	+ 0.54
	11	β Ursæ Min. S.P.	E	..	..	16.6	26.4	47.2	7.7	18.5	..	..	2.50. 47.47		46.81				14.51. 5.90	- 0.06
	12	γ Persei	E	..	58.2	2.7	7.4	16.5	25.6	30.4	35.0	..	2.55. 16.44		16.69				2.55. 35.78	+ 0.76
	13	9 Ursæ Min. S.P.	E	..	..	31.6	40.9	59.3	17.0	26.1	..	..	2.59. 59.15		58.59				15. 0. 17.68	+ 0.21
	14	Bradley 431.....	E	..	..	..	..	56.6	21.7	34.0	46.6	59.4	3. 3. 56.30		57.11				3. 4. 16.20	+ 1.13
	15	Piazzi III. 38 ...	E	59.6	2.5	5.4	8.3	14.1	20.0	23.2	26.0	29.0	3.13. 14.17		14.22				3.13. 33.31	+ 0.40
	16	65 Arietis	E	32.6	35.7	38.6	41.4	47.4	53.3	56.3	59.3	2.2	3.16. 47.36		47.41				3.17. 6.50	+ 0.39
	17	α Tauri	E	25.5	28.3	31.1	33.8	39.4	45.1	47.9	50.7	53.5	3.17. 39.41		39.42	58.54	19.12		3.17. 58.51	+ 0.31
	18	γ Ursæ Min. S.P.	E	51.6	1.1	10.0	18.8	37.4	55.0	3.6	13.4	23.0	3.20. 37.29		36.73				15.20. 55.82	+ 0.54
	19	ε Eridani	E	23.7	26.5	29.4	32.2	37.6	43.2	46.2	49.0	51.9	3.26. 37.68		37.62	56.70	19.08		3.26. 56.71	+ 0.13
	20	Piazzi III. 103 ..	E	41.4	44.1	47.0	49.8	55.4	1.2	4.2	7.1	10.2	3.31. 55.54		55.58				3.32. 14.67	+ 0.27
	21	α Persei	E	45.7	49.0	52.3	55.6	2.0	8.5	11.7	15.2	18.4	3.36. 1.98		2.08				3.36. 21.18	+ 0.32
	22	η Tauri	E	21.6	24.6	27.9	30.8	37.0	43.0	45.8	49.0	52.0	3.39. 36.79		36.85	56.00	19.15		3.39. 55.95	+ 0.20
	23	ζ Persei	E	33.6	36.8	40.0	43.4	49.6	56.1	59.6	2.6	6.0	3.45. 49.67		49.77				3.46. 8.87	+ 0.25
	24	δ Ursæ Min. S.P. (E&E)	E	11.0	58.5	44.0	31.0	..	..	..	..	..	6.12. 46.33		43.28	2.57	19.29		....	
	25	Cephei 51... (E&E)	E	44.0	43.0	..	37.5	..	..	..	..	..	6.40. 11.41		15.17	34.78	19.61		....	
	26	ε Canis Majoris ..	E	4.2	7.4	..	13.7	19.8	26.4	..	32.9	35.7	6.53. 19.95		19.80	38.97	19.17		6.53. 38.95	- 0.91
	27	Piazzi VI. 285....	E	..	..	0.8	19.4	56.9	34.8	53.2	..	..	7. 0. 56.68		57.91				7. 1. 17.06	- 6.66
	28	48 Geminorum ..	E	9.6	12.6	15.7	18.7	24.7	30.9	34.0	37.0	40.0	7. 4. 24.74		24.81				7. 4. 43.96	- 0.70
	29	55 Draconis S.P. ..	E	..	..	34.4	41.0	55.1	8.0	15.0	..	..	7. 8. 54.82		54.43				19. 9. 13.58	+ 3.34
	30	δ Draconis S.P. ..	E	..	..	..	..	9.0	23.1	30.0	37.1	45.0	7.12. 8.81		8.38				19.12. 27.53	+ 3.55
	31	η Canis Majoris ..	E	..	..	36.9	40.0	46.3	52.6	55.9	..	..	7.18. 46.28		46.12				7.19. 5.27	- 0.94
	32	α ¹ Geminorum....	E	54.5	57.7	1.0	..	..	..	..	..	..	7.26. 10.72		10.82				7.26. 29.97	- 0.83
	33	Castor	E	..	..	..	..	11.2	17.8	21.2	24.4	27.6	7.26. 11.23		11.33	30.47	19.14		7.26. 30.48	- 0.83
	34	Procyon	E	6.8	9.5	12.4	15.1	20.6	26.2	28.8	31.7	34.6	7.32. 20.58		20.58	39.85	19.27		7.32. 39.74	- 0.68
	35	Pollux	E	58.4	1.5	4.6	7.7	14.1	20.3	23.5	26.8	30.0	7.37. 14.03		14.11	33.30	19.19		7.37. 33.27	- 0.80
	36	δ Cygni S.P.	E	19.4	23.4	27.3	31.3	39.0	46.6	50.5	54.6	58.7	7.40. 39.05		38.89				19.40. 58.05	+ 2.35
	37	λ Ursæ Min. S.P. (E&E)	E	..	..	..	..	23.0	11.0	..	..	..	7.50. 2.62		52.97				....	
	38	56 Camelopardali.	E	21.4	27.2	32.7	38.4	49.6	0.9	6.7	12.4	18.2	8. 4. 49.60		49.92				8. 5. 9.08	- 1.97
	39	Bradley 1160....	E	..	..	..	..	21.8	40.3	50.1	59.1	8.7	8. 6. 21.62		22.22				8. 6. 41.38	- 3.64
	40	φ ² Cancri	E	..	35.4	..	..	48.0	54.3	57.4	0.4	3.7	8.18. 48.13		48.21				8.19. 7.38	- 0.86
	41	Uranus	E	17.2	20.0	23.0	25.9	31.7	37.6	40.7	43.6	46.6	8.24. 31.75		31.80				8.24. 50.97	
	42	35 Cancri	E	28.4	31.3	34.1	37.1	43.0	48.9	51.8	54.7	57.8	8.27. 42.95		43.00				8.28. 2.17	- 0.79
	43	39 Cancri	E	15.0	17.9	21.0	23.8	29.6	..	..	..	..	8.32. 29.67		29.72				8.32. 48.89	- 0.79
	44	40 Cancri	E	..	..	..	..	34.8	40.7	43.7	46.7	49.7	8.32. 34.80		34.85				8.32. 54.02	- 0.79
	45	α Hydre	E	48.4	51.3	54.0	56.8	2.3	7.9	10.7	13.6	16.5	9.21. 2.33		2.28	21.40	19.12		9.21. 21.46	- 0.66
	46	Regulus	E	3.7	6.6	9.5	12.2	17.8	23.6	26.4	29.4	32.2	10. 1. 17.87		17.90	36.99	19.09		10. 1. 37.09	- 0.63
	47	Jupiter 1 L.....	E	..	45.6	..	51.0	56.7	..	..	..	..	10. 5. 56.71						10. 6. 17.44	
	48	Jupiter 2 L.....	E	..	48.5	..	54.2	59.6	..	..	..	..	10. 5. 59.71							

The observations of transits are usually made by the galvanic or chronographic method, the wires employed being generally P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P. Occasionally the observations are made by eye and ear (E & E); the wires then employed are N, O, P, T, X, Y, Z; in reversed order for stars S.P.

Reading of Transit-Micrometer, 32".200.

Corrections to the times by Hardy for reduction to Sidereal Standard, applied to form Concluded Transit, Nos. 5, 24, 25, and 37, -19^h.00: -19^h.20: -19^h.20: and -19^h.20.

MONTH and DAY.

AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1873.

[9]

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire. h m s	Error of		Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at 0 ^h Sidereal and (Lossing Rate).	Apparent R.A. of Center from the Observation. h m s	Correction for Reduction to Mean R.A. 1873, Jan. 1. s
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.		Collimation. (Level). [Azimuth].	"						
Jan. 26	1	γ Draconis	C	55.9	0.2	5.0	9.3	18.0	27.0	31.4	36.0	40.5	17. 53. 18.05	-0.32		18.26			18.94	17. 53. 37.44 + 1.95	
	2	α Lyrae	C	59.4	3.1	6.7	10.2	17.1	24.2	27.7	31.4	34.8	18. 32. 17.11	(+2.16)		17.20	36.36	19.16	[0.31]	18. 32. 36.39 + 1.93	
	3	γ Aquilæ	C	38.3	41.2	43.8	46.7	52.3	58.0	0.7	3.5	6.3	19. 39. 52.25	[-3.14]		52.20	11.38	19.18		19. 40. 11.40 + 1.89	
	4	α Aquilæ	C	0.1	3.0	5.8	8.7	14.1	19.7	22.7	25.4	28.2	19. 44. 14.13			14.08	33.27	19.19		19. 44. 33.28 + 1.89	
Jan. 27	5	⊙ 1 L.	C	45.0	48.0	50.6	53.6	59.5	5.4	8.3	11.2	14.1	20. 38. 59.46			8.07				20. 40. 27.29	
	6	⊙ 2 L.	C	2.4	5.4	8.3	11.3	17.0	23.0	26.0	28.7	31.8	20. 41. 17.04								
	7	Venus 1 L.	C	43.8	46.6	49.4	52.2	57.7	3.3	6.2	8.7	11.7	23. 32. 57.67			57.56				23. 33. 17.46	
	8	ω Piscium	C	13.0	15.7	18.5	21.3	26.7	32.3	35.2	38.0	40.6	23. 52. 26.75			26.68	45.97	19.29		23. 52. 45.93 + 1.43	
	9	γ Pegasi	C	7.0	9.8	12.6	15.5	21.2	26.9	29.8	32.6	35.6	0. 6. 21.17			21.14	40.39	19.25	19.25	0. 6. 40.39 + 1.43	
	10	Polaris ....(E&E)	C						32.0	27.5	25.0	21.0	1. 11. 16.87			26.07	45.32	19.25		....	
	11	Neptune	C	41.0	43.6	46.5	49.3	54.9	0.3	3.2	6.0	8.8	1. 29. 54.78			54.72				1. 30. 13.99	
	12	β Ophiuchi	H	37.2	39.9	42.7	45.4	51.0	56.5	59.3	1.8	4.6	17. 36. 50.88	-0.32		50.88	10.34	19.46	19.30	17. 37. 10.33 + 1.56	
	13	μ Herculis	H	52.4	55.8	59.0	2.0	8.1	14.4	17.6	20.6	23.7	17. 41. 8.10	(+2.76)		8.20	27.76	19.56	[0.21]	17. 41. 27.66 + 1.57	
	14	γ Draconis	H	55.4	59.8	4.4	9.0	17.8	26.7	31.2	35.6	39.9	17. 53. 17.66	[-2.20]		17.93				17. 53. 37.39 + 1.93	
	15	72 Ophiuchi	H		47.4	50.3		58.6	4.4	7.0	9.8	12.6	18. 0. 58.57			58.59	18.06	19.46		18. 1. 18.05 + 1.64	
	16	γ Serpentis	H		12.2		17.7	23.2	28.8	34.2	37.2	37.2	18. 14. 23.18			23.15	42.55	19.40		18. 14. 42.61 + 1.73	
	17	α Lyrae	H	59.2	2.8	6.2	9.8	16.7	23.9	27.3	31.0	34.3	18. 32. 16.73			16.89	36.38	19.49		18. 32. 36.35 + 1.91	
	18	Ceph. 51 S.P.(E&E)	H	51.0			43.2	40.0	33.0				18. 40. 19.58			15.15	34.59	19.44		....	
	19	β Lyrae	H	45.6	49.0	52.2	55.4	2.0	8.5	12.0	15.3	18.6	18. 45. 2.00			2.12	21.57	19.45		18. 45. 21.58 + 1.88	
	20	ε Aquilæ	H					30.4	36.0	38.7	41.7	44.5	18. 53. 30.19			30.24	49.64	19.40		18. 53. 49.71 + 1.81	
	21	ζ Aquilæ	H	58.9	1.8	4.7	7.5	13.1	18.6	21.7	24.4	27.4	18. 59. 13.06			13.10	32.51	19.41		18. 59. 32.57 + 1.80	
	22	γ Aquilæ	H				46.3	51.8	57.5	0.4	3.2	6.0	19. 39. 51.85			51.87	11.39	19.52		19. 40. 11.34 + 1.88	
	23	α Aquilæ	H	59.6	2.7	5.5	8.3	13.9	19.5	22.2	25.1	27.9	19. 44. 13.80			13.82	33.28	19.46		19. 44. 33.29 + 1.88	
Jan. 28	24	⊙ 1 L.	H	52.6	55.7	58.6	1.6	7.4	13.4	16.0	19.1	22.0	20. 43. 7.32			15.79				20. 44. 35.27	
	25	⊙ 2 L.	H	9.7	12.9	15.7	18.8	24.4	30.3	33.3	36.3	39.3	20. 45. 24.46								
Jan. 29	26	λ Ursæ Min. S.P.(E&E)	AD			57.0	22.0	19.5	13.5	39.0			7. 50. 1.71			50.31				....	
Feb. 1	27	⊙ 1 L.	E		19.0	21.8	24.7	30.4	36.1	39.0	41.9		20. 59. 30.35			38.45			20.50	21. 0. 59.17	
	28	⊙ 2 L.	E	32.1	35.1	38.1	41.1	46.9	52.7	55.4	58.3	1.3	21. 1. 46.72						[0.25]	....	
	29	ζ Cygni	E	53.0	56.2	59.6	2.6	9.0	15.4	18.6	21.7	25.0	21. 7. 8.95			9.07	29.79	20.72		....	
Feb. 5	30	Al Tauri	L					56.0	59.0				3. 56. 49.99	-0.41		49.90	11.04	21.14	21.09†	....	
	31	β 1 L.	E	0.3	3.3	6.3	9.3	15.3	21.5	24.5	27.4	30.5	4. 3. 15.32	(+1.56)		15.22			21.62	4. 4. 44.85	
	32	Aldebaran	E	33.2	47.5	2.1							4. 28. 16.41	[-4.58]		16.29	37.97	21.68	[0.31]	....	
Feb. 6	33	⊙ 1 L.	AD	26.3	29.0	31.7	34.7	40.6	46.4	49.2	52.0	55.2	21. 19. 40.51	(+1.25)		40.22			21.58	21. 21. 9.76	
	34	δ Orionis	AD		58.6	1.1	4.0	9.5	15.3	17.9	20.4		5. 25. 9.48			9.26	31.37	22.11	21.99	....	
	35	κ Orionis	AD		11.6	14.1	17.1	22.7	28.1	31.1	33.7		5. 41. 22.57			22.31	44.35	22.04	[0.41]	....	
	36	139 Tauri	AD	29.7	32.8	36.2	39.2	45.3	51.5	54.5	57.6	0.6	5. 49. 45.20			45.11				5. 50. 7.20 - 0.34	
	37	δ Ursæ Min. S.P.(E&E)	AD	15.0	2.0	49.0	33.0	9.5	41.0				6. 12. 45.95			41.91	4.97	23.06		....	
	38	γ Geminorum	C	49.3	52.3	55.2	58.1	4.0	9.9	12.9	15.8	18.7	6. 21. 3.96			3.84	25.77	21.93	21.77†	....	
	39	γ Geminorum	C	46.8	49.8	52.7	55.6	1.2	7.3	9.9	12.7	15.7	6. 30. 1.24			1.10	22.93	21.83		....	
	40	Cephei 51 (E&E)	AD	41.0	40.5		36.0	28.0					6. 40. 5.06			9.59	32.66	23.07	21.99	....	
Feb. 7	41	⊙ 1 L.	G	25.6	28.4	31.4	34.2	39.8	45.6	48.6	51.5	54.4	21. 23. 39.88	(+1.48)		47.08			21.77	21. 25. 9.22	
	42	⊙ 2 L.	G	40.4	43.4	46.3	49.3	54.8	0.6	3.6	6.4	9.2	21. 25. 54.83								

Polaris and other stars very near the pole are observed by eye and ear over the wires P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P.; using the Clock Hardy. The Intervals of the Wires of both systems are given in the Introduction.

Reading of Transit-Micrometer, 32".200.

Corrections to the times by Hardy for reduction to Sidereal Standard, applied to form Concluded Transit, Nos. 10, 18, 26, 37, and 40, -20".00: -20".10: -19".20:

-23".20: and -23".20.

Corrections for passage of Semidiameter, Nos. 7, 31, and 33, +0".66: +67".95: and +67".60.

† These clock-errors have been used in the reduction of the observations made with the Altazimuth.

January 26 to 27, Neptune. The azimuthal error by tabular places of γ Pegasi and Polaris on January 27, allowing 0".01 for clock rate.

January 27, β Ophiuchi, to February 1. The azimuthal error by tabular places of Cephei 51 S.P. and β Lyrae.

February 5 to 7. The azimuthal error by tabular places of δ Ursæ Minoris S.P. and Cephei 51 on February 6.

16. Very faint.

32. Observed over wires N, O, and P.

[10] TRANSITS OBSERVED WITH THE TRANSIT-CIRCLE, AND COMPUTATIONS OF APPARENT RIGHT ASCENSION,

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of Collimation. (Level). [Azimuth].	Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at 0 ^h Sidereal and (Lossing Rate).	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873, Jan. 1.
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.								
				s	s	s	s	s	s	s	s	s	h m s	"	s	s	s	s	h m s	s
Feb. 10	1	α Arietis	C	21.5	24.6	27.6	30.6	36.6	42.6	45.6	48.6	51.5	1. 59. 36.52	-0.41	36.44	59.92	23.48	23.40 [†]		
	2	ξ 1 Ceti	C	38.0	40.9	43.8	46.5	52.0	..	..	..	..	2. 5. 52.03	(+ 1.18)	51.89	15.29	23.40	[0.45]	....	
	3	δ 1 Cancri	AD	..	..	34.2	37.0	42.8	48.6	51.4	54.5	57.4	8. 15. 42.75	[- 3.75]	42.65	6.22	23.57	23.58	....	
	4	Uranus	AD	..	..	..	..	..	..	..	51.1	53.8	8. 21. 39.12		39.02				8. 22. 2.76	
	5	δ 1 L.	AD	..	20.6	24.2	27.4	..	39.7	42.7	45.7	..	8. 36. 33.31		33.23				8. 38. 3.43	
	6	ξ Cancri	AD	25.6	28.8	31.9	35.0	40.7	46.6	49.6	52.6	55.8	9. 1. 40.68		40.61				9. 2. 4.36	- 0.97
	7	η Leonis Minoris	AD	..	49.7	53.2	56.7	3.8	10.4	14.0	17.4	..	9. 26. 3.53		3.52				9. 26. 27.28	- 1.25
	8	28 Ursæ Majoris.	AD	14.1	20.8	27.1	33.5	..	..	..	..	..	9. 35. 46.00		46.25				9. 36. 10.01	- 2.81
	9	γ 1 Leonis	AD	20.3	23.4	26.3	29.3	35.4	41.0	44.4	47.0	50.2	10. 12. 35.19		35.09	59.01	23.92		....	
	10	α Aquilæ	L	56.1	59.2	1.6	4.5	10.2	15.7	18.6	21.4	24.2	19. 44. 10.11	(+ 1.33)	9.98	33.51	23.53		....	
Feb. 11	11	1 Geminorum ...	L	45.7	48.7	51.7	54.7	0.6	6.8	9.8	12.8	15.8	5. 56. 0.68		0.61	24.33	23.72		....	
	12	η Geminorum ...	L	34.4	37.5	40.5	43.5	49.3	55.4	58.5	1.4	4.4	6. 6. 49.37		49.29	13.05	23.76		....	
	13	δ Ursæ Min. S.P. (E&E)	L	..	..	52.0	39.0	13.0	45.2	..	18.0	6.5	6. 12. 45.82		42.33	6.07	23.74		....	
Feb. 12	14	Polaris (E&E)	C	..	47.0	..	39.0	29.0	..	..	..	..	1. 10. 59.81	(+ 0.99)	7.18	31.59	24.41	24.28	....	
	15	θ 2 Tauri	C	46.0	49.0	51.8	54.6	0.3	6.1	9.0	11.9	14.8	4. 21. 0.33		0.21			[0.42]	4. 21. 24.57	+ 0.23
	16	Aldebaran	C	59.3	2.2	5.1	8.0	13.6	19.5	22.3	25.2	28.0	4. 28. 13.63		13.51	37.87	24.36		....	
	17	Piazzi IV. 112 ...	C	..	37.5	48.4	59.7	21.7	44.4	55.4	6.8	..	4. 31. 21.75		22.30				4. 31. 46.66	+ 0.24
	18	2 Aurigæ	C	26.5	30.0	33.4	36.8	43.6	50.5	53.9	57.5	0.9	4. 43. 43.62		43.59				4. 44. 7.95	+ 0.15
	19	δ Orionis	J	22.0	25.0	27.7	30.5	35.9	41.5	44.3	47.1	49.9	5. 25. 35.93		35.74	31.29	-4.45	Hardy.	....	
	20	α Leporis	J	58.2	1.1	4.1	7.0	12.8	18.6	21.6	24.4	27.4	5. 27. 12.74		12.49	8.05	-4.44	-4.22 [†]		
	21	ϵ Orionis	C	37.4	40.1	42.8	45.6	51.0	56.7	59.4	2.0	5.0	5. 29. 51.05		50.86	46.34	-4.52	[- 1.00]	....	
	22	26 Draconis S.P.	C	14.7	20.7	26.6	32.5	44.3	55.7	1.9	7.6	13.6	5. 33. 44.31		43.82			-4.28	17. 33. 39.31	+ 1.44
	23	B. A. C. 1813 ...	C	..	..	58.7	6.4	20.9	36.2	43.8	..	..	5. 39. 21.04		20.94				5. 39. 16.42	- 0.88
	24	31 Camelopardalis	C	..	..	..	29.5	40.5	51.4	57.0	2.5	8.0	5. 43. 40.36		40.51				5. 43. 35.99	- 0.59
	25	α Orionis	C	8.8	11.6	14.4	17.2	22.7	28.3	31.2	33.9	36.7	5. 48. 22.70		22.55	18.04	-4.51		....	
	26	5 Geminorum ...	C	34.8	37.7	40.9	43.9	49.8	56.0	59.2	2.0	5.1	6. 3. 49.87		49.79				6. 3. 45.26	
	27	δ Ursæ Min. S.P. (E&E)	C	20.0	6.0	52.5	39.5	13.5	..	..	..	..	6. 13. 13.77		10.57	6.35	-4.22		....	
	28	37 Draconis S.P.	C	..	..	..	..	..	..	26.9	34.3	42.1	6. 16. 4.14		3.53				18. 15. 58.98	+ 2.38
	29	χ Draconis S.P.	C	36.4	45.8	55.0	4.4	..	..	..	59.9	9.4	6. 23. 23.12		22.38				18. 23. 17.83	+ 2.92
	30	γ Geminorum ...	C	13.3	16.1	19.0	21.9	27.6	33.4	36.3	39.2	42.0	6. 30. 27.58		27.46	22.89	-4.57		....	
	31	δ 2 L.	C	..	..	16.0	18.8	24.6	30.4	..	..	..	10. 18. 24.60		24.48				10. 17. 16.45	
Feb. 13	32	α Serpentis	L	22.0	25.0	27.7	30.4	36.0	41.6	44.5	47.3	50.0	15. 37. 35.99		35.83	0.35	24.52	24.32 [†]		
	33	ζ Herculis	L	48.6	51.7	55.0	58.4	4.7	11.4	14.6	17.8	21.0	16. 36. 4.73		4.67	29.31	24.64	[0.38]	....	
Feb. 15	34	$\odot$ 1 L.	L	52.5	55.3	58.1	0.9	6.7	12.4	15.2	18.0	21.0	21. 55. 6.62	(+ 0.81)	12.97			24.72	21. 56. 38.11	
	35	$\odot$ 2 L.	L	5.7	8.6	11.4	14.1	19.8	25.6	28.4	31.2	34.1	21. 57. 19.81	[- 3.96]				[0.46]	....	
	36	Venus 1 L.	L	45.4	48.2	51.0	53.9	59.2	5.0	7.8	10.5	13.4	0. 46. 59.31		59.13			25.18	0. 47. 25.10	
	37	β Andromedæ ...	L	54.0	57.4	0.8	4.0	10.7	17.6	21.0	24.3	27.7	1. 2. 10.77		10.71	35.91	25.20		....	
	38	Polaris (E&E)	L	..	..	..	40.0	30.0	23.5	20.5	17.5	12.0	1. 10. 56.53		3.86	29.07	25.21		....	
Feb. 22	39	$\odot$ 1 L.	AD	44.2	47.0	49.5	52.6	58.2	4.2	6.8	9.5	12.4	22. 21. 58.20	-0.37	3.82			29.05	22. 23. 33.14	
	40	$\odot$ 2 L.	AD	..	..	..	4.0	9.9	15.5	18.4	21.4	24.1	22. 24. 9.87	(+ 1.89)				[0.29]	....	
	41	α Herculis	E	7.2	10.0	12.8	15.7	21.4	27.1	29.8	32.7	35.7	17. 8. 21.32	[- 4.27]	21.22	50.77	29.55		....	
Feb. 27	42	1 Geminorum ...	P	..	..	..	..	..	..	3.7	6.6	9.6	5. 55. 54.53	-0.50	54.31	24.10	29.79	29.85	5. 56. 24.16	- 0.09
	43	ν Orionis	P	35.4	38.4	41.3	43.9	49.7	55.5	58.5	1.3	4.3	5. 59. 49.75	(- 0.27)	49.51	19.34	29.83	[0.02]	6. 0. 19.36	- 0.11
														[- 4.58]						

The observations of transits are usually made by the galvanic or chronographic method, the wires employed being generally P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P. Occasionally the observations are made by eye and ear (E & E); the wires then employed are N, O, P, T, X, Y, Z; in reversed order for stars S.P.

Reading of Transit-Micrometer, 32" 200.

Corrections to the times by Hardy for reduction to Sidereal Standard, applied to form Concluded Transit, Nos. 13, 14, and 38, -27" 40: -28" 50: and -32" 70.

Corrections for passage of Semidiameter, Nos. 5, 31, and 36, +66" 46: -63" 31: and +0" 78.

† These clock-errors have been used in the reduction of the observations made with the Altazimuth.

February 10 to 13. The azimuthal error used is the mean of two determinations (-3" 79 and 3" 70) by tabular places of η Geminorum and δ Ursæ Minoris S.P. on February 11, and of Polaris and δ Ursæ Minoris S.P. on February 12, allowing -0" 24 for clock-rate in the latter case.

February 12, δ Orionis. The clock Hardy was put in connection with the chronograph and used as the Transit-Clock for the remainder of the day, in consequence of the prickler being held down by the current from the Sidereal Standard.

February 15. The azimuthal error by tabular places of β Andromedæ and Polaris.

February 22. The azimuthal error used is the mean of the preceding and following determinations (-3" 96 and -4" 58).

February 27 to 28, Venus 1 L. The azimuthal error used is the mean of two determinations on February 27 and 28 (-4" 63 and -4" 52) by tabular places of Cephei 51 and λ Ursæ Minoris S.P., and of ρ Leonis and Polaris, allowing 0" 06 for clock-rate in the latter case.

1. Faint; cloudy.

4, 7, 8. Cloudy.

88 GO NMM. 35A...1A

AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1873.

[11]

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of Collimation. (Level). [Azimuth].	Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at 0 ^h Sidereal and (Lossing Rate).	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873, Jan. 1.
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.								
				s	s	s	s	s	s	s	s	s								
Feb. 27	1	γ Geminorum....	P	38.6	41.7	44.5	47.4	53.1	59.0	1.9	4.7	7.7	6. 29. 53.12	-0.50	52.88	22.71	29.83	29.85	6. 30. 22.74	- 0.28
	2	Cephei 51. (E&E)	P	58.5	56.0	52.5	48.0	42.5	..	..	..	..	6. 39. 53.06	(-0.27)	55.76	26.65	30.89	[0.02]	....	..
	3	e Geminorum....	P	45.3	..	..	53.8	59.5	5.0	8.0	10.8	13.7	6. 46. 59.41	[-4.58]	59.18	..	..	..	6. 47. 29.04	- 0.37
	4	λ Geminorum....	P	4.0	7.0	9.8	12.8	18.5	24.2	27.1	30.1	33.0	7. 10. 18.44	..	18.20	..	..	..	7. 10. 48.06	- 0.50
	5	Pollux	P	47.8	51.2	54.2	57.4	3.5	9.9	13.0	16.2	19.4	7. 37. 3.56	..	3.36	33.20	29.84	..	7. 37. 33.22	- 0.70
	6	π Geminorum....	P	..	..	..	43.6	50.0	56.8	0.1	3.4	6.6	7. 38. 50.04	..	49.87	..	..	..	7. 39. 19.73	- 0.78
	7	λ Ursæ Min. S.P. (E&E)	P	..	..	29.0	53.0	51.0	..	..	..	..	7. 50. 0.41	..	52.55	23.26	30.71	..	..	..
	8	Bradley 1160....	P	24.2	33.8	43.2	52.7	10.8	29.5	39.0	48.2	57.8	8. 6. 10.84	..	11.05	..	..	..	8. 6. 40.91	- 3.30
	9	κ ¹ Cephei S.P....	P	..	..	..	..	..	58.5	10.9	23.3	36.6	8. 12. 33.52	..	32.64	..	..	..	20. 13. 2.50	+ 5.40
	10	Uranus	P	43.1	46.0	49.0	52.0	57.8	3.6	6.7	9.6	12.6	8. 18. 57.76	..	57.53	..	..	..	8. 19. 27.39	..
	11	η Cancri	P	38.2	41.3	44.1	47.0	53.0	58.9	1.7	4.8	7.8	8. 24. 52.92	..	52.69	22.57	29.88	..	8. 25. 22.53	- 0.85
	12	μ Leonis	P	48.2	51.4	54.6	57.6	3.6	9.8	13.0	16.1	19.2	9. 45. 3.64	..	3.44	33.36	29.92	..	9. 45. 33.30	- 1.15
	13	Jupiter 1 L....	P	26.4	..	32.0	..	40.4	..	49.0	..	54.8	9. 49. 40.46	..	41.76	..	..	..	9. 50. 11.62	..
	14	Jupiter 2 L....	P	29.3	..	35.0	..	43.6	..	52.2	..	57.8	9. 49. 43.52	..		..	..	..	..	..
	15	Lutetia	P	..	..	..	..	24.9	30.5	34.1	36.9	39.7	9. 55. 25.07	..		..	..	..	9. 55. 54.69	..
	16	Regulus	P	..	..	..	..	..	13.5	16.4	19.1	21.9	10. 1. 7.76	..	7.52	37.35	29.83	..	10. 1. 37.38	- 0.99
	17	ζ Leonis	P	53.7	56.8	0.0	2.9	9.0	15.0	18.0	21.0	24.2	10. 9. 8.89	..	8.68	..	..	..	10. 9. 38.54	- 1.15
	18	Echo	P	49.3	52.4	56.4	59.5	..	9.6	12.1	15.0	17.7	10. 21. 3.94	..	3.68	..	..	..	10. 21. 33.54	..
	19	ρ Leonis	P	24.8	27.5	30.2	33.2	38.7	44.2	47.0	49.9	52.8	10. 25. 38.64	..	38.39	8.34	29.95	..	10. 26. 8.25	- 0.99
Feb. 28	20	⊙ 1 L.	AD	24.2	26.8	29.7	32.8	38.2	43.7	46.6	49.7	52.1	22. 44. 38.14	(+1.10)	43.31	..	..	29.85	22. 46. 13.25	..
	21	⊙ 2 L.	AD	34.7	37.7	40.8	43.6	49.0	54.6	57.6	0.2	3.1	22. 46. 48.97	..		..	..	[0.09]	..	..
	22	Polaris (E&E)	P	57.0	52.5	47.0	45.5	35.0	..	..	..	..	1. 10. 41.60	..		50.37	20.28	29.91	29.94	....
	23	Venus 1 L.	AD	54.8	57.7	0.3	3.3	9.0	14.8	17.5	20.5	23.2	1. 34. 8.96	..	8.79	..	..	..	1. 34. 39.65	..
	24	ε Tauri	L	28.0	30.6	33.6	36.5	42.1	48.0	50.9	53.8	56.8	4. 20. 42.20	[-2.68]	42.13	11.59	29.46	29.48†	....	..
	25	Aldebaran	L	53.8	56.8	59.6	2.6	8.1	14.2	16.8	19.6	22.6	4. 28. 8.17	..	8.08	37.61	29.53	[0.09]	....	..
	26	δ Ursæ Min. S.P. (E&E)	AD	42.0	29.0	14.5	2.0	34.5	8.0	54.0	41.5	..	6. 12. 42.49	..	40.12	11.18	31.06	29.94	....	..
	27	γ Geminorum ...	AD	38.5	41.5	44.0	47.3	53.0	58.8	1.7	4.6	7.3	6. 29. 52.91	..	52.82	22.70	29.88	..	6. 30. 22.78	- 0.27
	28	ζ Cephei 51. (E&E)	AD	58.5	57.5	55.0	53.0	44.5	41.0	37.0	35.5	33.5	6. 39. 52.33	..	55.03	26.21	31.18	..	....	..
	29	γ Geminorum ...	AD	50.4	53.3	56.2	59.2	5.1	11.1	14.0	16.9	20.0	6. 56. 5.07	..	5.00	34.96	29.96	..	6. 56. 34.97	- 0.42
	30	51 Geminorum...	AD	21.2	23.9	26.5	29.7	35.2	41.1	43.8	46.8	50.0	7. 5. 35.29	..	35.20	5.13	29.93	..	7. 6. 5.17	- 0.46
	31	δ Draconis S.P. ...	AD	..	..	37.5	44.9	59.6	13.1	21.0	28.0	35.5	7. 11. 59.39	..	58.98	..	..	..	19. 12. 28.95	+ 2.35
	32	β Canis Minoris..	AD	32.7	35.3	38.1	41.1	46.5	52.1	55.0	57.8	0.4	7. 19. 46.49	..	46.40	16.26	29.86	..	7. 20. 16.37	- 0.50
	33	Castor	AD	44.2	47.5	50.7	53.9	0.1	7.0	10.0	13.4	16.9	7. 26. 0.34	..	0.31	30.31	30.00	..	7. 26. 30.28	- 0.67
	34	Procyon	AD	55.9	58.8	1.5	4.3	9.9	15.5	18.1	21.0	23.8	7. 32. 9.82	..	9.71	39.72	30.01	..	7. 32. 39.68	- 0.55
	35	Pollux	AD	47.5	50.7	53.8	56.8	3.0	9.5	12.6	15.8	19.2	7. 37. 3.14	..	3.10	33.19	30.09	..	7. 37. 33.07	- 0.69
	36	λ Ursæ Min. S.P. (E&E)	AD	..	..	..	..	58.0	56.0	42.0	12.0	36.0	7. 50. 1.12	..	53.82	24.06	30.24	..	....	..
	37	κ ¹ Cephei S.P....	AD	..	..	54.7	7.6	33.0	58.1	..	23.0	36.4	8. 12. 33.08	..	32.39	..	..	..	20. 13. 2.36	+ 5.34
	38	θ Cephei S.P....	AD	24.6	30.5	36.2	42.4	54.5	6.4	12.4	..	..	8. 26. 54.54	..	54.18	..	..	..	20. 27. 24.15	+ 2.84
	39	ε Hydræ	AD	20.0	23.0	25.6	28.2	33.8	39.3	42.1	45.0	47.9	8. 39. 33.82	..	33.71	3.72	30.01	..	8. 40. 3.68	- 0.79
	40	6 Ursæ Majoris ..	AD	..	48.9	55.2	2.0	14.8	28.0	34.4	41.1	..	8. 45. 14.78	..	14.97	..	..	..	8. 45. 44.94	- 2.60
	41	α Cephei S.P....	AD	30.3	36.2	42.3	48.1	59.9	11.7	17.6	23.8	29.7	9. 15. 0.07	..	59.73	..	..	..	21. 15. 29.70	+ 3.18
	42	Groomb. 3590 S.P.	AD	..	41.2	49.0	57.2	12.8	28.2	36.6	44.2	..	9. 44. 12.85	..	12.40	..	..	..	21. 44. 42.38	+ 4.42
	43	Jupiter 1 L.	AD	..	..	..	..	11.3	17.1	19.9	22.8	25.7	9. 49. 11.32	..	12.83	..	..	..	9. 49. 42.81	..
	44	Jupiter 2 L.	AD	0.2	3.2	6.1	9.0	14.3	..	..	..	..	9. 49. 14.50	..		..	..	..	..	..
	45	Regulus	AD	53.2	56.1	59.0	1.8	7.2	13.2	16.1	19.0	21.8	10. 1. 7.43	..		7.34	37.35	30.01	10. 1. 37.32	- 0.99
	46	ι Leonis	AD	51.9	54.8	57.8	0.4	6.0	11.8	14.4	17.1	20.0	10. 42. 5.96	..	5.87	35.81	29.94	..	10. 42. 35.85	- 1.00

Polaris and other stars very near the pole are observed by eye and ear over the wires P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P.; using the Clock Hardy. The Intervals of the Wires of both systems are given in the Introduction.

Reading of Transit-Micrometer, 32".200.

Corrections to the times by Hardy for reduction to Sidereal Standard, applied to form Concluded Transit, Nos. 2, 7, 22, 26, 28, and 36, -50^s.20: -50^s.30: -52^s.60:

-53^s.30: -53^s.30: and -53^s.50.

Correction for passage of Semidiameter, No. 23, +0^s.91.

† This clock-error has been used in the reduction of the observations made with the Altazimuth.

February 28, ε Tauri, to March 2. The azimuthal error used is the mean of two determinations on February 28 (-2^h.75 and -2^h.61) by tabular places of δ Ursæ Minoris S.P. and Cephei 51, and of Pollux and λ Ursæ Minoris S.P.

31. Faint.

36. Very tremulous.

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of Collimation. (Level). [Azimuth].	Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at 0h Sidereal and [Losing Rate].	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873, Jan. 1.
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.								
				s	s	s	s	s	s	s	s	s								
Mar. 2	1	μ Eridani	L	25.2	28.0	30.8	33.6	39.0	44.8	47.4	50.1	52.9	4. 38. 39.02	-0.50	38.88	8.84	29.96	29.92†	....	
	2	ϵ Aurigæ	L	56.9	59.8	3.2	6.8	13.0	19.7	23.0	26.2	29.5	4. 48. 13.06	(+0.99) [-2.68]	13.03	43.05	30.02	[0.36]	....	
Mar. 4	3	α Orionis	P	33.0	35.8	38.5	41.2	46.8	52.3	55.2	58.0	0.8	5. 47. 46.78	-1.23	46.49	17.76	31.27	1.16†	....	
	4	1 Geminorum ...	P	38.0	41.1	44.0	47.1	53.1	59.2	2.1	5.0	8.1	5. 55. 53.02	(-0.98)	52.75	24.02	31.27	[0.47]	....	
	5	Regulus	L	52.8	55.6	58.2	1.0	6.8	12.5	15.3	18.1	21.0	10. 1. 6.75	[-3.52]	6.47	37.36	30.89		....	
Mar. 5	6	κ Cancri	C	7.6	10.2	13.0	15.8	21.4	27.2	29.9	32.8	35.6	9. 0. 21.44	-0.79	21.19	52.85	31.66	31.48†	....	
	7	ϵ Leonis	E	52.5	55.6	58.8	1.8	7.8	13.9	16.9	20.0	23.0	9. 38. 7.75		7.51	39.44	31.93	31.79	....	
	8	μ Leonis	E	46.1	49.3	52.5	55.5	1.3	8.0	11.0	14.0	17.1	9. 45. 1.59		1.35	33.36	32.01	[0.48]	....	
	9	Ariadne	E	43.6	46.2	49.1	51.9	57.4	3.0	5.8	8.7	11.3	9. 51. 57.38		57.12				9. 52. 29.11	
	10	Echo	E	..	47.4	50.2	53.0	58.7	4.4	7.2	10.0	..	10. 15. 58.64		58.37				10. 16. 30.37	
	11	β Leonis Minoris.	E	44.3	48.0	51.7	54.9	1.8	8.9	12.5	15.8	19.2	10. 20. 1.83		1.61				10. 20. 33.61	- 1.47
	12	ρ Leonis	E	22.7	25.4	28.4	31.1	36.6	42.2	45.0	47.9	50.6	10. 25. 36.59		36.33	8.37	32.04		....	
	13	39 Leonis Minoris	E	33.0	36.1	39.3	42.3	48.5	55.1	58.2	1.2	4.3	10. 32. 48.39		48.36				10. 33. 20.36	- 1.28
	14	Bradley 1485....	E	44.7	47.9	50.9	53.9	59.9	6.1	9.1	12.1	15.2	10. 35. 59.91		59.67				10. 36. 31.67	- 1.20
	15	κ Leonis	E	..	59.5	2.4	5.2	11.0	16.7	19.8	22.5	..	10. 39. 10.95		10.71				10. 39. 42.71	- 1.08
	16	44 Leonis Minoris	E	..	..	..	17.0	24.2	30.5	33.7	37.0	40.1	10. 42. 24.21		23.98				10. 42. 55.98	- 1.30
	17	θ Leonis	E	..	52.4	55.3	58.1	3.8	9.5	12.5	15.3	..	11. 7. 3.78		3.52				11. 7. 35.53	- 1.10
	18	Piazzi XI. 22 ...	E	..	37.7	40.6	43.3	48.9	54.7	57.5	0.4	..	11. 8. 48.95		48.70				11. 9. 20.71	- 1.07
Mar. 6	19	$\odot$ 1 L.	AD	44.4	47.1	49.8	52.6	58.0	3.6	6.6	9.2	11.9	23. 6. 58.07	(-0.35)	} 2.72				23. 8. 34.97	
	20	$\odot$ 2 L.	AD	..	56.8	59.5	2.2	7.8	13.6	16.4	19.3	..	23. 9. 7.88						23. 8. 34.97	
	21	$\odot$ 1 L.	WC	33.3	36.4	39.5	42.8	48.6	55.1	..	..	..	5. 33. 48.85						5. 35. 30.76	
Mar. 7	22	$\odot$ 1 L.	C	25.6	28.5	..	34.2	39.5	45.2	..	50.7	53.4	23. 10. 39.54		} 44.25			32.26	23. 12. 16.68	
	23	$\odot$ 2 L.	C	..	38.5	41.2	43.9	49.5	55.2	57.8	0.6	..	23. 12. 49.47					[0.18]	23. 12. 16.68	
	24	Polaris (E&E)	HC	..	..	..	..	..	9.5	..	56.0	..	1. 10. 43.36					32.33	1. 11. 18.64	+ 60.74
	25	β Arietis	HC	..	..	..	..	..	10.0	12.9	15.8	18.8	1. 47. 4.01		46.30	16.95	30.65	32.33	....	
	26	136 Tauri	C	..	36.1	39.1	42.2	48.3	54.7	57.8	0.9	..	5. 44. 48.38		3.80	36.14	32.34	32.44	5. 45. 20.67	+ 0.12
	27	θ Aurigæ	C	14.0	17.7	21.0	24.5	31.3	38.4	41.8	45.3	48.8	5. 50. 31.36		48.19				5. 51. 3.67	+ 0.09
	28	1 Geminorum ...	C	36.9	39.8	42.8	45.8	51.8	57.8	0.8	3.9	7.0	5. 55. 51.79		31.19				5. 56. 24.07	+ 0.05
	29	2 Geminorum ...	C	..	..	..	..	32.0	..	41.0	44.0	47.0	5. 58. 31.90		51.59	23.96	32.37	32.44	5. 59. 4.18	+ 0.02
	30	δ Ursæ Min. S.P. (E&E)	C	..	..	..	..	..	..	30.5	17.5	5.0	6. 12. 41.38		31.70				18. 13. 12.39	+ 4.77
	31	ν Geminorum ...	E	38.3	41.4	44.2	47.2	53.0	59.0	1.9	4.9	7.8	6. 20. 53.02		39.90	13.52	33.62	32.59†	....	
	32	γ 1 L.	C	47.4	50.7	53.7	57.0	3.2	9.6	12.8	16.0	19.2	6. 30. 3.23		52.81	25.40	32.59	32.44	6. 31. 44.99	
	33	ξ Geminorum ...	E	..	..	..	..	43.1	46.0	48.8	51.6	..	6. 37. 37.39		3.04				....	
	34	Cephei 51. (E&E)	C	..	..	..	..	21.0	17.0	15.0	12.5	9.0	6. 39. 50.08		37.17	9.86	32.69	32.59†	....	
	35	52 Geminorum ..	C	8.8	11.9	15.0	18.0	24.0	30.0	33.3	36.3	39.4	7. 6. 24.02		51.43	23.62	32.19	32.44	6. 40. 23.92	- 9.02
	36	δ Draconis S.P. ...	C	21.0	28.3	35.4	42.6	..	..	..	..	..	7. 11. 57.19		23.83				7. 6. 56.32	- 0.41
	37	A ¹ Geminorum ...	C	56.8	59.9	3.0	6.0	12.0	18.4	21.3	24.6	27.4	7. 15. 12.10		56.83				19. 12. 29.32	+ 1.99
	38	π Draconis S.P. ...	C	..	..	..	..	..	46.4	53.2	0.0	..	7. 19. 26.74		11.91				7. 15. 44.40	- 0.46
	39	68 Geminorum ...	C	35.4	38.4	41.2	44.0	49.7	55.6	58.4	1.2	4.2	7. 25. 49.72		26.40				19. 19. 58.89	+ 1.97
	40	σ Draconis S.P. ...	C	22.0	30.0	37.8	45.6	1.4	..	..	..	..	7. 32. 1.54		49.50				7. 26. 22.00	- 0.47
	41	ϵ Geminorum ...	C	35.0	38.2	41.2	44.2	50.2	56.4	59.6	2.6	15.7	7. 35. 50.29		1.14				19. 32. 33.64	+ 2.48
	42	Pollux	C	45.2	48.3	51.5	54.6	0.8	7.2	10.3	13.6	16.7	7. 37. 0.84		50.10				7. 36. 22.60	- 0.58
	43	δ Cygni S.P.	C	..	..	..	..	..	38.4	42.2	46.1	..	7. 40. 26.74		0.66	33.10	32.44		7. 37. 33.16	- 0.60
	44	λ Ursæ Min. S.P. (E&E)	C	..	..	..	..	..	32.0	21.0	48.0	..	7. 50. 0.66		26.48				19. 40. 58.98	+ 1.43
	45	55 Camelopardali.	C	0.1	8.0	15.6	23.4	38.4	53.8	1.6	9.4	17.0	7. 59. 38.44		56.45	29.63	33.18		19. 50. 28.95	+ 47.77

The observations of transits are usually made by the galvanic or chronographic method, the wires employed being generally P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P. Occasionally the observations are made by eye and ear (E & E); the wires then employed are N, O, P, T, X, Y, Z; in reversed order for stars S.P.

Reading of Transit-Micrometer, 32".200; for March 4, 32".230.

Corrections to the times by Hardy for reduction to Sidereal Standard, applied to form Concluded Transit, Nos. 24, 30, 34, and 44, -30".90: -31".00: -31".00: and -31".00.

Correction for passage of Semidiameter, Nos. 21 and 32, +69".72 and +69".46.

† These clock-errors have been used in the reduction of the observations made with the Altazimuth.

March 4 to 7, Polaris S.P. The azimuthal error from Polaris and Polaris S.P. on March 7, allowing 0".43 for clock-rate and change of R.A.

5, 43. Faint.

18. Faint; cloudy.

19, 20. Cloudy.

21, 22, 23, 29, 30. Very cloudy.

24. Tremulous; very cloudy.

MONTH and DAY.	No. of Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of Collimation. (Level). [Azimuth].	Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at of Sidereal and [Losing Rate].	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873, Jan. 1.
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.								
				s	s	s	s	s	s	s	s	s								
Mar. 7	1	Uranus.....	C	41.5	44.6	47.5	50.3	56.2	2.1	5.2	8.0	11.0	8. 17. 56.20	-0.79	55.99			32.44	8. 18. 28.49	
	2	Jupiter 1 L.	C	42.8	..	48.6	..	57.0	..	5.7	..	11.4	9. 45. 57.05	(-0.35)	58.41			[0.18]	9. 46. 30.92	
	3	Jupiter 2 L.	C	46.0	..	51.7	..	0.1	..	8.9	..	14.6	9. 46. 0.21	(-3.52)						
	4	Ariadne.....	C	50.2	..	..	..	3.8	9.2	12.5	..	17.7	9. 50. 3.85		3.62				9. 50. 36.13	
	5	Echo.....	C	..	..	..	..	..	30.4	..	..	39.0	10. 14. 24.89		24.66				10. 14. 57.18	
	6	34 Sextantis	C	18.8	21.6	24.4	27.2	32.6	38.2	41.0	43.8	46.6	10. 35. 32.63		32.39	4.91	32.52		10. 36. 4.91	- 0.98
	7	β Ursæ Majoris ..	C	14.4	19.7	24.6	30.0	39.7	50.0	55.2	0.2	5.4	10. 53. 39.82		39.72				10. 54. 12.24	- 2.51
	8	Julia.....	C	47.0	49.7	..	55.8	1.9	7.6	..	13.6	16.5	12. 1. 1.67		1.36				12. 1. 33.89	
	9	41 Virginis.....	C	41.7	44.6	47.4	50.3	55.8	1.5	4.5	7.4	10.3	12. 46. 55.88		55.66				12. 47. 28.20	- 0.97
	10	37 Comæ.....	C	24.3	27.7	31.0	34.2	40.4	47.2	50.3	53.5	56.7	12. 53. 40.52		40.34				12. 54. 12.88	- 1.26
	11	ε Virginis.....	C	5.7	8.5	11.5	14.2	19.7	25.4	28.3	31.2	34.2	12. 55. 19.79		19.57	52.22	32.65		12. 55. 52.11	- 0.93
	12	θ Virginis.....	C	37.1	40.0	42.7	45.4	51.0	56.5	59.4	2.0	4.9	13. 2. 50.94		50.68	23.30	32.62		13. 2. 32.22	- 0.79
	13	Polaris S.P. (E&E)	C	..	..	29.5	27.0	20.5	9.0	..	..	..	13. 10. 49.21		45.86	16.72	30.86		1. 11. 18.40	+ 60.97
	14	ζ Cygni.....	L	42.0	45.4	48.5	51.7	57.8	4.5	7.5	10.8	13.9	21. 6. 57.94	(-0.16) [-2.79]	57.79	30.24	32.45	31.97 [0.39]	....	
Mar. 8	15	δ Ursæ Min.S.P.(E&E)	L	..	..	..	..	..	..	..	18.0	5.8	6. 12. 42.02		40.94	13.83	32.89	32.36	....	
	16	Cephei 51. (E&E)	L	32.5	31.8	29.8	26.0	19.5	..	..	..	..	6. 39. 48.49		49.48	23.28	33.80		....	
	17	λ Ursæ Min.S.P.(E&E)	L	..	..	..	34.0	..	21.0	48.5	13.0	..	7. 49. 59.80		56.72	30.38	33.66		....	
	18	ψ ² Cancri.....	L	..	..	..	..	..	..	25.7	..	31.7	8. 2. 16.34		16.18				8. 2. 48.67	- 0.71
	19	Uranus.....	L	..	37.7	..	..	49.6	..	58.4	1.3	4.3	8. 17. 49.49		49.32				8. 18. 21.81	
	20	ε Leonis.....	L	..	..	..	1.0	7.4	..	..	..	22.5	9. 38. 7.22		7.06	39.43	32.37		....	
	21	Thyra.....	L	11.5	14.0	16.7	19.8	..	30.7	33.3	36.2	39.0	9. 43. 25.09		24.89				9. 43. 57.41	
	22	Jupiter 1 L.....	L	..	..	..	..	..	31.0	36.9	..	42.5	9. 45. 31.05		32.42				9. 46. 4.94	
	23	Jupiter 2 L.....	L	..	..	..	..	34.2	39.8	..	45.6	..	9. 45. 34.12							
	24	γ Geminorum(E&E)	C	37.6	52.1	6.5	21.0	35.6	49.8	4.4	..	..	6. 30. 20.98		20.80	22.56	1.76	Hardy. 1.78†	....	
Mar. 9	25	ζ Geminorum(E&E)	C	48.7	3.7	..	..	48.1	..	..	..	..	6. 56. 33.19		33.02	34.83	1.81	[0.00]	....	
Mar. 10	26	α Orionis.....	AD	30.4	33.4	35.8	38.8	44.2	49.9	52.6	55.4	58.3	5. 47. 44.25	-0.46	44.13	17.65	33.52	33.43	5. 48. 17.61	+ 0.12
	27	ι Geminorum ...	AD	35.5	38.6	41.6	44.8	50.5	56.5	59.6	2.6	5.4	5. 55. 50.51	(+0.50)	50.43	23.91	33.48	[0.18]	5. 56. 23.90	+ 0.10
	28	ν Orionis.....	AD	..	..	37.4	40.6	46.1	51.6	54.7	57.4	0.4	5. 59. 46.01	[-2.34]	45.91	19.16	33.25		6. 0. 19.38	+ 0.07
	29	δ Ursæ Min.S.P.(E&E)	AD	19.0	5.5	53.0	39.5	13.0	45.0	31.5	18.0	5.5	6. 12. 41.55		39.89	14.49	34.60		....	
	30	γ Geminorum ...	AD	34.7	37.6	40.6	43.4	49.1	54.8	57.9	0.6	3.6	6. 29. 49.08		48.99	22.54	33.55		6. 30. 22.47	- 0.11
	31	Cephei 51. (E&E)	AD	31.0	29.5	26.0	23.5	17.5	12.5	10.5	8.5	..	6. 39. 45.60		47.42	22.56	35.14		....	
	32	θ Canis Majoris..	L	30.5	33.4	36.0	39.0	44.5	50.3	53.0	55.7	58.7	6. 47. 44.51		44.36	17.58	33.22	33.19†	....	
	33	ζ Geminorum....	L	47.0	49.9	53.0	55.7	1.6	7.6	10.6	13.5	16.6	6. 56. 1.67		1.59	34.82	33.23		....	
	34	γ Canis Majoris..	L	13.6	16.6	19.4	22.3	28.0	33.7	36.7	39.5	42.3	6. 57. 27.95		27.78	1.05	33.27		....	
	35	λ Ursæ Min.S.P.(E&E)	AD	..	..	..	..	30.0	24.5	53.0	16.0	47.5	7. 50. 2.64		57.60	31.87	34.27	33.43	....	
	36	d ¹ Cancri.....	AD	18.0	21.0	23.9	26.8	32.6	38.5	41.4	44.5	47.4	8. 15. 32.62		32.53	6.06	33.53		8. 16. 6.02	- 0.69
	37	Uranus.....	AD	21.2	24.1	27.2	30.0	35.7	41.8	44.8	47.6	50.7	8. 17. 35.84		35.75				8. 18. 9.24	
	38	γ Cancri.....	G	8.3	11.5	14.5	17.5	23.5	29.4	32.4	35.4	38.4	8. 35. 23.38		23.30	56.82	33.52	33.50	....	
	39	ε Hydrae.....	G	16.2	19.2	21.7	24.7	30.1	35.8	38.7	41.4	44.2	8. 39. 30.17		30.05	3.65	33.60		....	
	40	δ ι L.....	G	24.7	27.7	30.7	33.7	39.8	45.7	49.0	51.8	55.0	9. 10. 39.72		39.64				9. 12. 18.69	
	41	Regulus.....	AD	49.7	52.7	55.5	58.4	3.7	9.5	12.4	15.5	18.3	10. 1. 3.91		3.81	37.35	33.54	33.43	10. 1. 37.32	- 0.99
	42	β Leonis Minoris.	AD	42.6	46.1	49.6	53.4	0.0	6.8	10.1	13.7	17.3	10. 19. 59.92		59.87				10. 20. 33.38	- 1.47
	43	37 Ursæ Majoris.	AD	0.7	6.0	11.3	16.5	26.5	37.1	42.3	47.4	52.9	10. 26. 26.64		26.67				10. 27. 0.18	- 2.48
	44	Bradley 1485. ...	AD	43.3	46.2	49.2	52.2	58.3	4.2	7.3	10.5	13.4	10. 35. 58.23		58.15				10. 36. 31.66	- 1.21
	45	42 Ursæ Majoris.	AD	..	..	36.2	41.7	52.7	3.6	..	..	20.5	10. 42. 52.63		52.69				10. 43. 26.20	- 2.74
	46	β Ursæ Majoris..	AD	13.0	18.3	23.3	28.2	38.2	48.7	53.5	58.7	3.7	10. 53. 38.30		38.33				10. 54. 11.84	- 2.52

Polaris and other stars very near the pole are observed by eye and ear over the wires P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P.; using the Clock Hardy.
The Intervals of the Wires of both systems are given in the Introduction.

Reading of Transit-Micrometer, 32".200.

Corrections to the times by Hardy for reduction to Sidereal Standard, applied to form Concluded Transit, Nos. 13, 15, 16, 17, 29, 31, and 35, -31^h 20^m: -31^h 20^m: -31^h 60^m: -31^h 60^m: -31^h 60^m.

Correction for passage of Semidiameter, No. 40, +65".48.

† This clock-error has been used in the reduction of the observations made with the Altazimuth.

March 7, ζ Cygni, to March 9. The azimuthal error used is the mean of two determinations on March 8 (-3".37 and -2".20) by tabular places of δ Ursæ Minoris S.P. and Cephei 51, and of λ Ursæ Minoris S.P. and ε Leonis, allowing 0".01 and 0".03 for clock-rate in each case respectively.

March 10. The azimuthal error used is the mean of two determinations (-2".68 and -2".00) by tabular places of δ Ursæ Minoris S.P. and Cephei 51, and of λ Ursæ Minoris S.P. and d¹ Cancri, allowing 0".01 for clock-rate in the former case.

5. Extremely faint; observation merely approximate.

28, 45. Cloudy.

35. Excessively tremulous.

TRANSITS OBSERVED WITH THE TRANSIT-CIRCLE, AND COMPUTATIONS OF APPARENT RIGHT ASCENSION,

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of		Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at o- Sideral and (Leaving Rate).	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873, Jan. 1.
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.		Collimation. (Level).							
				s	s	s	s	s	s	s	s	s		h	m						
Mar. 10	1	Lalande 21272...	AD	13.0	16.0	19.0	21.8	27.4	33.4	36.4	39.3	42.3	10. 59. 27.56	+0.46	27.47			33.43	11. 0. 0.98	- 1.16	
	2	δ Leonis	AD	33.9	37.0	39.8	43.0	48.7	54.7	57.8	0.6	3.8	11. 6. 48.75	(+0.50)	48.67	22.30	33.63	[0.18]	11. 7. 22.18	- 1.21	
	3	Piazzi XI. 146	AD	3.0	6.7	10.5	14.2	21.7	29.2	32.9	36.7	40.4	11. 36. 21.63	[-2.34]	21.61				11. 36. 55.13	- 1.75	
	4	β Leonis	AD	48.2	51.2	54.0	56.7	2.4	8.2	11.3	14.0	17.0	11. 42. 2.50		2.41	35.82	33.41		11. 42. 35.93	- 1.11	
Mar. 11	5	Polaris (E&E)	C	..	..	..	..	10.0	4.0	1.0	56.5	..	1. 10. 38.67	(+0.64)	41.58	14.89	33.31	33.45	....		
	6	Venus 1 L.	C	..	49.1	52.0	54.9	0.6	6.5	9.4	12.3	..	2. 11. 0.63	[-1.64]	0.58			[-0.04]	2. 11. 35.10		
	7	α Orionis	E	..	33.0	35.7	38.5	44.0	49.7	52.5	55.4	..	5. 47. 44.05		43.97	17.64	33.67	33.64	....		
	8	ι Geminorum ...	E	35.4	38.4	41.4	44.4	50.3	56.3	59.5	2.4	5.4	5. 55. 50.33		50.28	23.89	33.61		....		
	9	δ Ursæ Min.S.P.(E&E)	C	20.0	6.5	53.0	39.5	13.5	..	..	..	..	6. 12. 42.17		40.93	14.84	33.91	33.45	....		
	10	β Canis Majoris...	C	18.7	21.6	24.6	27.4	33.1	39.0	41.9	44.8	47.7	6. 16. 33.14		33.02	6.49	33.47		....		
	11	φ Draconis S.P...	C	17.4	25.9	34.3	43.0	0.2	..	..	..	..	6. 22. 0.40		0.14				18. 22. 33.58	+ 1.04	
	12	Cephei 51... (E&E)	C	..	..	27.5	24.5	18.0	14.5	12.0	..	..	6. 39. 46.72		48.12	22.16	34.04		....		
	13	Groomb. 2719 S.P.	C	31.0	40.9	51.0	0.8	21.1	..	..	..	..	6. 48. 21.09		20.79				18. 48. 54.23	+ 1.81	
	14	ν Draconis S.P...	C	..	47.6	56.2	4.7	22.1	38.7	47.5	55.8	..	6. 55. 21.95		21.69				18. 55. 55.13	+ 1.73	
	15	17 Lyneis	C	13.9	19.3	25.0	30.6	42.0	53.4	59.4	..	..	6. 57. 42.02		42.09				6. 58. 15.53	- 0.74	
	16	δ Geminorum	C	44.4	47.4	50.4	53.3	..	5.4	8.2	..	..	7. 11. 59.26		59.21	32.59	33.38		....		
	17	π Leonis	C	43.6	46.5	49.3	52.0	57.6	3.2	6.0	8.9	11.6	9. 52. 57.57		57.50	30.99	33.49		....		
	18	δ 1 L.	C	31.7	34.9	37.7	40.8	46.6	52.6	55.4	58.4	1.5	9. 59. 46.56		46.51				10. 1. 23.81		
	19	42 Leonis	C	..	..	..	..	56.8	11.2	..	..	..	10. 14. 28.08		28.02				10. 15. 1.45	- 1.06	
	20	35 Ursæ Majoris.	C	47.0	54.1	0.7	7.7	21.4	35.3	42.1	49.0	55.8	10. 20. 21.32		21.41				10. 20. 54.84	- 3.39	
	21	ρ Leonis	C	21.1	23.8	26.7	29.5	35.0	40.9	43.5	46.2	49.1	10. 25. 35.03		34.96	8.38	33.42		....		
22	37 Ursæ Majoris.	C	..	..	..	..	37.5	42.6	47.8	53.0	10. 26. 26.99		27.03					10. 27. 0.46	- 2.49		
23	ξ Cygni	L	..	..	..	..	57.0	3.6	6.8	9.9	13.1	21. 6. 57.12	(+0.97) [-3.69]	57.04	30.31	33.27	33.21 [0.07]	....			
Mar. 12	24	Mercury 1 L....	L	12.4	15.3	17.9	20.7	26.2	32.0	34.7	37.5	40.2	0. 28. 26.26		26.09				0. 28. 59.57		
	25	Polaris (E&E)	P	27.0	..	..	..	5.5	..	..	..	..	1. 10. 34.12		41.21	14.36	33.15		....		
	26	Venus 1 L.....	L	55.7	58.9	1.7	4.6	..	..	..	..	..	2. 14. 10.33		10.22				2. 14. 44.59		
Mar. 13	27	⊙ 1 L.....	E	..	31.5	34.1	37.0	42.3	48.0	50.8	53.7	..	23. 32. 42.43	(+1.08)	42.34			33.64	23. 34. 20.73		
	28	Polaris (E&E)	E	..	..	22.0	17.0	7.0	1.0	..	..	..	1. 10. 35.05	[-1.87]	39.33	13.86	34.53	33.72	1. 11. 13.05	+63.83	
	29	α Arietis	E	10.9	14.0	17.2	20.0	25.8	32.0	34.9	38.0	40.9	1. 59. 25.90		25.87	59.54	33.67	[0.08]	1. 59. 59.60	+ 1.48	
	30	Venus 1 L.	E	2.3	5.0	8.0	..	16.8	..	25.6	28.3	31.4	2. 17. 16.71		16.67				2. 17. 51.49		
	31	δ Ursæ Min.S.P.(E&E)	E	..	..	..	..	..	48.0	33.0	20.5	8.5	6. 12. 43.91		42.12	15.58	33.46		18. 13. 15.86	+ 2.71	
	32	ν Geminorum	E	36.9	39.9	42.8	45.7	51.7	57.6	0.4	3.5	6.4	6. 20. 51.60		51.57	25.30	33.73		6. 21. 25.31	- 0.01	
	33	54 Aurigæ	E	..	46.5	49.6	52.7	59.0	5.3	8.4	11.5	..	6. 30. 58.93		58.91				6. 31. 32.65	- 0.09	
	34	25 Geminorum ..	E	..	34.4	37.7	40.9	47.1	53.3	56.3	59.6	..	6. 32. 46.97		46.95				6. 33. 20.69	- 0.10	
	35	ξ Geminorum	E	22.0	25.0	27.8	30.4	36.0	41.8	44.8	47.4	50.5	6. 37. 36.13		36.08	9.77	33.69		6. 38. 9.82	- 0.11	
	36	Cephei 51... (E&E)	E	..	..	..	..	16.5	12.0	10.0	7.5	5.0	6. 39. 44.76		46.87	21.31	34.44		6. 40. 20.61	- 6.71	
	37	θ Canis Majoris ..	C	30.1	33.0	35.7	38.6	44.0	49.8	52.8	55.5	58.4	6. 47. 44.13		44.02	17.53	33.51	33.46	....		
	38	ε Canis Majoris ..	C	49.4	52.6	55.6	58.8	5.0	11.4	14.6	17.8	20.9	6. 53. 5.05		4.88	38.33	33.45		....		
	39	48 Geminorum ...	E	54.7	57.7	0.8	3.8	9.8	16.0	19.0	22.0	25.2	7. 4. 9.82		9.80			33.72	7. 4. 43.54	- 0.29	
	40	51 Geminorum	E	..	19.8	22.8	25.5	31.2	37.0	39.9	43.0	..	7. 5. 31.25		31.21	4.94	33.73		7. 6. 4.05	- 0.27	
	41	λ Ursæ Min.S.P.(E&E)	E	..	..	..	43.0	..	27.0	55.0	..	55.0	7. 50. 7.89		2.32	34.52	32.20		19. 50. 36.07	+42.88	
	42	Uranus	E	3.1	6.1	9.2	12.0	17.8	23.8	26.9	29.8	32.9	8. 17. 17.89		17.86				8. 17. 51.61		
	43	Jupiter 1 L.....	E	13.0	..	18.9	..	27.3	..	35.8	..	41.7	9. 43. 37.29						9. 44. 2.57		
	44	Jupiter 2 L.....	E	16.1	..	22.0	..	30.5	..	39.1	..	44.8	9. 43. 30.45		28.82				..		
	45	π Leonis	E	43.3	46.2	49.0	51.8	57.2	3.0	5.7	8.4	11.2	9. 52. 57.25		57.18	30.98	33.80		9. 53. 30.93	- 0.94	
46	Regulus	E	49.6	52.5	55.2	57.9	3.6	9.3	12.0	15.0	17.8	10. 1. 3.60		3.55	37.35	33.80		10. 1. 37.30	- 0.99		

The observations of transits are usually made by the galvanic or chronographic method, the wires employed being generally P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P. Occasionally the observations are made by eye and ear (E & E); the wires then employed are N, O, P, T, X, Y, Z; in reversed order for stars S.P.

Reading of Transit-Micrometer, $32^r \cdot 200$.

Corrections to the times by Hardy for reduction to Sidereal Standard, applied to form Concluded Transit, Nos. 5, 9, 12, 25, 28, 31, 36, and 41, $-31^s.60$: $-31^s.60$:
 $-31^s.60$: $-31^s.50$: $-31^s.80$: $-31^s.60$: $-31^s.60$: and $-31^s.60$.

Corrections for passage of Semidiameter, Nos. 6, 18, 24, 26, 27, and 30, + 1^s.07: + 63^s.87: + 0^s.20: + 1^s.08: + 64^s.67: and + 1^s.09.

† These clock-errors have been used in the reduction of the observations made with the Altazimuth.

March 11 to 37 Ursae Majoris. The azimuthal error used is the mean of two determinations ($-1''.56$ and $-1''.72$) by tabular places of Polaris and β Canis Majoris, and of δ Ursae Minoris S.P. and Cephei 51, allowing $0''.02$ for clock-rate in the former case.

March 11, ζ Cygni, to March 12. The azimuthal error by ζ Cygni and Polaris, allowing $0^s.02$ for clock-rate.

March 13. The azimuthal error from Polaris and Polaris S.P., allowing $0^{\circ}.27$ for clock-rate and change of R.A.

16. Faint ; cloudy.

19. Very cloudy; observed over wires Y and Z.

26, 27. Cloudy.

March 13. The definition of the objects observed on this day was very bad; the observations of close circumpolar stars were especially unsatisfactory.

MONTH 1873 D.Y.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of Collimation. (Level). [Azimuth].	Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at 0 ^h Sidereal and [Loss Rate].	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873, Jan. 1.
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.								
				s	s	s	s	s	s	s	s	s								
Mar. 13	1	Bradley 3038 S.P.	E	..	..	..	28.1	10.2	51.6	..	..	..	10. 47. 10.24	-0.46	9.39			33.72	22. 47. 43.15	+ 12.04
	2	Groomb. 3946 S.P.	E	..	..	43.4	52.3	11.0	29.0	38.2	..	..	10. 53. 10.94	(+1.08)	10.56			[0.08]	22. 53. 44.32	+ 5.36
	3	λ Leonis	E	..	44.1	47.0	49.7	55.3	0.7	3.6	6.5	..	10. 57. 55.21	[-1.87]	55.14	28.92	33.78		10. 58. 28.90	- 1.04
	4	ψ Ursæ Majoris ..	E	39.2	43.3	47.2	51.0	58.7	6.9	10.7	14.6	18.6	11. 1. 58.83		58.87				11. 2. 32.63	- 1.85
	5	Piazzi XI. 12....	E	39.2	42.2	44.9	47.7	53.2	58.8	1.6	4.4	7.2	11. 6. 53.19		53.12				11. 7. 26.88	- 1.07
	6	Piazzi XI. 22....	E	32.8	35.8	38.7	41.5	47.1	52.9	55.7	58.6	1.5	11. 8. 47.18		47.13				11. 9. 20.89	- 1.12
	7	σ Leonis	E	..	51.5	54.4	57.2	2.7	8.3	11.0	13.7	..	11. 14. 2.63		2.56				11. 14. 36.32	- 1.05
	8	λ Leonis	E	..	34.3	37.3	40.0	45.6	51.4	54.0	56.9	..	11. 16. 45.58		45.53				11. 17. 19.29	- 1.10
	9	λ Draconis	E	39.6	48.6	56.6	4.4	20.2	36.5	44.9	53.0	1.4	11. 23. 20.43		20.66				11. 23. 54.42	- 4.38
	10	δ 1 L.	E	5.2	7.8	10.5	13.6	19.3	24.8	27.6	30.5	33.5	11. 32. 19.14		19.07				11. 33. 54.57	
	11	δ 2 L.	E	8.4	11.3	14.0	16.9	22.6	28.3	31.2	34.1	37.0	11. 34. 22.70		22.63				11. 33. 54.65	
	12	B. F. 1656	E	49.9	52.8	55.6	58.4	3.7	9.4	12.1	15.0	17.8	11. 42. 3.80		3.73				11. 42. 37.49	- 1.05
	13	ε Virginis	E	..	21.0	24.0	26.6	32.0	..	40.4	43.3	46.0	11. 43. 32.08		32.01	5.78	33.77		11. 44. 5.77	- 1.03
	14	Groomb. 4163 S.P.	E	..	..	..	..	..	..	30.0	40.0	50.1	11. 48. 0.92		0.52				23. 48. 34.28	+ 5.91
	15	Piazzi XI. 227....	E	26.5	29.3	32.1	34.8	40.4	..	..	..	..	11. 57. 40.33		40.26				11. 58. 14.02	- 1.03
	16	ε Virginis	E	57.8	0.6	3.4	6.1	11.8	17.4	20.3	23.0	25.8	11. 58. 11.74		11.69	45.45	33.76		11. 58. 45.45	- 1.07
	17	11 Virginis	E	..	51.3	54.0	56.8	2.2	8.0	10.8	13.6	..	12. 3. 2.33		2.26				12. 3. 36.02	- 1.02
	18	ε Virginis	E	4.5	..	10.2	13.0	18.5	24.2	27.2	..	32.8	12. 55. 18.58		18.53	52.31	33.78		12. 55. 52.29	- 1.02
	19	Polaris S.P. (E&E)	E	28.5	27.0	26.0	24.5	22.0	7.5	..	..	..	13. 10. 43.44		39.07	13.64	34.57		1. 11. 12.83	+ 64.05
Mar. 14	20	⊙ 1 L.	AD	8.0	10.8	13.8	16.6	..	..	30.4	33.1	35.7	23. 36. 21.93	(+1.65)				33.52	23. 38. 0.12	
	21	⊙ 2 L.	AD	17.2	20.0	22.8	25.5	31.0	36.7	39.5	42.2	45.0	23. 38. 31.04	[-2.11]	26.42			[0.18]		
	22	η Geminorum	AD	24.0	27.0	30.0	33.0	38.8	45.0	48.0	51.1	54.0	6. 6. 38.92		38.93	12.58	33.65		6. 7. 12.68	+ 0.10
	23	δ Ursæ Min. S.P. (E&E)	AD	..	..	..	41.5	14.0	47.5	34.0	19.5	8.5	6. 12. 43.85		41.40				....	
	24	ν Geminorum	P	37.0	39.8	42.9	45.7	51.5	57.5	0.4	3.4	6.5	6. 20. 51.58		51.57	25.28	33.71		33.67†	....
	25	γ Geminorum	P	34.4	37.4	40.2	43.1	48.8	54.6	57.5	0.2	3.3	6. 29. 48.77		48.76	22.48	33.72		....	
	26	ζ Geminorum	AD	46.0	49.2	52.2	55.2	0.8	7.0	9.8	12.8	15.7	6. 56. 0.90		0.89	34.75	33.86		6. 56. 34.64	- 0.21
	27	τ Geminorum	AD	13.7	17.0	20.2	23.5	29.6	36.0	39.4	42.8	46.0	7. 2. 29.73		29.75				7. 3. 3.50	- 0.29
	28	δ Draconis S.P.	AD	20.4	27.3	34.9	41.7	56.5	10.7	17.0	24.9	32.4	7. 11. 56.44		56.06				19. 12. 29.81	+ 1.61
	29	Castor	AD	40.2	43.4	46.4	49.8	56.2	3.0	6.3	9.5	12.8	7. 25. 56.33		56.36	30.11	33.75		7. 26. 30.12	- 0.47
	30	Procyon	AD	51.9	54.8	57.5	0.1	5.7	11.3	14.2	17.0	19.7	7. 32. 5.74		5.69	39.54	33.85		7. 32. 39.45	- 0.37
	31	Pollux	AD	43.6	46.8	49.8	53.0	59.2	5.5	8.8	12.0	15.0	7. 36. 59.23		59.25	33.00	33.75		7. 37. 33.01	- 0.50
	32	λ Ursæ Min. S.P. (E&E)	AD	..	..	..	..	39.0	30.0	58.0	23.0	53.0	7. 50. 9.42		1.75	35.50	33.75		....	
	33	57 Camelopardali ..	AD	10.6	16.5	22.5	28.4	40.6	52.7	58.8	4.8	11.1	8. 7. 40.55		40.78				8. 8. 14.54	- 1.66
	34	δ 1 Cancri	AD	17.9	20.8	23.6	26.6	32.3	38.0	41.3	44.1	47.1	8. 15. 32.35		32.34	6.02	33.68		8. 16. 6.10	- 0.65
	35	Uranus	AD	57.9	1.0	3.7	6.7	12.7	18.7	21.5	24.3	27.4	8. 17. 12.60		12.59				8. 17. 46.35	
	36	ε Leonis	AD	50.6	53.6	56.6	59.6	5.6	11.6	15.0	17.6	21.1	9. 38. 5.64		5.65	39.41	33.76		9. 38. 39.42	- 1.07
	37	Jupiter 1 L.	AD	50.0	53.0	55.6	58.7	4.2	10.0	..	..	..	9. 43. 4.25						9. 43. 39.48	
	38	Jupiter 2 L.	AD	..	..	..	1.7	7.1	13.0	15.8	18.8	21.6	9. 43. 7.23							
	39	Groomb. 3621 S.P. ..	AD	27.7	33.3	38.9	44.5	56.3	7.8	12.7	19.0	25.0	9. 50. 56.24		55.94				21. 51. 29.71	+ 3.01
	40	16 Cephei S.P.	AD	..	..	19.6	29.2	46.8	5.7	14.0	..	..	9. 56. 47.22		46.72				21. 57. 20.49	+ 4.87
	41	Regulus	AD	49.6	52.5	55.4	58.0	3.5	9.4	12.3	15.0	17.8	10. 1. 3.66		3.63	37.34	33.71		10. 1. 37.41	- 0.98
	42	B. F. 1656	AD	..	..	..	..	..	9.5	12.1	14.8	17.7	11. 42. 3.75		3.70				11. 42. 37.49	- 1.06
	43	π Virginis	AD	..	..	41.0	43.8	49.3	54.7	57.6	0.3	3.2	11. 53. 49.20		49.15	22.95	33.80		11. 54. 22.94	- 1.07
	44	ε Virginis	AD	57.7	0.4	3.5	6.1	11.5	17.2	20.0	23.0	25.7	11. 58. 11.62		11.57	45.46	33.89		11. 58. 45.36	- 1.08
	45	δ 2 L.	AD	..	..	..	..	22.9	36.7	50.7	..	..	12. 19. 8.47		8.40				12. 18. 40.65	
Mar. 17	46	⊙ 1 L.	E	5.0	7.6	10.5	13.3	18.8	24.3	27.3	29.9	32.6	23. 47. 18.75	-0.35				34.20	23. 48. 57.55	
	47	⊙ 2 L.	E	13.9	16.8	19.5	22.2	27.7	33.3	36.0	38.8	41.6	23. 49. 27.69	(+0.66)	23.05			[0.30]		

Polaris and other stars very near the pole are observed by eye and ear over the wires P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P.; using the Clock Hardy. The Intervals of the Wires of both systems are given in the Introduction.

Reading of Transit-Micrometer, 32nd 200.

Corrections to the times by Hardy for reduction to Sidereal Standard, applied to form Concluded Transit, Nos. 19, 23, and 32, -31st 50: -31st 30: and -31st 30.

Corrections for passage of Semidiameter, Nos. 10, 11, and 45, +61st 74: -61st 74: and -61st 54.

† This clock-error has been used in the reduction of the observations made with the Altazimuth.

March 14. The azimuthal error by tabular places of Pollux and λ Ursæ Minoris S.P.

March 17. The azimuthal error used is the mean of two determinations (-2nd 90 and -3rd 99) by tabular places of δ Ursæ Minoris S.P. and Cephei 51, and of Pollux and λ Ursæ Minoris S.P.

20, 21. Tremulous.

36. Very faint.

39. Extremely faint.

42, 43, 45. Cloudy.

TRANSITS OBSERVED WITH THE TRANSIT-CIRCLE, AND COMPUTATIONS OF APPARENT RIGHT ASCENSION,

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of Collimation. (Level). [Azimuth].	Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at Sidereal and [Losing Rate].	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873, Jan. 1.
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.								
				s	s	s	s	s	s	s	s	s								
Mar. 17	1	δ Ursæ Min. S.P. (E&E)	E	..	..	..	42.0	17.0	48.0	35.0	21.0	..	6. 12. 44.98	-0.35	42.23	17.11	34.88	34.50	..	..
	2	ν Geminorum	E	36.1	39.0	42.1	45.0	50.9	56.8	59.7	2.6	5.7	6. 20. 50.82	(+0.66)	50.70	25.23	34.53	[0.30]	6. 21. 25.28	+ 0.06
	3	41 Camelopardali.	E	..	48.3	54.1	0.0	11.9	23.6	29.5	35.4	..	6. 28. 11.71	[-3.45]	11.84	..	..	..	6. 28. 46.42	- 0.14
	4	Groombridge 2655 S.P.	E	..	..	39.1	51.6	16.9	42.3	54.7	..	..	6. 35. 17.14	..	16.30	..	..	..	18. 35. 50.88	+ 1.22
	5	Cephei 51. (E&E)	E	..	..	22.5	20.0	13.5	..	7.5	5.5	..	6. 39. 42.44	..	45.48	19.50	34.02	..	..	..
	6	Groombridge 1228	E	..	..	..	..	20.4	37.5	46.0	54.6	3.3	6. 46. 20.47	..	20.76	..	..	..	6. 46. 55.34	- 0.66
	7	50 Draconis S.P.	E	..	..	..	..	30.4	51.9	14.0	..	..	6. 49. 52.24	..	51.50	..	..	..	18. 50. 26.08	+ 1.48
	8	ζ Geminorum	E	45.5	48.5	51.5	54.4	0.3	6.3	9.2	12.2	15.1	6. 56. 0.28	..	0.16	34.70	34.54	..	6. 56. 34.75	- 0.16
	9	τ Geminorum	E	13.0	16.2	19.5	22.6	29.0	35.5	38.6	41.9	45.2	7. 2. 28.98	..	28.90	..	..	..	7. 3. 3.49	- 0.24
	10	48 Geminorum	E	53.9	57.0	0.0	3.0	9.0	15.2	18.3	21.2	24.4	7. 4. 9.04	..	8.93	..	..	..	7. 4. 43.52	- 0.22
	11	47 Camelopardali.	E	..	13.0	18.6	24.2	35.0	46.3	51.9	57.6	..	7. 10. 35.12	..	35.23	..	..	..	7. 11. 9.82	- 0.69
	12	δ Geminorum	E	43.2	46.1	49.2	52.1	58.0	4.0	7.0	9.9	13.0	7. 11. 57.99	..	57.88	32.49	34.61	..	7. 12. 32.47	- 0.27
	13	κ Cygni S.P.	E	..	..	..	..	..	..	48.4	53.0	57.7	7. 13. 34.72	..	34.37	..	..	..	19. 14. 8.96	+ 1.01
	14	π Draconis S.P. ...	E	..	..	..	5.0	11.7	25.2	37.8	45.1	..	7. 19. 25.08	..	24.60	..	..	..	19. 19. 59.19	+ 1.46
	15	B. A. C. 6702 S.P.	E	..	..	..	50.7	2.3	26.3	49.0	0.7	..	7. 25. 26.00	..	25.22	..	..	..	19. 25. 59.81	+ 2.59
	16	Procyon	E	51.2	54.0	56.7	59.6	5.0	10.6	13.5	16.1	19.0	7. 32. 5.02	..	4.86	39.50	34.64	..	7. 32. 39.45	- 0.33
	17	51 Camelopardali.	E	..	..	..	36.8	43.6	56.8	10.6	17.5	..	7. 33. 56.94	..	57.13	..	..	..	7. 34. 31.72	- 1.25
	18	Pollux	E	..	..	..	..	58.4	4.7	8.0	11.0	14.2	7. 36. 58.41	..	58.33	32.95	34.62	..	7. 37. 32.93	- 0.45
	19	Groombridge 1374	E	..	..	..	53.6	3.8	24.0	44.5	54.7	..	7. 44. 23.94	..	24.33	..	..	..	7. 44. 58.93	- 2.26
	20	λ Ursæ Min. S.P. (E&E)	E	..	..	..	..	44.5	34.0	1.0	27.5	..	7. 50. 13.57	..	5.20	38.62	33.42	..	..	..
	21	66 Draconis S.P.	E	..	..	..	37.6	43.5	55.4	7.0	12.7	..	8. 2. 55.34	..	54.90	..	..	..	20. 3. 29.50	+ 1.87
	22	57 Camelopardali.	E	..	..	..	..	39.4	51.8	58.0	4.0	10.1	8. 7. 39.57	..	39.72	..	..	..	8. 8. 14.32	- 1.56
	23	κ Cephei S.P.	E	..	..	..	51.1	4.1	29.5	53.9	..	18.9	8. 12. 29.21	..	28.38	..	..	..	20. 13. 2.98	+ 4.12
	24	Uranus	E	41.7	44.8	47.7	50.5	56.5	2.4	5.4	8.4	11.4	8. 16. 56.47	..	56.35	..	..	..	8. 17. 30.95	..
Mar. 19	25	ρ Virginis	WC	..	..	..	..	..	59.5	2.2	5.2	7.8	12. 34. 53.77	(+1.13)	53.66	28.50	34.84	34.67†	..	..
	26	35 Virginis	WC	35.7	38.7	41.5	44.2	49.6	55.3	58.1	0.7	3.7	12. 40. 49.66	[-3.38]	49.53	24.47	34.94	[0.41]	..	..
Mar. 20	27	ν Orionis	HC	29.7	32.7	35.5	38.4	43.9	49.7	52.6	55.4	58.5	5. 59. 43.99	(+0.84)	43.88	18.99	35.11	35.05	6. 0. 19.02	+ 0.24
	28	η Geminorum	HC	22.6	25.5	28.5	31.4	37.5	43.5	46.4	49.4	52.5	6. 6. 37.42	..	37.32	12.47	35.15	[0.36]	6. 7. 12.46	+ 0.21
	29	δ Ursæ Min. S.P. (E&E)	HC	23.0	10.0	..	42.8	17.0	..	..	..	..	6. 12. 45.79	..	42.94	18.16	35.22	..	..	..
	30	μ Geminorum	HC	26.4	29.4	32.5	35.4	41.4	47.5	50.4	53.5	56.5	6. 14. 41.39	..	41.29	16.47	35.18	..	6. 15. 16.43	+ 0.15
	31	25 Geminorum	HC	29.7	33.0	36.1	39.3	45.5	51.7	55.1	58.1	1.3	6. 32. 45.46	..	45.39	..	..	..	6. 33. 20.54	+ 0.03
	32	Cephei 51. (E&E)	HC	..	23.0	20.5	18.0	11.0	6.0	..	..	..	6. 39. 39.71	..	42.89	18.26	35.37	..	..	..
	33	Groombridge 1228	HC	..	..	..	54.4	2.6	19.6	36.7	45.2	..	6. 46. 19.55	..	19.86	..	..	..	6. 46. 55.01	- 0.49
	34	ε Canis Majoris ..	HC	47.6	50.8	54.0	57.1	3.4	9.6	12.8	16.0	19.2	6. 53. 3.32	..	3.05	38.18	35.13	..	6. 53. 38.20	- 0.12
	35	ν Draconis S.P.	HC	..	..	..	55.3	3.6	21.1	38.0	46.5	..	6. 55. 21.05	..	20.45	..	..	..	18. 55. 55.60	+ 1.12
	36	δ Geminorum	HC	42.4	45.4	48.5	51.5	57.4	3.4	6.3	9.4	12.3	7. 11. 57.34	..	57.24	32.44	35.20	..	7. 12. 32.40	- 0.22
	37	ε Draconis S.P.	HC	18.4	26.6	34.7	42.7	59.0	..	..	..	..	7. 47. 58.99	..	58.43	..	..	..	19. 48. 33.60	+ 2.08
	38	λ Ursæ Min. S.P. (E&E)	HC	..	57.0	24.0	..	45.0	..	2.0	..	..	7. 50. 14.91	..	6.20	41.61	35.41	..	..	..
Mar. 21	39	⊙ 1 L.	J	38.2	41.2	43.8	46.7	52.0	57.6	0.3	3.2	6.0	0. 1. 52.05	(+0.88)	56.23	38.86	39.44	35.58	35.38	0. 3. 31.61
	40	⊙ 2 L.	J	47.0	49.9	52.5	55.2	..	..	..	..	..	0. 4. 0.78	[-4.05]						
	41	Procyon	J	50.3	53.2	55.8	58.6	4.0	9.5	12.3	15.1	18.0	7. 32. 4.03	..	46.97	..	..	..	7. 32. 39.33	- 0.27
	42	ε Geminorum	J	31.7	34.7	37.7	..	47.2	..	56.4	59.5	2.7	7. 35. 47.07	..	57.50	..	..	..	7. 36. 22.45	- 0.37
	43	Pollux	J	42.0	45.0	48.3	51.4	57.5	3.9	7.3	10.4	13.2	7. 36. 57.59	..	57.50	32.89	35.39	..	7. 37. 32.98	- 0.39
	44	λ Ursæ Min. S.P. (E&E)	J	..	..	..	..	46.0	36.0	3.0	30.0	..	7. 50. 15.53	..	5.19	42.50	37.31	..	19. 50. 40.67	+ 34.90
	45	Polaris S.P. (E&E)	J	..	..	..	..	..	..	..	56.0	53.0	13. 10. 43.90	..	35.75	11.49	35.74	..	1. 11. 11.29	+ 66.20
	46	ζ Virginis	J	25.2	27.8	30.8	33.5	39.0	44.7	47.4	50.0	52.8	13. 27. 38.96	..	38.77	14.32	35.55	..	13. 28. 14.32	- 0.97

The observations of transits are usually made by the galvanic or chronographic method, the wires employed being generally P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P. Occasionally the observations are made by eye and ear (E & E); the wires then employed are N, O, P, T, X, Y, Z; in reversed order for stars S.P.

Reading of Transit-Micrometer, 32".200.

Corrections to the times by Hardy for reduction to Sidereal Standard, applied to form Concluded Transit, Nos. 1, 5, 20, 29, 32, 38, 44, and 45, -31".30 : -31".30 : -31".30 : -31".30 : -31".40 : and -31".40.

† This clock-error has been used in the reduction of the observations made with the Altazimuth.

March 19 and 20. The azimuthal error used is the mean of two determinations (-3".47 and -3".29) by tabular places of δ Ursæ Minoris S.P. and Cephei 51, and of δ Geminorum and λ Ursæ Minoris S.P., allowing 0".01 for clock-rate in either case.

March 21 to 23. The azimuthal error from Polaris and Polaris S.P., on March 21 and 22, allowing 0".32 for clock-rate and change of R.A.

25, 39, 40, 44. Cloudy.

38. Faint and tremulous; very cloudy.

43. Image blurred.

45. Image very bad.

15756GMMW...35A...1A

AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1873.

[17]

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of Collimation. (Level). [Azimuth].	Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at 2h Sidereal and [Losing Rate].	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873, Jan. 1.
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.								
				s	s	s	s	s	s	s	s	s								
Mar. 21	1	m Virginis.....	J	8.5	11.4	..	16.8	22.4	28.0	..	33.6	36.5	13. 34. 22.41	-0.35	22.18	57.76	35.58	35.38	13. 34. 57.73	- 0.92
	2	Groombridge 2053	J	..	..	..	..	38.7	7.5	21.9	35.4	50.1	13. 41. 38.99	(+0.88)	39.77			[0.30]	13. 42. 15.32	- 7.54
	3	Bradley 246 S.P..	J	26.6	39.0	51.6	..	29.7	..	7.2	19.2	32.7	13. 49. 29.68	[-4.05]	28.67				1. 50. 4.22	+ 6.95
	4	τ Virginis.....	J	22.7	25.6	28.4	31.2	36.5	42.1	44.9	47.6	50.4	13. 54. 36.54		36.36	11.96	35.60		13. 55. 11.91	- 0.93
	5	96 Virginis.....	J	26.3	29.2	31.7	34.7	40.3	45.8	48.6	51.4	54.4	14. 1. 40.21		39.98				14. 2. 15.54	- 0.86
	6	Arcturus.....	J	3.2	6.2	9.0	11.9	17.8	23.7	26.7	29.6	32.6	14. 9. 17.79		17.66	53.19	35.53		14. 9. 53.22	- 1.06
	7	20 Boötis.....	J	55.8	58.7	1.6	4.4	10.1	15.8	18.9	21.8	24.6	14. 13. 10.13		9.99				14. 13. 45.55	- 1.03
	8	B. F. 1983.....	J	9.5	13.1	16.5	20.0	26.6	33.6	37.0	40.5	43.8	14. 22. 26.66		26.61				14. 23. 2.17	- 1.36
	9	5 Libræ.....	J	8.9	11.8	14.7	17.5	23.2	29.0	31.7	34.6	37.4	14. 38. 23.14		22.89				14. 38. 58.45	- 0.73
	10	α Libræ.....	J	2.5	5.5	8.2	11.0	16.7	22.6	25.5	28.4	31.2	14. 43. 16.78		16.52	52.03	35.51		14. 43. 52.08	- 0.72
	11	Mars 1 L.....	J	46.5	49.6	52.4	..	..	6.5	9.4	12.3	15.3	14. 53. 0.83		1.10				14. 53. 36.64	
	12	Mars 2 L.....	J	47.6	50.5	53.4	56.1	1.8	7.6	10.5	13.5	16.3	14. 53. 1.86						....	
	13	α Herculis.....	C	1.8	4.6	7.4	10.4	16.0	21.7	24.7	27.4	30.6	17. 8. 16.00		15.86	51.58	35.72	35.42†	....	
	14	θ Ophiuchi.....	C	22.4	25.4	28.3	31.3	37.5	43.7	46.7	49.7	52.8	17. 13. 37.46		37.16	12.70	35.54		....	
Mar. 22	15	⊙ 2 L.....	AD	24.8	27.6	30.3	33.0	38.7	44.3	47.2	49.9	52.6	0. 7. 38.65		38.46			35.79	0. 7. 9.82	
	16	β Andromedæ...	AD	..	..	..	..	..	6.9	10.0	13.5	16.9	1. 1. 59.96		59.91	35.65	35.74	[0.32]	1. 2. 35.71	+ 1.94
	17	Mercury (center).	AD	45.9	48.6	51.4	54.2	59.7	5.5	8.4	11.2	14.0	1. 7. 59.81		59.66				1. 8. 35.46	
	18	Polaris....(E&E)	AD	..	..	..	..	..	51.5	50.0	46.0	41.5	1. 10. 27.61		35.42	11.37	35.95		1. 11. 11.23	+ 66.32
	19	Venus 1 L.....	AD	48.7	51.6	54.4	57.5	3.3	9.2	12.2	15.3	18.2	2. 43. 3.32		3.19				2. 43. 40.28	
	20	κ Orionis.....	AD	54.2	56.7	59.9	2.5	7.8	13.6	16.4	19.3	22.2	5. 41. 8.00		7.77	43.64	35.87		5. 41. 43.64	+ 0.33
	21	α Orionis.....	AD	27.8	30.7	33.5	36.2	41.6	47.4	50.2	52.9	55.6	5. 47. 41.71		41.54	17.44	35.90		5. 48. 17.41	+ 0.33
	22	ν Orionis.....	AD	29.0	31.7	34.6	37.6	43.2	48.9	51.8	54.7	57.6	5. 59. 43.18		43.04	18.96	35.92		6. 0. 18.91	+ 0.27
	23	δ UrsæMin.S.P.(E&E)	AD	22.0	10.5	55.5	43.0	..	48.5	35.0	22.0	..	6. 12. 45.26		41.87	18.79	36.92		18. 13. 17.74	+ 0.50
	24	χ Draconis S.P..	AD	58.6	7.5	17.2	26.7	45.4	4.2	13.1	22.1	31.7	6. 22. 45.36		44.58				18. 23. 20.45	+ 0.26
	25	25 Geminorum..	AD	29.0	32.2	35.5	38.6	44.7	51.1	54.3	57.4	0.6	6. 32. 44.75		44.66				6. 33. 20.54	+ 0.07
	26	ξ Geminorum....	AD	19.6	22.6	25.5	28.2	33.7	39.6	42.4	45.4	48.3	6. 37. 33.86		33.72	9.61	35.89		6. 38. 9.60	+ 0.05
	27	Cephei 51.(E&E)	AD	..	..	..	..	8.0	4.5	2.5	59.5	..	6. 39. 37.03		40.81	17.55	36.74		6. 40. 16.69	- 2.95
	28	λ UrsæMin.S.P.(E&E)	AD	..	..	..	..	49.0	36.5	6.0	31.0	59.5	7. 50. 17.05		6.71	43.36	36.65		19. 50. 42.60	+ 34.04
	29	68 Draconis S.P..	AD	23.5	29.5	35.3	41.3	53.0	4.3	10.2	15.8	21.7	8. 8. 52.85		52.33				20. 9. 28.23	+ 1.74
	30	Uranus.....	AD	19.0	22.0	25.2	28.0	33.6	39.6	42.6	45.6	48.5	8. 16. 33.73		33.60				8. 17. 9.55	
	31	A Ursæ Majoris.	AD	3.9	10.8	17.6	24.2	37.4	50.9	57.5	4.1	11.3	8. 22. 37.39		37.63				8. 23. 13.53	- 1.78
	32	35 Cancri.....	AD	11.5	14.4	17.2	20.3	26.2	31.9	35.0	37.9	41.0	8. 27. 26.09		25.96				8. 28. 1.86	- 0.62
	33	γ Cancri.....	AD	6.0	9.0	12.0	15.0	20.8	26.8	29.8	32.7	35.9	8. 35. 20.83		20.72	56.68	35.96		8. 35. 56.62	- 0.67
Mar. 23	34	Jupiter 1 L.....	AD	3.5	6.6	9.4	12.1	17.7	23.7	..	..	..	9. 40. 17.84		19.19				9. 40. 55.11	
	35	Jupiter 2 L.....	AD	..	..	..	15.1	20.9	26.7	29.4	32.3	35.2	9. 40. 20.82						10. 1. 37.39	- 0.95
Mar. 24	36	Regulus.....	AD	47.5	50.4	53.3	56.0	1.6	7.2	10.1	13.0	15.9	10. 1. 1.61		1.47	37.31	35.84		....	
	37	ξ Navis.....	C	6.4	9.5	12.5	15.5	21.6	27.7	30.7	33.7	36.8	7. 43. 21.53		21.24	57.29	36.05		....	
	38	⊙ 1 L.....	AD	31.3	34.2	36.8	39.6	45.3	51.0	53.8	56.3	59.3	0. 12. 45.23	-0.79	49.29			36.60	0. 14. 25.89	
	39	⊙ 2 L.....	AD	40.2	43.0	45.7	48.7	54.0	59.9	2.5	5.0	7.8	0. 14. 54.03	(-1.02)				[0.52]		
	40	Polaris....(E&E)	AD	..	..	..	12.0	..	58.0	50.5	48.0	43.5	1. 10. 29.65	[-4.81]	33.29	10.79	37.50		1. 11. 9.92	+ 66.90
	41	Venus 1 L.....	AD	52.0	55.0	57.8	0.7	6.7	13.1	16.2	18.7	21.8	2. 48. 6.83		6.54				2. 48. 44.50	
	42	γ Geminorum...	AD	31.6	34.5	37.4	40.3	46.0	51.7	54.9	57.6	0.5	6. 29. 45.99		45.68	22.31	36.63		6. 30. 22.42	+ 0.12
	43	ε Geminorum....	AD	15.2	18.4	21.4	24.4	30.5	36.7	39.7	42.8	46.0	6. 35. 30.51		30.22				6. 36. 6.96	+ 0.09
	44	Cephei 51.(E&E)	AD	..	..	..	..	9.5	7.0	3.5	1.5	59.0	6. 39. 38.25		39.91	16.80	36.89		6. 40. 16.65	- 2.20
	45	Piazzi VI. 293...	AD	44.2	49.7	55.0	0.7	11.6	23.0	28.1	34.0	39.4	6. 54. 11.64		11.48				6. 54. 48.23	- 0.23
	46	λ UrsæMin.S.P.(E&E)	AD	..	..	..	..	45.0	38.0	3.0	29.0	38.0	7. 50. 14.88		9.58	45.11	35.53		19. 50. 46.35	+ 32.29

Polaris and other stars very near the pole are observed by eye and ear over the wires P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P.; using the Clock Hardy.
The Intervals of the Wires of both systems are given in the Introduction.

Reading of Transit-Micrometer, 32".200.

Corrections to the times by Hardy for reduction to Sidereal Standard, applied to form Concluded Transit, Nos. 18, 23, 27, 28, 40, 44, and 46, -31".50: -31".50:
-31".50: -31".60: -32".10: -32".00: and -32".00.

Corrections for passage of Semidiameter, Nos. 15, 19, and 41, -64".43: +1".26: and +1".30.

† This clock-error has been used in the reduction of the observations made with the Altazimuth.

March 24 and 25. The azimuthal error from three consecutive transits of Polaris and Polaris S.P.

11, 12. Image very diffused. Correction for defect of illumination, -0".03.

28. Image unsteady.

41. Very faint; cloudy.

15, 18, 38, 39. Very tremulous.

36. Cloudy.

46. Faint and tremulous.

17. Faint.

40. Faint and very tremulous.

TRANSITS OBSERVED WITH THE TRANSIT-CIRCLE, AND COMPUTATIONS OF APPARENT RIGHT ASCENSION,

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of Collimation.		Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at 0 ^h Sidereal and (Losing Rate).	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873, Jan. 1.
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.		(Level).	[Azimuth].						
				s	s	s	s	s	s	s	s	s		"	"						
Mar. 24	1	β Cancri.....	AD	47.6	50.2	53.3	56.0	1.4	7.2	9.8	12.7	15.5	8. 9. 1.47	-0.79	1.15	38.01	36.86	36.60	8. 9. 37.93	-0.43	
	2	Uranus.....	AD	..	14.3	17.2	20.1	26.0	31.9	34.8	37.9	..	8. 16. 25.97	(-1.02)	25.67			[0.52]	8. 17. 2.45		
	3	29 Cancri.....	AD	41.7	44.9	47.7	50.3	56.0	1.7	4.5	7.4	10.5	8. 20. 56.02	-4.81	55.71				8. 21. 32.49	-0.52	
	4	3 Ursæ Majoris..	AD	45.4	52.2	58.8	5.6	18.6	31.9	39.1	45.4	52.1	8. 27. 18.66		18.56				8. 27. 55.34	-1.77	
	5	9 Hydræ.....	AD	59.6	2.4	5.5	8.3	13.9	19.6	22.6	25.3	28.2	8. 35. 13.88		13.49				8. 35. 50.28	-0.50	
	6	ϵ Hydræ.....	AD	13.1	16.0	18.7	21.5	27.0	32.6	35.6	38.1	41.1	8. 39. 27.02		26.69	3.50	36.81		8. 40. 3.48	-0.57	
	7	6 Ursæ Majoris..	AD	35.2	41.9	48.6	55.0	7.9	21.2	27.9	34.4	40.9	8. 45. 7.98		7.87				8. 45. 44.66	-1.99	
	8	Bradley 2749 S.P.	AD	14.0	30.4	45.8	2.6	34.7	6.5	22.3	38.0	54.8	8. 52. 34.66		33.85				20. 53. 10.64	+5.84	
	9	Bradley 1283....	AD	28.5	31.4	34.2	37.1	42.8	48.7	51.4	54.3	57.4	8. 58. 42.81		42.51				8. 59. 19.30	-0.72	
	10	Groomb. 3409 S.P.	AD	..	23.7	31.8	40.6	57.4	..	22.8	31.0	39.7	9. 4. 57.53		56.97				21. 5. 33.77	+3.35	
	11	Groomb. 3426 S.P.	AD	..	50.0	0.5	11.0	32.6	52.7	3.5	13.8	..	9. 9. 32.22		31.60				21. 10. 8.40	+4.22	
	12	6 Cephei S.P. ...	AD	33.0	39.3	45.7	52.3	5.0	17.3	23.8	30.4	36.9	9. 16. 4.99		4.52				21. 16. 41.32	+2.67	
	13	α Hydræ.....	AD	31.0	33.9	36.7	39.4	44.9	50.5	53.4	56.3	59.0	9. 20. 44.95		44.58	21.43	36.85		9. 21. 21.38	-0.69	
	14	27 Ursæ Majoris.	AD	52.6	2.0	11.7	21.2	39.2	58.4	7.8	17.4	26.6	9. 30. 39.46		39.45				9. 31. 16.26	-3.77	
	15	ψ Leonis.....	AD	59.0	1.8	4.7	7.6	13.3	19.0	21.8	24.6	27.4	9. 36. 13.19		12.88				9. 36. 49.69	-0.87	
	16	Jupiter 1 L.....	AD	27.7	30.8	33.6	36.3	..	47.6	..	..	..	9. 39. 42.01								
	17	Jupiter 2 L.....	AD	..	..	..	39.4	44.9	50.9	53.6	56.6	59.6	9. 39. 45.05			43.22			9. 40. 20.03		
	18	μ Leonis.....	AD	..	44.6	47.5	50.7	56.7	3.0	6.0	9.3	..	9. 44. 56.77		56.49	33.26	36.77		9. 45. 33.30	-1.05	
	19	Polaris S.P. (E&E)	AD	25.0	23.5	22.0	19.0	10.0	58.0	..	..	..	13. 10. 38.02		33.80	10.63	36.83		1. 11. 10.68	+67.06	
	20	Spica.....	AD	40.4	43.8	46.4	49.3	54.8	0.3	3.3	6.0	8.7	13. 17. 54.72		54.35	31.19	36.84		13. 18. 31.24	-0.97	
	21	Oeltz. Arg. 13800	AD	44.4	49.3	53.9	58.4	7.6	16.8	21.7	26.0	31.2	13. 30. 7.61		7.42				13. 30. 44.31	-2.32	
	22	84 Ursæ Majoris.	AD	33.0	57.4	2.6	7.2	16.8	26.7	31.6	36.3	40.9	13. 41. 16.84		16.66				13. 41. 53.55	-2.40	
	23	Bradley 246 S.P..	AD	24.7	37.3	49.9	2.3	27.8	52.6	5.2	18.0	30.8	13. 49. 27.87		27.19				1. 50. 4.09	+7.06	
	24	Bradley 282 S.P..	AD	12.0	22.0	31.5	41.3	0.9	20.0	29.4	39.2	49.3	14. 1. 0.82		0.22				2. 1. 37.12	+5.35	
	25	Areturus.....	AD	1.9	5.0	7.9	10.7	16.7	22.5	25.4	28.4	31.5	14. 9. 16.60		16.30	53.24	36.94		14. 9. 53.21	-1.11	
	26	Groombridge 2105	AD	14.4	22.4	29.6	37.1	52.0	7.0	14.7	22.1	29.8	14. 16. 51.98		51.91				14. 17. 28.82	-3.66	
	27	B. F. 1983.....	AD	8.3	11.8	15.4	18.8	25.6	32.5	36.2	39.5	43.0	14. 22. 25.61		25.36				14. 23. 2.27	-1.42	
	28	ρ Boötis.....	AD	29.9	33.2	36.2	39.7	46.0	52.6	55.8	59.0	2.2	14. 25. 46.00		45.73	22.65	36.92		14. 26. 22.64	-1.27	
	29	5 Libræ.....	AD	7.8	10.8	13.5	16.6	22.0	27.9	30.7	33.5	36.4	14. 38. 22.08		21.70				14. 38. 58.62	-0.80	
	30	α Libræ.....	AD	1.1	4.0	7.0	9.8	15.7	21.4	24.2	27.2	30.0	14. 43. 15.54		15.15	52.09	36.94		14. 43. 52.07	-0.78	
	31	Mars 1 L.....	AD	28.2	31.1	34.0	36.8	42.4	48.1	51.0	54.0	56.8	14. 52. 42.43						14. 53. 19.43		
	32	Mars 2 L.....	AD	29.3	32.0	34.8	37.6	43.4	49.0	52.2	54.8	57.8	14. 52. 43.38								
	33	α Andromedæ...	L	55.6	58.9	2.0	5.0	11.2	17.4	20.8	23.9	27.1	0. 1. 11.26	(-0.81)	11.00	47.75	36.75	36.72	0. 1. 47.72	+1.79	
Mar. 25	34	$\odot$ 1 L.....	L	9.6	12.4	15.2	18.0	23.4	29.0	31.7	34.5	37.4	0. 16. 23.41						0. 18. 4.23		
	35	$\odot$ 2 L.....	L	18.5	21.3	24.0	26.8	32.4	37.8	40.5	43.6	46.0	0. 18. 32.26								
	36	Polaris....(E&E)	L	..	24.0	16.0	12.5	..	55.5	54.0	49.0	..	1. 10. 30.18		34.29	10.46	36.17		1. 11. 11.03	+67.23	
	37	Venus 1 L.....	L	17.3	20.3	23.4	26.4	32.2	38.2	41.2	44.3	47.2	2. 50. 32.22		31.94				2. 51. 10.03		
	38	Cephei 51....(E&E)	L	23.8	23.0	19.5	17.0	10.0	7.0	..	..	59.2	6. 39. 38.26		40.15	16.38	36.23		6. 40. 16.99	-1.78	
	39	50 Draconis S.P..	L	56.0	6.7	17.6	28.6	..	11.8	22.7	33.5	45.0	6. 49. 50.48		49.81				18. 50. 26.66	+0.79	
	40	ζ Geminorum....	L	43.3	46.2	49.2	52.2	58.0	4.0	7.0	9.9	12.8	6. 55. 58.00		57.72	34.57	36.85		6. 56. 34.57	-0.03	
	41	Groomb. 2771 S.P.	L	..	..	10.6	16.7	28.4	40.0	45.8	51.6	57.6	7. 1. 28.37		27.91				19. 2. 4.76	+0.67	
	42	δ Geminorum....	L	40.9	43.8	46.8	49.7	55.7	1.7	4.8	7.7	10.6	7. 11. 55.68		55.40	32.36	36.96		7. 12. 32.25	-0.14	
	43	λ Ursæ Min.S.P.(E&E)	L	..	..	..	..	31.5	57.0	26.5	57.0	..	7. 50. 11.07		5.20	46.07	40.87		19. 50. 42.06	+31.33	
	44	Uranus.....	L	7.7	10.9	13.8	17.0	22.6	28.7	31.6	34.5	37.3	8. 16. 22.62		22.33				8. 16. 59.20		
	45	η Cancri.....	L	31.0	34.0	36.9	39.8	45.8	51.7	54.7	57.6	0.6	8. 24. 45.73		45.45	22.29	36.84		8. 25. 22.32	-0.57	
	46	α Cancri.....	L	42.4	45.2	48.1	50.9	56.4	2.1	5.0	7.8	10.6	8. 50. 56.44		56.14	32.99	36.85		8. 51. 33.02	-0.64	
	47	ϵ Ursæ Majoris..	L	12.8	18.8	..	30.3	42.0	53.9	..	5.6	11.4	9. 3. 42.00		41.90				9. 4. 18.79	-1.95	
	48	α Cephei S.P. ...	L	..	..	..	..	5.5	11.6	17.2	23.4	9. 14. 53.93		53.47					21. 15. 30.36	+2.42	

The observations of transits are usually made by the galvanic or chronographic method, the wires employed being generally P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P. Occasionally the observations are made by eye and ear (E & E); the wires then employed are N, O, P, T, X, Y, Z; in reversed order for stars S.P.

Reading of Transit-Micrometer, 32".200.

Corrections to the times by Hardy for reduction to Sidereal Standard, applied to form Concluded Transit, Nos. 19, 36, 38, and 43, -32".10: -32".30: -32".30: and -32".30.

Correction for passage of Semidiameter, No. 37, +1".32.

2, 8, 29. Image unsteady.
20, 25. Extremely diffused.

10, 23, 36, 37. Very tremulous.
30. Image diffused.

19. Very diffused and tremulous.
31, 32. Correction for defect of illumination, -0".02.

1875 DAMM. 35A. . . 1A

AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1873.

[19]

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of Collimation. (Level). [Azimuth].	Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at 0 ^h Sidereal and [Lossing Rate].	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873, Jan. 1.
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.								
				s	s	s	s	s	s	s	s	s								
Mar. 25	1	α Hydræ	L	30.9	33.8	36.6	39.3	44.8	50.4	53.3	56.0	58.9	9. 20. 44.83	-0.79	44.47	21.42	36.95	36.72	9. 21. 21.36	- 0.68
	2	Groomb. 3511 S.P.	L	27.0	43.0	59.0	14.5	46.6	18.1	33.6	49.6	6.2	9. 27. 46.72	(-0.81)	45.85			[0.44]	21. 28. 22.74	+ 6.74
	3	Jupiter 1 L.	L	11.0	13.9	16.7	19.6	25.3	31.1				9. 39. 25.28	[-4.81]	26.56				9. 40. 3.46	
	4	Jupiter 2 L.	L				22.7	28.4	34.3	37.2	39.8	42.9	9. 39. 28.44							
	5	π Virginis	L					46.4	52.1	54.6	57.7	0.3	11. 53. 46.37		46.06	23.01	36.95		11. 54. 23.00	- 1.13
	6	ο Virginis	L	55.0	57.8	0.6	3.5	9.0	14.5	17.4	20.2	23.0	11. 58. 8.94		8.63	45.53	36.90		11. 58. 45.57	- 1.15
	7	η Virginis	L	35.3	38.0	40.7	43.5	49.1	54.6	57.5	0.2	2.9	12. 12. 49.02		48.69	25.55	36.86		12. 13. 25.63	- 1.07
Mar. 26	8	⊙ 1 L.	C						6.4	8.9	11.9	14.6	0. 20. 0.69	[-5.08]	4.92			37.41	0. 21. 42.33	
	9	⊙ 2 L.	C	56.0	58.8	1.5	4.3	9.8	15.5	18.3	21.0	23.8	0. 22. 9.82					[0.29]		
	10	Polaris (E&E)	C		23.0	17.0	13.0	59.0	55.0				1. 10. 20.10		33.66	10.14	36.48		1. 11. 11.08	+ 67.55
	11	Venus 1 L.	C	37.6	40.5	43.8	46.8	52.5	58.4	1.4	4.5	7.4	2. 52. 52.49		52.20				2. 53. 30.97	
	12	δ Ursæ Min. S.P. (E&E)	C					15.5	48.0	34.5	20.5	8.5	6. 12. 43.40		41.15	20.20	39.05		18. 13. 18.64	- 1.91
	13	γ Geminorum	C	30.8	33.6	36.5	39.4	45.0	51.0	53.8	56.7	59.6	6. 29. 45.10		44.79	22.27	37.48			
	14	ε Geminorum	C	14.5	17.6	20.6	23.6	29.7	35.9	39.0	42.0	45.1	6. 35. 29.71		29.44				6. 36. 6.93	+ 0.12
	15	Cephei 51. (E&E)	C				16.0	10.0	5.5	3.5	1.0		6. 39. 37.44		39.54	15.93	36.39		6. 40. 17.03	- 1.33
	16	Groomb. 2719 S.P.	C		38.2	48.2	58.3	18.2	38.1	47.9	57.9		6. 48. 18.31		17.64				18. 48. 55.13	+ 0.62
	17	ε Canis Majoris . . .	C	45.3	48.5	51.5	54.8	1.0	7.3	10.4	13.6	16.8	6. 53. 0.96		0.51	38.05	37.54			
	18	λ Ursæ Min. S.P. (E&E)	C					46.0	35.0	1.0			7. 50. 13.03		6.54	47.11	40.57		19. 50. 44.05	+ 30.29
	19	Lalande (F.) 3384 S.P.	C						28.6	34.4	40.3	46.2	8. 6. 17.12		16.63				20. 6. 54.14	+ 1.58
	20	68 Draconis S.P. . .	C	21.6	27.7	33.6	39.4	51.2					8. 8. 51.11		50.62				20. 9. 28.13	+ 1.55
	21	Uranus	C	4.3	7.3	10.2	13.2	19.0	25.0	27.9	30.8	33.7	8. 16. 18.98		18.69				8. 16. 56.20	
	22	3 Ursæ Majoris . . .	C	44.7	51.6	58.1	4.7	18.0	31.4	38.1	44.7	51.5	8. 27. 17.96		17.90				8. 27. 55.41	- 1.70
	23	Groomb. 3426 S.P.	C	38.9	49.4	0.1	10.6	31.5					9. 9. 31.63		30.92				21. 10. 8.44	+ 4.09
	24	α Cephei S.P.	C	23.7	29.6	35.3	41.4	53.3	4.9	10.7	16.6	22.7	9. 14. 53.25		52.75				21. 15. 30.27	+ 2.38
	25	λ Ursæ Majoris . . .	C	23.4	29.7	35.9	42.0	54.3	7.1	13.2	19.5	25.6	9. 20. 54.40		54.32				9. 21. 31.84	- 2.26
	26	ο Leonis	C	31.9	34.7	37.4	40.3	45.8	51.5	54.2	57.2	0.1	9. 33. 45.84		45.53	23.03	37.50			
	27	Jupiter 1 L.	C	54.6		0.3		8.9		17.5		23.3	9. 39. 8.87						9. 39. 47.62	
	28	Jupiter 2 L.	C	57.7		3.4		11.9		20.6		26.2	9. 39. 11.91							
	29	Piazzi IX. 187. . . .	C	36.4	46.7	56.4	6.3	25.3					9. 46. 25.28		25.35				9. 47. 2.88	- 4.11
	30	Groomb. 3735 S.P.	C	31.6	43.0	54.2	5.6	28.3					10. 10. 28.35		27.61				22. 11. 5.14	+ 5.59
	31	Polaris S.P. (E&E)	C						0.0	55.0	53.0	47.0	13. 10. 38.44		33.28	10.01	36.73		1. 11. 10.85	+ 67.68
Mar. 27	32	⊙ 1 L.	AD	24.2	27.5	30.3	33.0	38.5	44.2	46.7	49.6	52.5	0. 23. 38.44	(-0.53)	42.56			37.77	0. 25. 20.33	
	33	⊙ 2 L.	AD	33.4	36.2	39.0	41.8	47.2	52.7	55.5	58.6	1.0	0. 25. 47.20	[-3.82]				[0.18]		
	34	β Andromedæ	AD	41.3	44.7		51.4	58.2	4.9		11.5	15.2	1. 1. 58.10		57.91	35.66	37.75		1. 2. 35.69	+ 1.93
	35	Polaris (E&E)	AD								45.0	44.0	1. 10. 27.93		30.98	9.88	38.90		1. 11. 8.76	+ 67.81
	36	Venus 1 L.	AD	53.3	56.3	59.2	2.3	8.1	14.1	17.3	20.0	23.2	2. 55. 8.14		7.92				2. 55. 47.06	
	37	δ Ursæ Min. S.P. (E&E)	AD		7.5	55.0	40.5	15.5	47.0	33.5			6. 12. 42.78		41.24	20.59	39.35		18. 13. 19.06	- 2.30
	38	ν Geminorum	AD	32.8	35.7	38.8	41.7	47.4	53.4	56.4	59.5	2.4	6. 20. 47.50		47.27	25.05	37.78		6. 21. 25.09	+ 0.24
	39	42 Draconis S.P. . .	AD	26.5	32.8	39.6		59.8		19.3	25.8	32.9	6. 24. 59.67		59.30				18. 25. 37.12	+ 0.01
	40	γ Geminorum	AD	30.4	33.4	36.2	39.0	44.6	50.5	53.4	56.4	59.4	6. 29. 44.75		44.52	22.25	37.73		6. 30. 22.34	+ 0.18
	41	Cephei 51. (E&E)	AD				15.0	8.5	5.0	1.5	59.5	57.0	6. 39. 36.17		37.58	15.46	37.88		6. 40. 15.40	- 0.86
	42	Groomb. 2719 S.P.	AD			47.7	57.8	17.9	37.9	47.8	57.6	8.0	6. 48. 17.64		17.15				18. 48. 54.97	+ 0.54
	43	λ Ursæ Min. S.P. (E&E)	AD						33.0	1.0	50.0	0.0	7. 50. 14.00		9.60	48.24	38.64		19. 50. 47.43	+ 29.16
	44	β Cancri	AD	46.4	49.2	52.0	55.0	0.3	6.0	9.0	11.7	14.4	8. 9. 0.39		0.14	37.97	37.83		8. 9. 37.97	- 0.39
	45	Uranus	AD	1.0	4.2	7.0	10.0	15.7	21.6	24.8	27.6	30.6	8. 16. 15.77		15.54				8. 16. 53.37	
	46	Groombridge 1431	AD		13.3	34.4	56.1	38.8	22.4	44.6	5.8		8. 22. 38.90		39.69				8. 23. 17.52	- 5.69
	47	Bradley 2673 S.P.	AD	7.3	16.3	25.0	34.4	52.3	10.4	18.9	28.3	37.0	8. 29. 52.39		51.93				20. 30. 29.76	+ 2.70

Polaris and other stars very near the pole are observed by eye and ear over the wires P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P.; using the Clock Hardy. The Intervals of the Wires of both systems are given in the Introduction.

Reading of Transit-Micrometer, 32".200.

Corrections to the times by Hardy for reduction to Sidereal Standard, applied to form Concluded Transit, Nos. 10, 12, 15, 18, 31, 35, 37, 41, and 43, - 32".30: - 32".40: - 32".40: - 32".50: - 32".40: - 32".30: - 32".30: - 32".30: and - 32".40.

Corrections for passage of Semidiameter, Nos. 11, and 36, + 1".33: and + 1".35.

March 26. The azimuthal error from Polaris and Polaris S.P., allowing 0".38 for clock-rate and change of R.A.

March 27. The azimuthal error from Polaris and Polaris S.P., allowing 0".36 for clock-rate and change of R.A.

8, 9. Very ill-defined.

10, 11. Image very bad.

31. Very faint and diffused; thick fog.

32, 33. Extremely tremulous.

34, 35. Very faint and tremulous.

36. Very tremulous.

37. Tremulous.

TRANSITS OBSERVED WITH THE TRANSIT-CIRCLE, AND COMPUTATIONS OF APPARENT RIGHT ASCENSION,

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of Collimation. (Level). [Azimuth].	Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at α^h Sidereal and (Losing Rate).	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873, Jan. 1.			
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.											
				s	s	s	s	s	s	s	s	s											
											h	m	s			s	s	s	s	h	m	s	s
Mar. 27	1	9 Hydræ	AD	58.4	1.2	4.2	7.0	12.7	18.4	21.4	24.2	27.0	8.35.12.66	-0.79	12.36			37.77	8.35.50.19	-0.46			
	2	7 Cephei S.P.	AD	33.9	39.7	45.6	51.3	2.8	14.3	20.1	25.7	31.6	8.42.2.89	(-0.53)	2.54			[0.18]	20.42.40.38	+1.91			
	3	α Cancri.....	AD	41.2	44.1	46.8	49.6	55.2	0.9	3.7	6.4	9.5	8.50.55.21	[-3.82]	54.97	32.97	38.00		8.51.32.81	-0.62			
	4	σ^1 Ursæ Majoris .	AD	1.2	8.6	15.9	23.0	37.0	51.4	58.7	6.3	13.3	8.56.37.12		37.07				8.57.14.91	-2.27			
	5	B. F. 1283	AD	40.7	50.4	0.1	10.1	29.3	48.5	58.7	8.2	17.6	9.2.29.09		29.11				9.3.6.95	-3.27			
	6	Groomb. 3426 S.P.	AD	38.8	49.3	59.6	10.4	31.3	52.0	2.5	12.8	23.6	9.9.31.36		30.86				21.10.8.70	+4.02			
	7	α Cephei S.P. ...	AD	23.4	29.4	35.4	41.0	53.2	4.5	10.7	16.4	22.5	9.14.53.07		52.71				21.15.30.55	+2.34			
	8	τ Hydræ	AD	51.4	54.2	57.0	59.6	5.3	10.7	13.6	16.3	19.0	9.22.5.17		4.90				9.22.42.74	-0.68			
	9	Groomb. 3511 S.P.	AD	26.0	41.9	57.8	13.7	45.9	17.0	33.0	48.9	4.9	9.27.45.78		45.13				21.28.22.97	+6.57			
	10	ϵ Leonis	AD	31.4	34.1	37.2	39.9	45.4	51.2	54.0	56.8	59.5	9.33.45.44		45.19	23.02	37.83		9.34.23.03	-0.79			
	11	Jupiter 1 L.	AD	39.0	41.9	44.7	47.5	53.3	59.0				9.38.53.25										
	12	Jupiter 2 L.	AD				50.4	56.1	1.8	4.8	7.6	10.6	9.38.56.10		54.45				9.39.32.29				
	13	Piazzi IX. 187 ..	AD	36.5	46.3	55.9	5.6	24.9	44.4	54.4	4.1	13.9	9.46.24.92		24.94				9.47.2.78	-4.07			
	14	20 Leonis Minoris	AD	48.2	51.6	55.0	58.0	4.6	11.2	14.4	17.6	21.0	9.53.4.55		4.35				9.53.42.19	-1.15			
	15	Regulus	AD	45.6	48.4	51.4	54.1	59.6	5.4	8.0	11.0	14.0	10.0.59.66		59.42	37.27	37.85		10.1.37.27	-0.91			
	16	Groomb. 3735 S.P.	AD	31.3	42.8	54.0	5.1	28.0	50.2	1.0	12.8	24.6	10.10.27.98		27.46				22.11.5.31	+5.53			
	17	Polaris S.P. (E&E)	AD	22.0	20.5	17.0	15.0	6.5					13.10.34.11		30.61	9.77	39.16		1.11.8.48	+67.92			
	18	Spica	AD	39.7	42.5	45.3	48.0	53.7	59.4	2.1	5.0	7.9	13.17.53.68		53.38	31.23	37.85		13.18.31.25	-1.01			
	19	Piazzi XIII. 110.	AD	44.4	50.0	55.6	1.2	12.4	23.6	29.4	35.0	40.9	13.23.12.39		12.29				13.23.50.16	-2.99			
	20	Oeltz. Arg. 13800	AD	43.7	48.5		57.7	6.8	16.0		25.4	29.7	13.30.6.74		6.61				13.30.44.48	-2.38			
	21	Piazzi I. 159 S.P.	AD	23.2	29.4	35.4	41.6	54.1	6.3	12.0	18.5	24.7	13.37.54.03		53.67				1.38.31.54	+3.55			
	22	5 Libræ	AD	6.8	9.7	12.5	15.5	20.9	26.7	29.6	32.5	35.4	14.38.21.01		20.71				14.38.58.59	-0.86			
	23	α Libræ	AD	0.1	3.2	6.0	8.8	14.5	20.4	23.4	26.1	29.0	14.43.14.55		14.25	52.15	37.90		14.43.52.13	-0.84			
	24	Mars 1 L.	AD	42.4	45.3	48.0	50.9	56.7	2.2	5.4	8.0	10.9	14.51.56.58										
	25	Mars 2 L.	AD	43.4	46.3	49.0	51.9	57.6	3.4	6.3	9.2	11.9	14.51.57.60		56.79				14.52.34.65				
Mar. 28	26	⊙ 1 L.	C	2.8	5.6	8.3	11.0	16.6	22.1	25.0	27.6	30.5	0.27.16.55	(-1.44)				37.79	0.28.58.49				
	27	⊙ 2 L.	C	11.6	14.4	17.2	20.0	25.4	31.0	33.7	36.4	39.4	0.29.25.39	[-3.19]	20.70			[0.23]					
	28	Polaris (E&E)	C		26.0	17.0	15.0	7.0	0.0	56.0			1.10.32.53		32.49	9.68	37.19		1.11.10.29	+68.01			
	29	6 Cancri	C	50.0	53.2	56.3	59.6	5.6	12.0	15.2	18.3	21.4	7.55.5.66		5.41	43.31	37.90		7.55.43.28	-0.39			
	30	64 Cancri	C	51.2	54.6	57.8	1.0	7.6	14.3	17.5	20.8	24.2	8.51.7.59		7.34				8.51.45.22	-0.81			
	31	Piazzi VIII. 245.	C	32.3	35.9	39.4	43.0	50.0	57.2	0.6	4.3	7.8	8.57.49.99		49.74				8.58.27.62	-0.95			
	32	Bradley 1299 ...	C	30.2	33.2	36.0	39.0	44.9	51.0	53.9	56.8	59.9	9.5.44.93		44.67				9.6.22.55	-0.76			
	33	Bradley 1300	C			39.4	42.6	49.4	56.2	59.6	3.0	6.5	9.6.49.40		49.16				9.7.27.04	-0.94			
	34	83 Cancri	C	2.0	4.9	7.8	10.8	16.6	22.4	25.3	28.1	31.2	9.11.16.50		16.23	54.15	37.92		9.11.54.11	-0.75			
	35	κ Leonis	C	23.0	26.2	29.3	32.4	38.4	44.7	47.8	51.0	54.0	9.16.38.48		38.22				9.17.16.10	-0.87			
	36	7 Leonis Minoris.	C	9.2	12.5	15.8	19.2	25.7	32.5	35.8	39.2	42.5	9.22.25.75		25.50				9.23.3.38	-1.02			
	37	10 Leonis Minoris	C	32.6	36.0	39.4	42.8	49.6	56.7	0.1	3.6	7.0	9.25.49.68		49.42				9.26.27.30	-1.09			
	38	9 Leonis	C	41.6	44.7	47.7	50.9	56.8	3.0	6.0	9.2	12.2	9.29.56.85		56.59				9.30.34.47	-0.92			
	39	Jupiter 1 L.	C	24.3		30.0		38.6		47.2		53.0	9.38.38.57										
	40	Jupiter 2 L.	C	27.4		33.0		41.6		50.2		55.8	9.38.41.55						9.39.17.67				
	41	Groombridge 1888	C	3.8	10.5	16.8	23.3	36.2	49.0	55.4	1.7	8.2	12.18.35.97		35.74				12.19.13.65	-3.54			
	42	β Corvi	C	51.8	54.6	57.6	0.4	6.5	12.5	15.6	18.5	21.6	12.27.6.49		6.18	44.12	37.94		12.27.44.09	-1.04			
	43	25 Comæ	C	45.3	48.2	51.2	54.0	59.7	5.6	8.6	11.4	14.4	12.29.59.77		59.50				12.30.37.41	-1.29			
	44	Harmonia	C	19.4	22.2	25.3	27.8		38.9	41.7			12.33.33.32		33.04				12.34.10.95				
	45	8 Draconis	C	16.6	23.6	30.3	37.3	50.7	4.3	11.4	18.2	24.9	12.49.50.67		50.44				12.50.28.35	-3.81			
	46	37 Comæ	C	19.4	22.7	25.8	29.2	35.6	42.0	45.4	48.5	51.7	12.53.35.53		35.27				12.54.13.18	-1.55			
	47	Polaris S.P. (E&E)	C	23.0	18.0	13.5	12.0	6.0					13.10.31.99		31.58	9.62	38.04		1.11.9.50	+68.07			
	48	Spica	C	39.6	42.4	45.3	48.0	53.6	59.4	2.1	4.8	7.7	13.17.53.60		53.31	31.24	37.93		13.18.31.23	-1.02			

The observations of transits are usually made by the galvanic or chronographic method, the wires employed being generally P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P. Occasionally the observations are made by eye and ear (E & E); the wires then employed are N, O, P, T, X, Y, Z; in reversed order for stars S.P.

Reading of Transit-Micrometer, $32^{\circ}200$.

Corrections to the times by Hardy for reduction to Sidereal Standard, applied to form Concluded Transit, Nos. 17, 28, and 47, $-32^{\circ}50' : -32^{\circ}60' : \text{and} -32^{\circ}90'$.

March 28 to 30. The azimuthal error from three consecutive transits of Polaris and Polaris S.P., on March 28 and 29.

20. Very faint.

24, 25. Correction for defect of illumination, $-0^{\circ}02$.

28. Faint and tremulous; image exceedingly bad.

1355 AMP . . 35A . . 1A

AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1873.

[21]

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of Collimation.		Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at 0 ^h Sidereal and [Losing Rate].	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873, Jan. 1.
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.		Collimation. (Level).	[Azimuth].						
s	s	s	s	s	s	s	s	s	s	h	m	s	"	s	s	s	s	h	m	s	s
Mar. 28	1	5 Libræ	C	6.7	9.6	12.5	15.3	21.0	26.8	29.6	32.4	35.4	14. 38. 20.98	—0.79	20.69			37.79	14. 38. 58.62	— 0.88	
	2	α Libræ	C	0.3	3.3	6.0	8.9	14.6	20.4	23.4	26.2	29.2	14. 43. 14.64	(—1.44)	14.35	52.17	37.82	[0.23]	14. 43. 52.28	— 0.86	
	3	Mars 1 L.....	C	..	24.0	27.0	29.6	35.4	41.0	43.9	46.8	..	14. 51. 35.33	[—3.19]							
	4	Mars 2 L.....	C	..	25.1	27.8	30.7	36.4	42.0	45.0	47.8	..	14. 51. 36.34		35.55				14. 52. 13.46		
Mar. 29	5	⊙ 1 L.....	L	41.0	43.6	46.4	49.2	54.7	0.3	3.0	5.9	8.8	0. 30. 54.71		58.87			37.78	0. 32. 36.66		
	6	⊙ 2 L.....	L	49.6	52.5	55.4	58.2	3.6	9.3	12.0	14.7	17.4	0. 33. 3.58					[0.31]			
	7	β Andromedæ ...	L	..	44.8	48.0	51.4	58.3	5.0	8.4	11.5	..	1. 1. 58.13		57.89	35.66	37.77		1. 2. 35.68	+ 1.93	
	8	Polaris ....(E&E)	L	..	..	18.0	16.0	4.0	56.0	..	50.5	45.5	1. 10. 30.71		30.67	9.57	38.90		1. 11. 8.46	+68.12	
	9	α Ceti	L	..	..	..	..	..	5.3	8.2	11.0	13.6	2. 54. 59.78		59.50	37.30	37.80		2. 55. 37.32	+ 1.21	
	10	Venus 1 L.....	L	9.1	12.2	15.2	18.3	24.1	30.4	33.3	36.3	39.3	2. 59. 24.19		23.93				3. 0. 3.15		
	11	λ Ursæ Min.S.P.(E&E)	L	..	..	..	49.5	43.0	..	59.0	25.5	55.5	7. 50. 11.15		10.68	50.64	39.96		19. 50. 48.56	+26.76	
	12	6 Cancri	L	49.9	53.2	56.3	59.3	5.6	12.0	15.0	18.2	21.4	7. 55. 5.59		5.33	43.29	37.96		7. 55. 43.21	— 0.37	
	13	β Cancri	L	46.3	49.2	52.0	54.7	0.2	6.0	8.8	11.6	14.3	8. 9. 0.29		0.03	37.94	37.91		8. 9. 37.91	— 0.36	
	14	λ Cancri	L	6.6	9.7	12.8	15.7	21.8	27.9	31.0	34.0	37.0	8. 12. 21.78		21.51				8. 12. 59.40	— 0.46	
	15	Uranus	L	56.0	59.4	2.3	4.9	10.8	16.8	19.7	22.6	25.5	8. 16. 10.83		10.56				8. 16. 48.45		
	16	η Cancri	L	30.0	33.0	35.7	38.8	44.6	50.6	53.5	56.5	59.6	8. 24. 44.64		44.37	22.23	37.86		8. 25. 22.26	— 0.51	
	17	α Cancri	AD	40.7	43.7	46.5	49.4	55.0	0.4	3.5	6.3	9.2	8. 50. 54.91		54.64	32.94	38.30	38.21†	....		
	18	κ Cancri	AD	0.4	3.4	6.2	9.1	14.6	20.1	23.1	25.9	28.7	9. 0. 14.55		14.28	52.63	38.35		....		
	19	Jupiter 1 L.....	L	10.4	13.1	15.9	19.0	24.5	30.3	..	..	..	9. 38. 24.55		25.85			37.78	9. 39. 3.75		
	20	Jupiter 2 L.....	L	..	..	..	22.0	27.6	33.5	36.4	39.2	42.0	9. 38. 27.67								
	21	Regulus	L	45.6	48.3	51.2	54.0	59.6	5.3	8.1	11.0	13.8	10. 0. 59.59		59.32	37.25	37.93		10. 1. 37.23	— 0.89	
	22	δ Leonis	L	9.7	12.4	15.3	18.0	23.4	29.2	31.6	34.4	37.4	10. 53. 23.43		23.15	1.03	37.88		10. 54. 1.07	— 1.00	
	23	ν Leonis	L	36.2	39.1	41.9	44.6	50.2	55.7	58.5	1.3	4.0	11. 29. 50.11		49.83	27.80	37.97		11. 30. 27.76	— 1.05	
	24	Julia	L	15.1	..	..	23.6	29.3	35.0	..	..	..	11. 39. 29.37		29.07				11. 40. 7.00		
	25	Euphrosyne	L	3.8	6.3	9.5	12.9	19.3	24.7	28.7	31.8	35.0	11. 46. 19.05		18.80				11. 46. 56.73		
	26	Harmonia	L	21.2	23.8	26.7	29.3	34.8	40.3	43.2	45.9	48.6	12. 32. 34.81		34.53				12. 33. 12.47		
	27	5 Libræ	L	6.9	9.6	12.5	15.3	21.0	26.8	29.6	32.5	35.4	14. 38. 21.01		20.72				14. 38. 58.69	— 0.89	
	28	α Libræ	L	0.1	3.1	6.0	8.8	14.5	20.3	23.3	26.0	29.0	14. 43. 14.51		14.22	52.19	37.97		14. 43. 52.19	— 0.88	
	29	Mars 2 L.....	L	57.8	0.8	3.7	6.6	12.2	18.0	21.0	23.7	26.6	14. 51. 12.21		11.92				14. 51. 49.32		
Mar. 30	30	6 Cancri	C	49.5	52.6	55.7	58.8	5.1	11.4	14.6	17.6	20.8	7. 55. 5.05		4.79	43.27	38.48		....		
Mar. 31	31	ο Leonis	AD	..	..	36.2	39.0	44.6	50.1	52.8	55.8	58.5	9. 33. 44.47	—0.28	44.32	22.98	38.66	38.67	9. 34. 23.07	— 0.75	
	32	μ Leonis	L	39.7	42.8	45.8	48.9	55.0	1.3	4.4	7.4	10.5	9. 44. 55.03	(—1.39)	54.87	33.19	38.32	38.24†	....		
	33	19 Leonis Minoris	AD	58.3	2.0	5.8	9.3	16.6	24.2	27.8	31.4	35.2	9. 49. 16.66	[—1.31]	16.50			38.67	9. 49. 55.25	— 1.30	
	34	π Leonis	L	38.9	41.6	44.4	47.2	52.6	58.3	1.2	3.9	6.7	9. 52. 52.70		52.55	30.87	38.32	38.24†	....		
	35	Regulus	AD	..	..	..	52.9	58.6	4.3	7.3	10.1	12.9	10. 0. 58.64		58.49	37.24	38.75	38.67	10. 1. 37.24	— 0.88	
	36	Piazzi X. 26	AD	5.7	14.2	21.9	29.5	45.1	0.7	8.7	16.4	24.5	10. 10. 45.03		44.81			[0.20]	10. 11. 23.36	— 3.43	
	37	Groomb. 3760 S.P.	AD	..	..	55.8	2.5	16.7	30.1	37.0	43.7	50.7	10. 17. 16.59		16.55				22. 17. 55.31	+ 3.28	
	38	28 Cephei S.P. . .	AD	50.8	4.1	17.9	31.1	58.6	24.8	38.4	51.6	5.8	10. 24. 58.39		58.44				22. 25. 37.20	+ 6.59	
	39	B. F. 1506	AD	30.7	38.5	46.2	53.8	9.2	25.0	32.8	40.6	48.3	10. 32. 9.30		9.07				10. 32. 47.83	— 3.64	
	40	42 Leonis Minoris	AD	54.3	57.7	0.8	4.3	10.5	16.8	20.3	23.6	26.7	10. 38. 10.49		10.33				10. 38. 49.09	— 1.31	
	41	γ Ursæ Majoris ..	AD	8.3	13.5	18.1	22.8	32.2	41.7	46.3	51.3	56.0	11. 46. 32.15		31.97				11. 47. 10.74	— 2.46	
	42	π Virginis	AD	..	33.3	36.0	39.0	44.3	50.0	52.8	55.6	..	11. 53. 44.37		44.22	23.02	38.80		11. 54. 22.99	— 1.14	
	43	β Cassiopeie S.P.	AD	16.5	21.7	27.2	32.5	43.2	53.5	58.8	3.9	9.5	12. 1. 43.09		43.03				0. 2. 21.80	+ 3.07	
	44	1 Canum Venaticum	AD	25.5	30.1	35.0	39.6	49.1	58.5	3.4	8.0	12.8	12. 7. 49.01		48.83				12. 8. 27.60	— 2.49	
	45	Groombridge 1879	AD	55.6	22.4	49.4	15.7	8.6	3.2	29.5	56.3	23.1	12. 15. 8.76		8.27				12. 15. 47.04	— 15.56	
	46	κ Cassiopeie S.P.	AD	36.0	41.7	47.7	53.5	5.7	17.4	23.3	29.2	35.3	12. 25. 5.65		5.60				0. 25. 44.37	+ 3.33	

Polaris and other stars very near the pole are observed by eye and ear over the wires P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P.; using the Clock Hardy. The Intervals of the Wires of both systems are given in the Introduction.

Reading of Transit-Micrometer, 32" 200.

Corrections to the times by Hardy for reduction to Sidereal Standard, applied to form Concluded Transit, Nos. 8 and 11, —32".90: and —32".70.

Corrections for passage of Semidiameter, Nos. 10 and 29, +1".40: and —0".57.

† These clock-errors have been used in the reduction of the observations made with the Altazimuth.

March 31 and April 1. The azimuthal error by three consecutive transits of Polaris S.P. and Polaris.

1, 7. Very faint.

24. Very faint; mag. 11½.

3, 4. Correction for defect of illumination, —0".02.

31. Very cloudy.

3, 4, 8, 9. Very faint; sky hazy.

37. Misty; first of two stars.

10. Tremulous and diffused.

40. Faint; cloudy.

[22] TRANSITS OBSERVED WITH THE TRANSIT-CIRCLE, AND COMPUTATIONS OF APPARENT RIGHT ASCENSION,

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of Collimation. (Level). [Azimuth].	Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at oh Sidereal and [Losing Rate].	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873. Jan. 1.
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.								
				s	s	s	s	s	s	s	s	s								
Mar. 31	1	Harmonia.	AD	24.3	27.0	29.9	32.5	38.0	43.6	46.5	49.2	51.7	12. 30. 38.02	-0.28	37.88			38.67	12. 31. 16.65	
	2	23 Cassiopeiae S.P.	AD	44.4	54.8	4.8	14.7	35.2	55.3	5.4	15.3	26.0	12. 38. 35.30	(-1.39)	35.31			[0.20]	0. 39. 14.09	+ 6.04
	3	31 Comae.	AD	37.8	41.0	44.1	47.0	53.3	59.6	3.0	6.0	9.2	12. 44. 53.39	(-1.31)	53.23	32.19	38.96		12. 45. 32.01	- 1.50
	4	8 Draconis.	AD	15.8	22.8	29.3	36.3	50.0	3.7	10.5	17.4	24.2	12. 49. 49.86		49.64				12. 50. 28.42	- 3.83
	5	Polaris S.P. (E&E)	AD	..	..	..	12.5	..	..	..	..	..	13. 10. 32.37		33.77	9.55	35.78		1. 11. 12.55	+68.14
	6	Spica.	AD	38.8	41.5	44.4	47.2	52.6	58.3	1.3	4.0	7.0	13. 17. 52.73		52.58	31.28	38.70		13. 18. 31.36	- 1.06
Apr. 1	7	☉ 1 L.	C	34.6	37.4	40.2	43.0	48.4	54.0	56.9	59.7	2.4	0. 41. 48.45	(-1.01)	52.78			38.79	0. 43. 31.58	
	8	☉ 2 L.	C	43.5	46.3	49.2	51.9	57.4	2.9	5.7	8.6	11.4	0. 43. 57.37					[0.36]		
	9	Polaris (E&E)	C	27.0	25.0	23.0	..	9.0	2.0	1.0	..	..	1. 10. 34.02		33.21	9.55	36.34		1. 11. 12.02	+68.14
	10	Venus 1 L.	C	49.3	52.7	55.4	58.5	4.4	10.4	13.6	16.6	19.6	3. 5. 4.44		4.31				3. 5. 44.62	
	11	☽ 1 L.	C	18.7	21.8	25.0	28.0	33.9	40.3	48.4	46.3	49.4	4. 12. 34.03		33.90				4. 14. 22.92	
	12	Aldebaran.	C	44.0	47.0	49.9	52.7	58.5	4.0	7.0	9.9	13.0	4. 27. 58.38		58.25	37.11	38.86		4. 28. 37.11	+ 0.95
	13	♂ Geminorum.	E	38.3	41.3	44.3	47.3	53.2	59.3	2.2	5.2	8.2	7. 11. 53.20		53.07	32.24	39.17	39.08†	....	
	14	β Canis Minoris. ..	E	22.8	25.6	28.4	31.3	36.7	42.4	45.1	48.0	50.7	7. 19. 36.72		36.59	15.79	39.20		....	
	15	♂ 2 Cancri.	C	54.2	57.4	0.5	3.6	9.6	15.8	18.9	21.9	25.0	8. 2. 9.59		9.46			38.79	8. 2. 48.37	- 0.35
	16	β Cancri.	C	45.2	48.0	50.8	53.6	59.2	4.9	7.6	10.4	13.2	8. 8. 59.15		59.02	37.89	38.87		8. 9. 37.93	- 0.31
	17	Uranus.	C	..	..	..	..	3.9	9.8	12.8	15.6	18.6	8. 16. 3.84		3.71				8. 16. 42.62	
	18	α Hydre.	C	28.6	31.5	34.3	37.0	42.5	48.2	51.0	53.7	56.5	9. 20. 42.53		42.40	21.34	38.94		9. 21. 21.33	- 0.60
	19	τ ¹ Hydre (1st Star)	C	50.0	..	55.7	..	4.0	..	12.3	..	17.9	9. 22. 3.93		3.80				9. 22. 42.73	- 0.63
	20	τ ¹ Hydre (2d Star)	C	..	53.2	..	58.7	..	9.9	..	15.4	..	9. 22. 4.24		4.11				9. 22. 43.04	- 0.63
	21	Jupiter 1 L.	C	31.7	..	37.4	..	46.0	..	54.6	..	0.5	9. 37. 45.99						9. 38. 26.29	
	22	Jupiter 2 L.	C	34.7	..	40.4	..	49.0	..	57.7	..	3.4	9. 37. 48.99		47.36					
	23	16 Leonis Minoris	C	..	33.5	37.1	40.6	47.7	55.1	58.7	2.4	..	9. 41. 47.80		47.67				9. 42. 26.60	- 1.21
	24	19 Leonis Minoris	C	58.0	1.7	5.5	9.1	16.4	23.9	27.7	31.3	35.0	9. 49. 16.44		16.31				9. 49. 55.25	- 1.29
	25	Euphrosyne.	C	1.6	4.7	7.8	11.0	17.4	23.5	26.8	29.7	33.0	11. 43. 17.21		17.08				11. 43. 56.05	
	26	Brad. 3202 S.P. (1st Star)	C	50.7	57.4	3.8	10.6	24.0	37.2	43.7	50.2	57.1	11. 55. 23.99		23.91				23. 56. 2.88	+ 3.86
	27	Brad. 3202 S.P. (2nd Star)	C	53.1	59.5	6.4	12.9	26.4	39.5	46.0	52.8	59.4	11. 55. 26.35		26.27				23. 56. 5.24	+ 3.86
	28	Bradley 3217 S.P.	C	21.8	36.3	51.1	5.4	..	..	..	..	..	12. 1. 34.65		34.63				0. 2. 13.60	+ 8.47
	29	7 Canum Venaticum	C	3.0	7.7	12.0	16.6	25.6	34.6	39.3	43.7	48.2	12. 23. 25.54		25.40				12. 24. 4.38	- 2.39
	30	Harmonia.	C	26.5	29.3	32.0	34.8	40.1	45.8	48.6	51.2	54.0	12. 29. 40.20		40.07				12. 30. 19.05	
	31	ρ Virginis.	C	35.6	38.5	41.4	44.2	49.7	55.3	58.2	1.1	3.9	12. 34. 49.70		49.57	28.61	39.04		12. 35. 28.55	- 1.23
	32	Pomona.	C	37.7	40.5	43.3	46.1	..	..	..	..	..	12. 58. 51.68		51.55				12. 59. 30.53	
	33	Polaris S.P. (E&E)	C	..	20.5	16.0	11.5	6.0	53.5	..	..	..	13. 10. 32.02		32.61	9.57	36.96		1. 11. 11.60	+68.12
	34	Bradley 193 S.P.	C	47.7	55.4	3.4	11.3	27.3	..	..	..	..	13. 22. 27.11		27.05				1. 23. 6.04	+ 4.64
	35	77 Virginis.	C	54.8	57.7	0.5	3.2	8.6	14.3	17.2	19.8	22.6	13. 26. 8.68		8.55				13. 26. 47.54	- 1.08
	36	ζ Boötis.	C	13.1	16.0	18.7	21.6	27.3	33.0	35.9	38.7	41.6	14. 34. 27.26		27.13				14. 35. 6.14	- 1.13
	37	5 Libræ.	C	5.4	8.4	11.3	14.1	19.7	25.5	28.4	31.3	34.1	14. 38. 19.74		19.61				14. 38. 58.62	- 0.95
	38	α Libræ.	C	..	2.0	4.9	7.6	13.4	19.2	22.0	24.9	..	14. 43. 13.37		13.24	52.25	39.01		14. 43. 52.25	- 0.94
	39	Mars 1 L.	C	24.5	27.4	30.2	33.1	38.5	44.4	47.3	50.2	53.1	14. 49. 38.68						14. 50. 18.10	
	40	Mars 2 L.	C	25.6	28.5	31.4	34.1	39.7	45.5	48.4	51.3	54.2	14. 49. 39.79		39.11					
Apr. 2	41	☉ 1 L.	L	12.8	15.7	18.4	21.2	26.8	32.5	35.2	38.0	40.7	0. 45. 26.75	(-1.21)	31.14			38.92	0. 47. 10.07	
	42	☉ 2 L.	L	21.8	24.7	..	30.3	35.6	41.4	..	47.0	49.7	0. 47. 35.73	(-0.43)				[0.42]		
	43	Polaris (E&E)	L	28.0	27.0	20.5	18.0	7.0	58.5	55.5	52.0	47.5	1. 10. 32.34		29.58	9.58	40.00		1. 11. 8.52	+68.11
	44	Venus 1 L.	L	30.2	33.4	36.4	39.5	45.3	51.5	54.5	57.5	0.6	3. 6. 45.37		45.26				3. 7. 25.73	
	45	Rigel.	L	32.5	35.4	38.2	41.1	46.5	52.2	55.0	57.8	0.5	5. 7. 46.52		46.43	25.39	38.96		5. 8. 25.44	+ 0.68
	46	☽ 1 L.	L	48.5	51.7	55.0	58.0	4.2	10.5	13.6	16.8	19.8	5. 10. 4.17		4.06				5. 11. 53.73	
	47	β Tauri.	L	20.7	23.7	27.0	29.9	36.3	42.5	45.7	48.9	51.9	5. 17. 36.22		36.10	15.09	38.99		5. 18. 15.11	+ 0.79

The observations of transits are usually made by the galvanic or chronographic method, the wires employed being generally P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P. Occasionally the observations are made by eye and ear (E & E); the wires then employed are N, O, P, T, X, Y, Z; in reversed order for stars S.P.

Reading of Transit-Micrometer, 32".200.

Corrections to the times by Hardy for reduction to Sidereal Standard, applied to form Concluded Transit, Nos. 5, 9, 33, and 43, -33".50: -33".60: -33".50: and -33".60.

Corrections for passage of Semidiameter, Nos. 10, 11, 44, and 46, +1".47: +70".17: +1".50: and +70".66.

† This clock-error has been used in the reduction of the observations made with the Altazimuth.

April 2. The azimuthal error by Polaris and Polaris S.P., allowing 0".24 for clock-rate and change of R.A.

5, 6. Cloudy.

39, 40. Correction for defect of illumination, -0".02.

32. Exceedingly faint.

43. Very faint indeed; only just visible; light cloud.

No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of Collimation. (Level). [Azimuth].	Seconds of Transit Corrected.	Tabular R.A. of Known Stars.	Clock apparently Slow.	Adopted Clock Slow at Sidereal and [Lossing Rate].	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873, Jan. 1.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.								
			s	s	s	s	s	s	s	s	s								
Apr. 2	1 Uranus.....	L	47.5	50.6	53.5	56.4	2.3	8.3	11.2	14.1	17.0	8. 16. 2.26	—0.28	2.15			38.92	8. 16. 41.21	
	2 η Cancri.....	L	28.5	31.6	34.4	37.4	43.3	49.3	52.2	55.2	58.0	8. 24. 43.26	(—1.21)	43.14	22.17	39.03	[0.42]	8. 25. 22.21	— 0.45
	3 θ Cephei S.P. ...	L	..	..	..	..	..	..	3.9	9.7	16.0	8. 26. 46.02	[—0.43]	46.07				20. 27. 25.14	+ 1.51
	4 Piazzi VIII. 137.	L	4.7	12.0	19.0	26.0	40.2	54.5	1.6	8.6	15.8	8. 36. 40.13		39.90				8. 37. 18.97	— 1.71
	5 6 Ursæ Majoris..	L	32.3	39.2	45.6	52.2	5.2	18.4	25.0	31.5	38.1	8. 45. 5.15		4.94				8. 45. 44.01	— 1.67
	6 α Cancri.....	AD	39.5	42.4	45.2	48.1	53.6	59.4	2.2	5.0	7.8	8. 51. 53.63		53.53	32.89	39.36	39.25†	....	
	7 Bradley 2748 S.P.	L	34.4	45.2	56.3	7.2	29.5	51.3	2.0	13.2	24.2	8. 55. 29.47		29.65			38.92	20. 56. 8.73	+ 3.44
	8 κ Cancri.....	AD	59.2	2.0	4.9	7.6	13.2	19.0	21.7	24.5	27.4	9. 0. 13.22		13.12	52.58	39.46	39.25†	....	
	9 Groomb. 3409 S.P.	L	12.5	20.9	29.5	37.9	55.1	11.7	20.2	28.6	37.4	9. 4. 55.04		55.16			38.92	21. 5. 34.24	+ 2.83
	10 83 Cancri.....	L	0.6	3.6	6.5	9.4	15.2	21.0	24.0	26.9	29.7	9. 11. 15.15		15.04	54.09	39.05		9. 11. 54.12	— 0.69
	11 Piazzi IX. 51....	L	20.0	26.6	33.0	39.4	51.9	5.0	11.5	17.8	24.3	9. 14. 52.04		51.82				9. 15. 30.90	— 2.05
	12 Jupiter 1 L.....	L	20.4	23.3	26.1	29.0	34.6	40.5	..	..	..	9. 37. 34.66							
	13 Jupiter 2 L.....	L	..	..	..	31.8	37.6	43.5	46.3	49.2	52.0	9. 37. 37.62		36.03				9. 38. 15.12	
	14 ο Virginis.....	L	52.5	55.4	58.2	1.1	6.4	12.0	14.9	17.7	20.4	11. 58. 6.45		6.35	45.55	39.20		11. 58. 45.48	— 1.17
	15 β Cassiopeiæ S.P.	L	16.1	21.3	26.4	31.7	42.5	53.0	58.5	3.6	8.7	12. 1. 42.53		42.57				0. 2. 21.70	+ 3.04
	16 Bradley 1650....	L	37.1	48.9	0.3	11.4	33.9	56.9	7.8	19.5	30.9	12. 12. 33.85		33.52				12. 13. 12.65	— 6.45
	17 Bradley 24 S.P....	L	..	..	28.9	43.5	14.0	43.6	58.8	14.2	28.6	12. 18. 14.18		14.46				0. 18. 53.60	+ 8.78
	18 Harmonia.....	L	..	..	33.8	36.8	42.4	48.0	50.8	53.6	56.4	12. 28. 42.35		42.25				12. 29. 21.39	
	19 Pomona.....	L	49.2	51.8	54.4	57.3	2.8	8.4	11.2	14.1	17.0	12. 58. 2.85		2.76				12. 58. 41.91	
	20 Polaris S.P. (E&E)	L	..	15.5	9.5	5.0	0.0	50.5	47.0	..	..	13. 10. 26.74		29.34	9.59	40.25		1. 11. 8.49	+ 68.10
	21 5 Libræ.....	L	5.4	8.2	11.1	14.0	19.6	25.4	28.3	31.2	34.0	14. 38. 19.62		19.54				14. 38. 58.71	— 0.97
	22 α Libræ.....	L	58.7	1.7	4.6	7.4	13.1	19.0	21.8	24.6	27.4	14. 43. 13.09		13.01	52.27	39.26		14. 43. 52.19	— 0.96
	23 Mars 2 L.....	L	48.8	51.7	54.6	57.5	3.2	8.8	11.7	14.6	17.5	14. 49. 3.10		3.02				14. 49. 41.61	
Apr. 3	24 λ Ursæ Min. S.P. (E&E)	G	..	..	24.0	49.5	..	..	..	28.5	1.5	7. 50. 12.99	(—0.94)	15.27	55.95	40.68	39.70	....	
	25 6 Cancri.....	G	48.1	50.8	53.8	57.4	3.5	9.7	12.9	16.0	19.1	7. 55. 3.42	[—0.57]	3.31	43.21	39.90	[0.44]	7. 55. 43.16	— 0.29
	26 Lalande (F.) 3384 S.P.	G	..	..	..	..	..	25.9	32.3	37.4	43.8	8. 6. 14.59		14.61				20. 6. 54.46	+ 1.14
	27 68 Draconis S.P..	G	19.7	25.6	31.3	37.4	49.5	0.5	6.6	12.4	18.0	8. 8. 49.12		49.14				20. 9. 28.99	+ 1.18
	28 Groomb. 3212 S.P.	G	33.4	1.0	28.3	56.9	..	47.4	15.5	43.3	11.9	8. 16. 52.83		53.21				20. 17. 33.06	+ 5.95
	29 η Cancri.....	G	28.0	..	33.6	36.6	42.3	48.4	51.4	..	57.3	8. 24. 42.46		42.36	22.16	39.80		8. 25. 22.21	— 0.44
	30 γ Cancri.....	C	1.7	5.0	7.8	10.8	16.8	22.8	25.7	28.8	31.7	8. 35. 16.73		16.63	56.51	39.88	39.70†	....	
	31 ε Hydræ.....	C	9.7	12.6	15.4	18.2	23.6	29.3	32.0	34.8	37.6	8. 39. 23.63		23.53	3.37	39.84		....	
	32 δ Leonis.....	G	27.7	30.6	33.6	36.5	42.5	48.4	51.5	54.4	57.4	11. 6. 42.45		42.35	22.30	39.95	39.70	11. 7. 22.25	— 1.21
	33 Piazzi XI. 22 ...	G	26.7	29.6	32.5	..	41.0	..	49.6	52.5	55.4	11. 8. 40.98		40.89				11. 9. 20.79	— 1.11
	34 71 Leonis.....	G	56.9	59.8	..	5.7	11.5	17.4	..	23.2	26.0	11. 15. 11.45		11.35				11. 15. 51.26	— 1.19
	35 λ Draconis.....	G	34.3	42.7	50.7	58.8	15.1	31.1	39.3	47.4	55.4	11. 23. 14.82		14.63				11. 23. 54.54	— 4.24
	36 92 Leonis.....	G	..	20.4	23.4	26.3	32.2	38.2	41.3	44.2	..	11. 33. 32.23		32.13				11. 34. 12.04	— 1.29
	37 β Leonis.....	G	41.9	45.0	47.7	50.6	56.3	2.0	4.8	7.7	10.6	11. 41. 56.23		56.14	36.01	39.87		11. 42. 36.05	— 1.20
	38 Harmonia.....	G	..	..	..	..	44.6	50.2	53.5	56.1	58.7	12. 27. 44.81		44.72				12. 28. 24.65	
	39 ρ Virginis.....	G	34.8	37.6	40.4	..	48.8	..	57.3	0.2	2.8	12. 34. 48.78		48.68	28.61	39.93		12. 35. 28.61	— 1.23
	40 10 Canum Venat.	G	2.7	6.3	10.0	13.5	20.9	28.1	31.6	35.2	38.8	12. 38. 20.72		20.61				12. 39. 0.54	— 1.83
	41 35 Comæ.....	G	9.4	12.6	15.2	18.1	24.0	30.0	33.0	35.8	38.9	12. 46. 23.99		23.89				12. 47. 3.82	— 1.39
	42 Polaris S.P. (E&E)	G	22.5	17.5	14.0	6.5	2.0	..	..	..	..	13. 10. 28.48		30.25	9.59	39.34		....	
Apr. 5	43 ε Leonis.....	E	43.5	46.5	49.4	52.6	58.5	4.7	7.6	10.6	13.7	9. 37. 58.50	(—1.15)	58.37	39.20	40.83	40.67†	....	
	44 Regulus.....	E	42.4	45.2	48.0	51.0	56.7	2.3	5.2	7.8	10.8	10. 0. 56.55	[—0.82]	56.43	37.19	40.76	[0.32]	....	
	45 61 Ursæ Majoris.	C	25.7	29.2	32.4	35.8	42.4	49.3	52.7	56.1	59.4	11. 33. 42.49		42.36			40.51	11. 34. 23.02	— 1.56
	46 χ Ursæ Majoris..	C	20.9	25.3	29.3	33.4	41.7	50.3	54.3	58.5	2.6	11. 38. 41.73		41.58				11. 39. 22.25	— 2.07
	47 β Leonis.....	C	41.1	44.1	47.0	49.7	55.5	1.3	4.0	7.0	9.8	11. 41. 55.44		55.32	36.01	40.69		....	

Polaris and other stars very near the pole are observed by eye and ear over the wires P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P.; using the Clock Hardy. The Intervals of the Wires of both systems are given in the Introduction.

Reading of Transit-Micrometer, 32".200.

Corrections to the times by Hardy for reduction to Sidereal Standard, applied to form Concluded Transit, Nos. 20, 24, and 42, —33".80: —34".20: and —34".30.

Correction for passage of Semidiameter, No. 23, —0".59.

† These clock-errors have been used in the reduction of the observations made with the Altazimuth.

April 3. The azimuthal error used is the mean of two determinations (—0".22 and —0".92) by tabular places of λ Ursæ Minoris S.P. and 6 Cancri, and of ρ Virginis and Polaris S.P., allowing 0".01 for clock-rate in the latter case.

April 5 and 6. The azimuthal error used is the mean of the preceding and following determinations, —0".57 and —1".07.

23. Image much diffused.

26. Very faint.

38. Very faint; sky misty.

TRANSITS OBSERVED WITH THE TRANSIT-CIRCLE, AND COMPUTATIONS OF APPARENT RIGHT ASCENSION,

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of Collimation. (Level). [Azimuth].	Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at oh Sidereal and [Losing Rate].	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873, Jan. 1.
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.								
				s	s	s	s	s	s	s	s	s								
Apr. 5	1	B. A. C. 4005 ...	C	30.8	33.6	36.3	39.2	44.8	50.4	53.5	56.3	59.1	11. 43. 44.83	-0.28	44.71	23.03	40.64	40.51	11. 44. 25.38	- 1.19
	2	π Virginis	C	28.8	31.6	34.2	36.9	42.4	48.0	51.0	53.7	56.5	11. 53. 42.51	(-1.15) [-0.82]	42.39	23.03	40.64	[0.32]	....	....
Apr. 6	3	β Cancri	L	43.4	46.0	48.8	51.7	57.2	2.8	5.6	8.6	11.3	8. 8. 57.20		57.08	37.82	40.74	40.59	....	....
	4	λ Cancri	L	3.6	6.7	9.6	12.7	18.6	24.7	27.8	30.8	33.8	8. 12. 18.64		18.51			[0.26]	8. 12. 59.19	- 0.33
	5	γ Cancri	L	26.7	29.8	32.7	35.7	41.5	47.5	50.6	53.6	56.6	8. 24. 41.58		41.46	22.11	40.65	....	....	....
	6	η Cancri	L	1.0	4.1	7.0	10.0	15.7	21.8	25.0	27.9	30.9	8. 15. 15.87		15.75	56.46	40.71	....	....	....
	7	δ 1 L.	L	8.4	11.5	14.6	17.5	23.5	29.6	32.9	36.0	39.1	8. 52. 23.62		23.50			....	8. 54. 10.59	....
	8	ξ Cancri	L	8.2	11.2	14.2	17.2	23.1	29.2	32.5	35.2	38.3	9. 1. 23.18		23.06			....	9. 2. 3.75	- 0.62
	9	83 Cancri	L	58.9	1.8	5.0	7.7	13.7	19.3	22.4	25.4	28.1	9. 11. 13.53		13.41	54.03	40.62	....	....	....
	10	α Leonis	AD	27.9	30.8	33.6	36.5	41.9	47.6	50.5	53.4	56.3	9. 33. 42.00		41.88	22.92	41.04	40.93†	....	....
	11	ϵ Leonis	AD	43.3	46.3	49.2	52.3	58.5	4.3	7.4	10.4	13.6	9. 37. 58.30		58.17	39.19	41.02	....	....	....
Apr. 7	12	Polaris (E&E)	E	..	..	..	..	3.0	54.5	..	..	..	1. 10. 26.82	-0.38	24.62	9.43	44.81	41.26	....	....
	13	α Hydræ	E	26.1	29.0	31.7	34.4	40.1	45.6	48.5	51.3	54.0	9. 20. 40.02	(+0.30) [-1.07]	39.94	21.26	41.32	[0.32]	....	....
	14	22 Ursæ Majoris.	E	..	..	..	..	12.9	31.7	40.8	50.6	59.7	9. 22. 12.86		12.92			....	9. 22. 54.30	- 2.96
	15	ϵ Leonis	E	27.4	30.3	33.2	36.0	41.4	47.3	50.0	52.8	55.7	9. 33. 41.51		41.45	22.90	41.45	....	....	....
	16	Jupiter 1 L.	E	33.2	..	38.9	..	47.4	..	56.2	..	1.8	9. 36. 47.44		48.94			....	9. 37. 30.33	....
	17	Jupiter 2 L.	E	36.2	..	42.0	..	50.5	..	..	..	5.0	9. 36. 50.53					....	....	....
	18	δ 1 L.	E	7.6	10.5	13.6	16.6	22.4	28.4	31.5	34.4	37.3	9. 42. 22.42		22.37			....	9. 44. 8.38	....
	19	Groomb. 3621 S.P.	E	..	..	31.9	37.5	49.0	0.2	6.0	..	..	9. 50. 49.02		48.91			....	21. 51. 30.30	+ 2.23
	20	η Leonis	E	29.4	32.4	35.2	38.2	43.8	49.7	52.5	55.4	58.4	9. 59. 43.83		43.78			....	10. 0. 25.17	- 0.86
	21	Regulus	E	..	..	47.4	50.2	55.7	1.6	4.5	7.3	..	10. 0. 55.84		55.78	37.17	41.39	....	....	....
	22	42 Leonis	E	5.6	8.5	11.4	14.2	19.8	25.7	28.5	31.4	34.5	10. 14. 19.89		19.84			....	10. 15. 1.24	- 0.91
	23	35 Ursæ Majoris.	E	..	..	52.3	59.1	12.8	26.6	33.5	..	..	10. 20. 12.74		12.78			....	10. 20. 54.18	- 2.88
	24	28 Cephei S.P. ...	E	..	..	15.6	29.6	56.4	23.4	36.7	..	..	10. 24. 56.57		56.36			....	22. 25. 37.76	+ 6.10
Apr. 8	25	$\odot$ 2 L.	AD	13.3	16.1	19.0	21.6	27.2	32.9	35.6	38.5	41.3	1. 9. 27.22	(+0.47) [-1.52]	27.14			41.56	1. 9. 4.08	....
	26	Polaris (E&E)	AD	..	..	..	..	55.5	49.0	44.0	..	..	1. 10. 24.63		27.18	9.37	42.19	[0.37]	....	....
	27	Venus 1 L.	AD	1.8	4.9	8.1	11.2	17.0	23.3	26.4	29.3	32.3	3. 14. 17.08		17.03			....	3. 15. 0.31	....
	28	λ Ursæ Min. S.P. (E&E)	AD	..	..	..	..	46.0	14.0	36.0	9.0	..	7. 50. 21.56		18.17	0.42	42.25	....	....	....
	29	η Cancri	AD	25.7	28.8	31.7	34.6	40.4	46.4	49.4	52.3	55.3	8. 24. 40.46		40.40	22.09	41.69	....	....	....
Apr. 9	30	Polaris (E&E)	HC	..	..	..	..	53.0	..	44.0	40.0	..	1. 10. 23.71	(+0.34) [-3.18]	28.77	9.32	40.55	41.78	1. 11. 10.56	+68.37
	31	Pollux	HC	35.1	38.4	41.5	44.6	50.7	57.2	0.3	3.4	6.6	7. 36. 50.81		50.71	32.55	41.84	[0.28]	7. 37. 32.58	- 0.05
	32	ξ Navis	HC	0.3	3.4	6.4	9.5	15.5	21.7	24.7	27.7	30.8	7. 43. 15.49		15.24	57.16	41.92	....	7. 43. 57.11	+ 0.04
	33	ϵ Draconis S.P. ...	HC	..	..	29.0	37.2	53.4	9.1	17.5	..	..	7. 47. 53.38		52.89			....	19. 48. 34.76	+ 0.80
	34	λ Ursæ Min. S.P. (E&E)	HC	..	11.0	..	5.0	0.0	49.0	16.0	41.5	..	7. 50. 25.15		18.36	2.09	43.73	....	19. 51. 0.23	+15.31
	35	ω 1 Cancri	HC	17.7	20.8	23.9	27.0	33.0	39.2	42.3	45.3	48.5	7. 52. 33.02		32.91			....	7. 53. 14.78	- 0.15
	36	15 Argûs	HC	11.4	14.6	17.6	20.5	26.6	32.7	35.7	38.7	41.8	8. 1. 26.56		26.32	8.17	41.85	....	8. 2. 8.19	- 0.07
	37	56 Camelopardali.	HC	..	..	9.1	14.6	25.9	37.4	42.8	..	..	8. 4. 25.86		25.93			....	8. 5. 7.80	- 0.64
	38	β Cancri	P	42.0	44.9	47.7	50.5	56.0	1.6	4.5	7.4	10.2	8. 8. 56.03		55.88	37.77	41.89	41.79†	....	....
	39	Piazzi VIII. 30. ...	HC	53.0	59.0	4.4	10.0	21.4	33.0	38.7	44.4	50.2	8. 11. 21.46		21.53			41.78	8. 12. 3.40	- 0.74
	40	Uranus	HC	40.6	43.4	46.4	49.4	55.3	1.0	4.0	7.0	10.0	8. 15. 55.17		55.04			....	8. 16. 36.92	....
	41	ω 2 Cancri	HC	8.2	11.3	14.3	17.4	23.4	29.6	32.6	35.6	38.6	8. 20. 23.39		23.27			....	8. 21. 5.15	- 0.34
	42	η Cancri	HC	25.6	28.6	31.5	34.5	40.4	46.3	49.2	52.1	55.2	8. 24. 40.32		40.19	22.07	41.88	....	8. 25. 22.07	- 0.35
	43	γ Cancri	P	59.8	2.7	5.7	9.0	14.7	20.7	23.6	26.7	29.6	8. 35. 14.66		14.54	56.42	41.88	41.79†	....	....
	44	ϵ Hydræ	HC	7.6	10.5	13.3	16.0	21.6	27.2	30.0	32.7	35.6	8. 39. 21.55		21.39	3.28	41.89	41.78	8. 40. 3.27	- 0.35
	45	δ Leonis	HC	..	..	31.7	34.5	40.4	46.4	49.4	52.4	55.3	11. 6. 40.43		40.31	22.27	41.96	....	11. 7. 22.22	- 1.18

The observations of transits are usually made by the galvanic or chronographic method, the wires employed being generally P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P. Occasionally the observations are made by eye and ear (E & E); the wires then employed are N, O, P, T, X, Y, Z; in reversed order for stars S.P.

Reading of Transit-Micrometer, 32" 200.

Corrections to the times by Hardy for reduction to Sidereal Standard, applied to form Concluded Transit, Nos. 12, 26, 28, 30, and 34, $-35^{\circ}30' : -35^{\circ}30' : -35^{\circ}20' : -35^{\circ}00' : \text{and } -34^{\circ}90'.$

Correction for passage of Semidiameter, Nos. 7, 18, 25, and 27, $+66^{\circ}40' : +64^{\circ}62' : +64^{\circ}64' : \text{and } +1^{\circ}67'.$

† These clock-errors have been used in the reduction of the observations made with the Altazimuth.

April 7. The azimuthal error by tabular places of Polaris and α Hydræ, allowing $0^{\circ}12$ for clock-rate.

April 8. The azimuthal error by tabular places of Polaris and λ Ursæ Minoris S.P., allowing $0^{\circ}05$ for clock-rate.

April 9. The azimuthal error from Polaris and Polaris S.P., allowing $0^{\circ}12$ for clock-rate and change of R.A.

30. Cloudy.

34. Very faint.

1873 JAN. 35A...1A

AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1873.

[25]

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of Collimation. (Level). [Azimuth].	Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at ^h Sidereal and (Losing Rate).	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873, Jan. 1.
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.								
				s	s	s	s	s	s	s	s	s								
Apr. 9	1	δ Crateris.....	HC	4.6	7.5	10.3	13.2	18.7	24.4	27.4	30.2	33.0	11. 12. 18.75	-0.38	18.53	0.46	41.93	41.78	11. 13. 0.44	- 0.92
	2	δ 1 L.	HC	43.0	45.9	48.8	51.7	57.3	3.0	5.9	8.7	11.6	11. 15. 57.26	(+0.34)	57.11	0.46	41.93	[0.28]	11. 17. 41.14	
	3	ν Virginis.....	HC	25.4	28.0	31.0	33.7	39.2	44.8	47.6	50.4	53.2	11. 38. 39.19	[-3.18]	39.03				11. 39. 20.95	- 1.11
	4	π Virginis.....	HC	27.4	30.2	33.0	35.7	41.2	46.9	49.7	52.5	55.3	11. 53. 41.27		41.11	23.03	41.92		11. 54. 23.03	- 1.15
	5	Harmonia.....	HC	57.4	0.2	3.2	5.8	..	..	..	..	..	12. 22. 11.30		11.14				12. 22. 53.06	
	6	β Corvi.....	HC	47.6	50.6	53.6	56.5	2.5	8.6	11.5	14.5	17.6	12. 27. 2.30		2.26	44.17	41.91		12. 27. 44.19	- 1.09
	7	Polaris S.P. (E&E)	HC	..	..	18.0	14.0	11.0	..	..	..	47.0	13. 10. 34.03		28.67	9.30	40.63		1. 11. 10.60	+68.39
Apr. 10	8	α Arietis.....	L	2.7	5.7	8.8	11.6	17.7	23.8	26.7	29.7	32.8	1. 59. 17.66	(+0.57)	17.64	59.46	41.82	41.80	1. 59. 59.46	+ 1.56
	9	Venus 1 L.	L	28.0	31.2	34.1	37.2	43.3	49.5	52.5	55.4	58.6	3. 15. 43.25	[-0.90]	43.23			[0.20]	3. 16. 25.78	
	10	Rigel.....	L	29.6	32.5	35.3	38.0	43.4	49.2	51.9	54.7	57.6	5. 7. 43.52		43.46	25.27	41.81		5. 8. 25.30	+ 0.80
	11	λ Ursæ Min.S.P.(E&E)	L	..	..	..	..	..	..	39.5	9.5	..	7. 50. 23.64		21.39	3.26	41.87		..	
	12	β Cancri.....	L	41.9	44.8	47.6	50.3	55.9	1.6	4.4	7.3	10.1	8. 8. 55.93		55.89	37.75	41.86		8. 9. 37.76	- 0.17
	13	Uranus.....	L	40.7	43.7	46.6	49.6	55.5	1.3	4.3	7.3	10.2	8. 15. 55.41		55.39				8. 16. 37.26	
	14	η Cancri.....	L	25.5	28.4	31.4	34.3	40.2	46.1	49.1	52.1	55.0	8. 24. 40.18		40.16	22.06	41.90		8. 25. 22.03	- 0.34
	15	α Cancri.....	L	36.9	39.7	42.6	45.4	51.0	56.7	59.6	2.4	5.2	8. 50. 51.00		50.96	32.77	41.81		8. 51. 32.83	- 0.42
	16	83 Cancri.....	AD	57.4	0.2	3.2	6.0	11.8	17.6	20.5	23.4	26.4	9. 11. 11.78		11.75	53.98	42.23	42.08†	..	
	17	α Hydrae.....	AD	..	..	..	33.6	39.0	44.7	48.0	..	..	9. 20. 39.19		39.13	21.22	42.09		..	
	18	α Leonis.....	L	27.2	30.0	32.7	35.5	41.2	46.8	49.6	52.4	55.2	9. 33. 41.12		41.08	22.87	41.79	41.80	9. 34. 22.96	- 0.64
	19	Jupiter 1 L.....	L	14.3	17.3	20.0	23.0	28.6	34.4	..	..	..	9. 36. 28.61		..	..	..		..	
	20	Jupiter 2 L.....	L	..	..	..	26.0	31.6	37.5	40.4	43.3	46.0	9. 36. 31.68		..	..	..		9. 37. 11.99	
	21	31 Cephei S.P. ..	L	4.7	14.2	23.4	33.0	52.5	10.8	20.4	29.6	39.4	10. 31. 52.19		52.04				22. 32. 33.93	+ 4.21
	22	† Leonis.....	L	39.8	42.7	45.6	48.2	53.9	59.6	2.5	5.2	8.0	10. 41. 53.89		53.85	35.77	41.92		10. 42. 35.74	- 0.96
	23	ν Leonis.....	L	32.1	35.0	37.7	40.4	46.0	51.5	54.2	57.1	59.8	11. 29. 45.92		45.86	27.77	41.91		11. 30. 27.75	- 1.02
	24	ν Virginis.....	L	25.4	28.0	30.8	33.6	39.2	44.7	47.5	50.4	53.1	11. 38. 39.12		39.08				11. 39. 20.98	- 1.11
	25	Groombridge 1830	AD	41.4	45.0	48.6	52.1	59.0	6.3	9.7	13.3	16.8	11. 44. 59.06		59.06				11. 45. 40.96	- 1.78
	26	π Virginis.....	AD	27.2	30.0	32.9	35.6	41.2	46.8	49.6	52.4	55.1	11. 53. 41.14		41.10	23.02	41.92		11. 54. 23.00	- 1.14
	27	δ 1 L.....	AD	42.7	45.6	48.4	51.4	56.8	2.6	5.3	8.3	11.0	12. 0. 56.84		56.80				12. 2. 40.42	
	28	η Virginis.....	AD	29.8	32.7	35.5	38.4	43.8	49.4	52.0	55.0	57.5	12. 12. 43.73		43.67	25.60	41.93		12. 13. 25.57	- 1.12
	29	γ ¹ Virginis.....	AD	..	21.6	24.4	27.3	32.8	..	..	..	..	12. 34. 32.69		32.63				12. 35. 14.53	- 1.14
	30	γ ² Virginis.....	AD	..	..	..	..	..	38.4	41.3	43.8	46.7	12. 34. 32.82		32.76				12. 35. 14.66	- 1.14
Apr. 13	31	ε Leonis.....	E	41.0	44.2	47.2	50.2	56.1	2.3	5.3	8.3	11.6	9. 37. 56.18	(+0.74)	56.16	39.10	42.94	42.84†	..	
	32	μ Leonis.....	E	34.8	37.8	40.9	44.2	50.3	56.4	59.6	2.6	5.7	9. 44. 50.20	[-1.32]	50.18	33.03	42.85	[0.16]	..	
	33	Bradley 1820....	C	23.4	26.1	29.0	31.6	37.2	42.8	45.6	48.4	51.1	13. 47. 37.18		37.10			42.56	13. 48. 19.75	- 1.19
	34	τ Virginis.....	C	15.7	18.7	21.5	24.2	29.7	35.2	38.0	40.7	43.5	13. 54. 29.62		29.55	12.27	42.72		..	
	35	κ Virginis.....	C	..	15.0	17.7	20.5	26.0	31.6	34.4	37.4	..	14. 5. 26.03		25.94	8.53	42.59		..	
	36	Arcturus.....	C	56.3	59.3	2.1	5.2	10.9	16.9	19.8	22.7	25.6	14. 9. 10.92		10.89	53.52	42.63		..	
	37	δ 2 L.....	C	39.4	42.4	45.3	48.3	53.9	59.7	2.7	5.6	8.5	14. 21. 53.92		53.83				14. 21. 31.72	
Apr. 14	38	⊙ 1 L.....	L	4.7	7.7	10.6	13.4	19.0	24.5	27.4	30.1	33.0	1. 29. 18.87	(+0.07)	..	..	..	42.46	1. 31. 6.20	
	39	⊙ 2 L.....	L	..	..	..	23.2	28.7	34.5	37.3	40.0	42.9	1. 31. 28.76	[-1.73]	23.73			[0.20]	..	
	40	83 Cancri.....	L	57.0	59.9	2.9	5.6	11.5	17.4	20.3	23.2	26.2	9. 11. 11.50	(-0.75)	11.38	53.93	42.55		9. 11. 53.92	- 0.53
	41	ξ Leonis.....	L	10.0	12.8	15.6	18.4	23.9	29.7	32.6	35.4	38.2	9. 24. 24.01		23.89	6.46	42.57		9. 25. 6.43	- 0.55
	42	Jupiter 1 L.....	L	59.7	2.5	5.3	8.2	13.7	19.6	..	..	..	9. 36. 13.85		..	..	..		9. 36. 57.76	
	43	Jupiter 2 L.....	L	..	..	..	11.2	16.8	22.6	25.5	28.4	31.2	9. 36. 16.83		15.22				..	
	44	π Leonis.....	L	34.3	37.2	40.0	42.7	48.3	53.8	56.8	59.6	2.2	9. 52. 48.26		48.13	30.72	42.59		9. 53. 30.67	- 0.68
	45	ν Leonis.....	L	31.6	34.4	37.1	39.9	45.4	51.0	53.7	56.8	59.2	11. 29. 45.40		45.27	27.75	42.48		11. 30. 27.83	- 1.00
	46	β Leonis.....	AD	38.8	41.7	44.6	47.4	53.3	58.9	1.9	4.7	7.7	11. 41. 53.16		53.04	35.99	42.95	42.88†	..	

Polaris and other stars very near the pole are observed by eye and ear over the wires P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P.; using the Clock Hardy. The Intervals of the Wires of both systems are given in the Introduction.

Reading of Transit-Micrometer, 32".200.

Corrections to the times by Hardy for reduction to Sidereal Standard, applied to form Concluded Transit, Nos. 7 and 11, -34".80: and -34".50.

Correction for passage of Semidiameter, Nos. 2, 9, 27, and 37, +62".12: +1".72: +61".72: and -64".77.

† These clock-errors have been used in the reduction of the observations made with the Altazimuth.

April 10. The azimuthal error by tabular places of λ Ursæ Minoris S.P. and β Cancri.

April 13. The azimuthal error used is the mean of the preceding and following determinations, -0".90 and -1".73.

April 14 to 17. The azimuthal error from Polaris and Polaris S.P. on April 16, allowing -0".15 for clock-rate and change of R.A.

6. Cloudy.

24, 26, 29, 30, 35, 45. Faint; cloudy.

7. Cloudy; very tremulous.

36. Very cloudy.

9, 10. Very tremulous.

38, 39. Very faint and diffused.

11. Faint.

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of Collimation. (Level). [Azimuth].		Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at Sidereal and [Loss Rate].	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873, Jan. 1.
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.									
				s	s	s	s	s	s	s	s	s									
Apr. 14	1	β Virginis	AD	9.2	12.0	14.7	17.5	23.0	28.5	31.4	34.1	36.8	11. 43. 22.96	-0.16							
	2	Arcturus	L	56.4	59.5	2.4	5.3	11.0	17.0	19.9	22.8	25.8	14. 9. 11.07	(-0.75)		22.83	5.83	43.00	[42.88†		
	3	α Pegasi	E	28.0	30.8	33.6	..	42.0	..	50.8	53.5	56.5	22. 57. 42.11	(-1.73)		10.95	53.53	42.58	[42.46	14. 9. 53.53	- 1.40
														(-0.92)		41.98	25.02	43.04	[43.07	..	
Apr. 15	4	$\odot$ 1 L.	E	45.8	..	51.6	54.3	59.6	5.6	8.4	..	14.0	1. 32. 59.85								
	5	$\odot$ 2 L.	E	..	..	..	..	..	15.5	18.2	21.2	23.8	1. 35. 9.78								
	6	Venus 1 L.	E	24.2	27.3	30.3	33.4	..	45.6	48.4	51.6	54.6	3. 16. 39.36								
	7	γ 2 L.	E	10.8	13.9	16.8	20.0	26.3	32.5	35.4	38.4	41.5	16. 7. 26.12	(-1.57)		25.96				1. 34. 47.90	
	8	γ Herculis	E	22.4	25.4	28.3	31.4	36.9	42.7	45.8	48.9	51.9	16. 15. 37.02			36.85	20.19	43.34		3. 17. 24.32	
	9	Antares	E	39.6	42.9	45.8	49.2	55.3	1.2	4.5	7.6	10.6	16. 20. 55.13			54.96	38.38	43.42		16. 6. 59.55	
	10	Polaris ....(E&E)	AD	..	..	..	..	59.5	..	..	..	45.0	1. 10. 27.00	(-2.37)		24.19	10.35	46.16	[43.19	1. 11. 7.38	+67.34
																			[0.05]		
Apr. 16	11	$\odot$ 1 L.	AD	27.6	30.5	33.3	36.1	41.7	47.4	50.2	53.3	56.1	1. 36. 41.74			41.53				1. 38. 29.73	
	12	α Hydræ	AD	24.4	27.3	30.0	32.8	38.3	43.8	46.7	49.3	51.9	9. 20. 38.21			38.03	21.14	43.11		..	
	13	Jupiter 1 L.	AD	56.6	59.6	2.3	5.3	10.9	..	..	..	..	9. 36. 10.91							9. 36. 55.23	
	14	Jupiter 2 L.	AD	..	..	..	7.9	13.6	19.5	22.3	25.1	27.7	9. 36. 13.56							..	
	15	μ Leonis	AD	34.5	37.6	40.8	43.9	49.9	56.2	59.4	2.3	5.4	9. 44. 49.94			49.72	32.99	43.27		9. 53. 41.94	- 0.90
	16	20 Leonis Minoris	AD	42.5	46.0	49.2	52.5	59.0	5.6	8.8	12.2	15.5	9. 52. 58.96			58.73				1. 11. 7.58	+67.19
	17	Polaris S.P. (E&E)	AD	14.5	10.0	8.0	3.0	54.0	..	..	..	..	13. 10. 21.92			24.36	10.50	46.14		..	
	18	Spica	AD	34.4	37.4	40.0	42.9	48.4	54.0	56.8	59.6	2.5	13. 17. 48.38			48.19	31.40	43.21		..	
	19	Bradley 230 S.P.	AD	13.6	26.2	39.1	52.0	18.1	43.6	55.7	8.6	22.9	13. 41. 18.01			18.11				1. 42. 1.33	+ 7.45
	20	Radcliffe 3146 ...	AD	25.0	35.9	46.8	57.4	19.0	40.6	51.5	2.0	13.4	14. 3. 18.85			18.42				14. 4. 1.64	- 6.18
	21	Arcturus	AD	55.6	58.8	1.8	4.7	10.6	16.4	19.5	22.3	25.4	14. 9. 10.51			10.30	53.55	43.25		..	
	22	λ Virginis	AD	18.5	21.3	24.0	26.9	32.4	38.2	41.0	43.7	46.7	14. 11. 32.46			32.27				14. 12. 15.49	- 1.21
	23	θ Boötis	AD	..	53.8	58.2	2.7	11.7	..	25.4	29.8	..	14. 20. 11.69			11.41				14. 20. 54.63	- 2.45
	24	Bradley 348 S.P.	AD	..	..	..	..	..	..	39.0	48.2	57.2	14. 25. 12.05			12.07				2. 25. 55.29	+ 5.11
Apr. 17	25	$\odot$ 1 L.	H	9.8	12.6	15.6	18.4	23.9	29.6	32.4	35.1	38.0	1. 40. 23.88						43.24	1. 42. 11.93	
	26	$\odot$ 2 L.	H	19.9	22.7	25.6	28.3	34.0	39.2	42.6	45.4	48.1	1. 42. 33.92							..	
Apr. 18	27	λ Sagittarii	E	9.8	13.0	16.0	19.0	25.0	31.3	34.5	37.4	40.6	18. 19. 25.12	(-1.21)		25.05	8.57	43.52	43.34	18. 20. 8.51	- 0.63
	28	α Lyrae	AD	38.3	41.7	45.2	49.0	55.8	3.0	6.4	10.0	13.6	18. 31. 55.82	(-0.54)		55.70	38.89	43.19	43.14†	..	
	29	2 Aquilæ	AD	22.5	25.4	28.1	30.9	36.4	42.0	44.7	47.5	50.6	18. 34. 36.39			36.31	19.63	43.32	[0.16]	..	
	30	β Lyrae	E	..	27.6	30.8	33.9	40.5	47.4	50.6	54.0	..	18. 44. 40.62			40.52	23.92	43.40	43.34	18. 45. 23.98	- 0.47
	31	ϵ Aquilæ	E	54.3	57.2	59.9	2.7	8.6	14.2	17.0	19.7	22.9	18. 53. 8.44			8.34	51.82	43.48		18. 53. 51.81	- 0.37
	32	δ 2 L.	E	49.2	52.3	55.5	58.7	5.1	11.6	14.8	18.0	21.3	19. 12. 5.11			5.04				19. 11. 33.82	
	33	δ Aquilæ	E	8.7	11.6	14.4	17.0	22.4	28.2	30.8	33.6	36.4	19. 18. 22.51			22.42	5.88	43.46		19. 19. 5.89	- 0.25
	34	α Vulpeculæ	E	26.9	30.0	33.1	36.0	42.0	48.2	51.2	54.3	57.5	19. 22. 42.08			41.97	25.43	43.46		19. 23. 25.44	- 0.18
	35	α Aquilæ	E	37.9	40.8	43.6	46.4	51.7	57.5	0.2	3.2	6.0	19. 43. 51.86			51.77	35.26	43.49		19. 44. 35.24	- 0.10
	36	α Pegasi	P	27.7	30.6	33.6	36.2	41.8	47.7	50.5	53.4	56.2	22. 57. 41.91			41.81	25.11	43.30	43.17	22. 58. 25.21	+ 1.00
	37	α Andromedæ ...	P	49.1	52.3	55.5	58.7	4.9	11.2	14.3	17.6	20.7	0. 1. 4.86			4.74	48.09	43.35	43.41	0. 1. 48.15	+ 1.45
	38	Polaris ....(E&E)	P	21.5	22.0	18.0	13.0	1.0	..	..	..	..	1. 10. 28.46			26.22	10.09	43.87	[0.24]	1. 11. 9.64	+66.60
Apr. 19	39	$\odot$ 1 L.	P	..	38.0	40.8	43.5	49.2	54.9	57.7	0.4	..	1. 47. 49.15							1. 49. 37.65	
	40	$\odot$ 2 L.	P	45.5	48.3	51.0	53.7	59.5	5.3	7.9	10.8	13.7	1. 49. 59.46							..	
	41	Venus 1 L.	P	17.5	20.6	23.7	26.8	32.8	39.0	42.1	45.0	48.0	3. 14. 32.78			32.67				3. 15. 18.06	
	42	Pollux	P	33.4	36.6	39.6	42.8	49.0	55.4	58.5	1.6	4.8	7. 36. 49.01			48.89	32.37	43.48		7. 37. 32.38	+ 0.13
	43	6 Cancri	P	..	47.1	50.2	53.4	59.6	5.9	9.0	12.1	..	7. 54. 59.54			59.42	42.93	43.51		7. 55. 42.91	- 0.01
	44	55 Camelopardali.	P	..	..	..	..	..	41.0	48.7	56.4	4.0	7. 59. 25.54			25.34				8. 0. 8.83	- 0.33

The observations of transits are usually made by the galvanic or chronographic method, the wires employed being generally P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P. Occasionally the observations are made by eye and ear (E & E); the wires then employed are N, O, P, T, X, Y, Z; in reversed order for stars S.P.

Reading of Transit-Micrometer, 32" 200.

Corrections to the times by Hardy for reduction to Sidereal Standard, applied to form Concluded Transit, Nos. 10, 17, and 38, -34" 30' -34" 00' and -32" 50'.

Corrections for passage of Semidiameter, Nos. 6, 7, 11, 32, 41, +1" 86' -69" 71' +65" 01' -74" 69' +1" 95'.

† These clock-errors have been used in the reduction of the observations made with the Altazimuth.

April 18 and 19. The azimuthal error from Polaris and Polaris S.P., allowing -0" 00' for clock-rate and change of R.A.

2. Faint; cloudy.
21. Very diffused.

10, 13, 14, 22, 23, 24. Cloudy.
33. Very tremulous.

12. Very faint; barely visible.
36, 37. Very faint.

20. Very faint.
39, 40. Tremulous.

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of Collimation. (Level). [Azimuth].	Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at ϕ^h Sidereal and [Losing Rate].	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873, Jan. 1.
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.								
				s	s	s	s	s	s	s	s	s								
Apr. 19	1	29 Lynceis.	P	..	11'6	17'0	22'5	33'5	44'6	50'0	55'6	..	8. 6. 33.43	-0'16	33'26			43'41	8. 7. 16'75	- 0'32
	2	κ Cephei S.P.	P	..	..	..	..	..	47'7	0'2	12'8	25'7	8. 12. 22'79	(-1'21)	22'94			[0'24]	20. 13. 6'43	+ 1'02
	3	σ Ursæ Majoris ..	P	..	36'2	41'7	47'2	58'7	10'4	16'3	21'7	..	8. 18. 58'77	[-0'54]	58'59				8. 19. 42'08	- 0'49
	4	η Cancri	P	23'9	26'8	29'8	32'6	38'6	44'4	47'5	50'4	53'4	8. 24. 38'54		38'43	21'91	43'48		8. 25. 21'92	- 0'19
	5	π Ursæ Majoris ..	P	..	..	..	10'0	22'6	35'7	42'3	48'8	55'3	8. 28. 22'69		22'49				8. 29. 5'98	- 0'73
	6	ρ^1 Cancri	P	..	54'5	57'7	0'8	7'2	13'5	16'6	19'8	..	8. 44. 7'10		6'98				8. 44. 50'48	- 0'36
	7	Bradley 2749 S.P.	P	..	..	41'4	57'6	29'9	1'3	17'5	33'5	50'1	8. 52. 29'87		30'09				20. 53. 13'59	+ 2'89
	8	77 Draconis S.P..	P	8'7	20'6	34'3	47'5	13'5	38'7	51'6	4'4	17'3	9. 7. 13'22		13'38				21. 7. 56'88	+ 2'75
	9	α Hydræ	P	23'7	26'7	29'5	32'2	37'8	43'4	46'2	49'0	51'7	9. 20. 37'74		37'66	21'10	43'44		9. 21. 21'16	- 0'36
	10	γ Cephei S.P. ...	P	59'2	6'0	12'9	19'7	33'6	47'3	54'0	0'8	7'8	9. 24. 33'62		33'66				21. 25. 17'16	+ 1'69
	11	θ Leonis	P	35'7	38'9	41'8	44'8	50'9	57'2	0'2	3'3	6'1	9. 29. 50'93		50'82				9. 30. 34'32	- 0'63
	12	Jupiter 1 L.	P	57'6	..	3'4	..	11'6	..	20'4	..	26'2	9. 36. 11'79		13'06				9. 36. 56'57	
	13	Jupiter 2 L.	P	0'2	..	6'0	..	14'5	..	23'2	..	29'0	9. 36. 14'53							
	14	μ Leonis	P	34'0	37'4	40'4	43'3	49'5	55'7	58'8	1'8	5'0	9. 44. 49'48		49'37	32'94	43'57		9. 45. 32'88	- 0'73
	15	Polaris S.P. (E&E)	P	18'0	12'0	5'0	2'0	54'0	..	..	..	..	13. 10. 24'15		26'22	10'19	43'97		1. 11. 9'76	+ 66'50
	16	λ Virginis	P	18'0	20'8	23'7	26'6	32'1	38'0	40'8	43'6	46'4	14. 11. 32'16		32'08				14. 12. 15'63	- 1'24
	17	ρ Boötis	P	23'5	26'6	30'0	33'2	39'6	46'0	49'4	52'5	55'7	14. 25. 39'54		39'43	23'04	43'61		14. 26. 22'98	- 1'66
	18	Mars 1 L.	P	20'7	23'6	26'4	29'2	35'0	40'6	43'6	46'5	49'3	14. 31. 34'93		35'57					
	19	Mars 2 L.	P	22'2	25'0	27'8	30'7	36'3	42'1	45'0	47'8	50'9	14. 31. 36'36						14. 32. 19'13	
	20	ϵ^2 Boötis	P	29'0	32'0	..	38'1	44'5	50'6	..	56'9	0'1	14. 38. 44'40		44'29	28'00	43'71		14. 39. 27'85	- 1'57
	21	μ Libræ	P	25'2	28'0	30'9	33'6	39'2	44'9	47'8	50'7	53'5	14. 41. 39'25		39'17				14. 42. 22'73	- 1'23
	22	α Lyræ	C	38'0	41'7	45'0	48'6	55'7	3'0	6'3	9'8	13'3	18. 31. 55'64		55'52	38'92	43'40	43'25†	....	
	23	2 Aquilæ	C	22'3	25'0	27'9	30'7	36'2	41'8	44'7	47'4	50'3	18. 34. 36'19		36'11	19'67	43'56	[0'30]	....	
	24	γ Aquilæ	AD	15'8	18'6	21'6	24'5	29'8	35'5	38'5	41'2	44'0	19. 39. 29'88		29'79	13'41	43'62	43'39	....	
	25	α Aquilæ	AD	37'8	40'6	43'4	46'2	51'8	57'4	0'1	3'0	5'7	19. 43. 51'72		51'63	35'29	43'66	[0'30]	....	
	26	δ 2 L.	AD	45'0	48'3	51'4	54'5	0'9	7'1	10'3	13'4	16'6	20. 16. 0'78		0'71				20. 15. 30'28	
Apr. 21	27	$\odot$ 1 L.	C	1'5	4'6	7'3	10'3	15'8	21'7	24'5	27'4	30'4	1. 55. 15'88	-0'32	21'08			43'97	1. 57. 5'07	
	28	$\odot$ 2 L.	C	12'4	15'3	18'2	21'0	26'7	32'4	35'2	37'9	41'0	1. 57. 26'62	(-1'00)				[0'30]		
	29	Bradley 1300.	C	26'0	29'4	32'7	36'2	42'8	49'7	53'0	56'5	59'8	9. 6. 42'83	[-2'41]	42'66				9. 7. 26'74	- 0'55
	30	Bradley 1310.	C	47'4	51'6	56'2	0'2	8'8	17'6	22'0	26'3	30'5	9. 13. 8'86		8'71				9. 13. 52'79	- 0'85
	31	α Hydræ	C	23'2	26'0	28'8	31'6	37'3	42'8	45'6	48'4	51'2	9. 20. 37'15		36'96	21'07	44'11		9. 21. 21'05	- 0'33
	32	γ Leonis Minoris.	C	2'4	5'9	9'2	12'6	19'1	25'8	29'3	32'6	35'9	9. 22. 19'14		18'97				9. 23. 3'06	- 0'65
	33	θ Leonis	C	35'0	38'3	41'3	44'3	50'4	56'4	59'5	2'6	5'6	9. 29. 50'32		50'15				9. 30. 34'24	- 0'60
	34	Jupiter 1 L.	C	1'4	..	7'2	..	15'7	..	24'5	..	30'3	9. 36. 15'77		17'04				9. 37. 1'13	
	35	Jupiter 2 L.	C	4'3	..	10'2	..	18'6	..	27'3	..	33'2	9. 36. 18'67							
	36	18 Leonis	C	35'3	38'1	40'9	43'7	49'4	55'2	58'0	0'7	3'6	9. 38. 49'37		49'20				9. 39. 33'29	- 0'54
	37	μ Leonis	C	33'6	36'8	39'7	43'0	49'2	55'3	58'4	1'5	4'6	9. 44. 49'06		48'89	32'92	44'03		9. 45. 32'98	- 0'71
	38	Lacaille 4072.	C	39'1	42'2	45'4	48'6	55'0	1'3	4'7	8'0	11'0	9. 49. 54'96		54'75				9. 50. 38'84	- 0'43
	39	Piazzi IX. 230.	C	46'0	49'0	51'8	54'9	0'7	7'0	9'8	12'8	15'8	9. 55. 0'81		0'65				9. 55. 44'74	- 0'73
	40	Groombridge 1609	C	..	..	46'0	52'7	5'2	18'4	25'0	..	..	9. 59. 5'35		5'23				9. 59. 49'32	- 1'99
	41	Piazzi IX. 254.	C	..	..	..	..	36'4	43'9	47'5	51'2	54'8	10. 2. 36'40		36'24				10. 3. 20'33	- 1'06
	42	ζ Leonis	C	39'2	42'3	45'4	48'4	54'3	0'4	3'6	6'6	9'6	10. 8. 54'36		54'19				10. 9. 38'29	- 0'82
	43	Bradley 1433.	C	36'0	39'7	43'4	47'2	54'4	2'0	5'6	9'4	13'0	10. 13. 54'45		54'29				10. 14. 38'39	- 1'16
	44	33 Leonis Minoris	C	..	..	..	..	55'6	2'3	5'7	9'0	12'2	10. 23. 55'67		55'50				10. 24. 39'60	- 1'05
	45	35 Leonis Minoris	C	3'7	7'4	10'7	14'1	21'2	28'1	31'5	35'0	38'5	10. 28. 21'07		20'91				10. 29. 5'01	- 1'15
	46	34 Sextantis.	C	7'0	9'9	12'6	15'4	20'9	26'5	29'3	32'0	34'7	10. 35. 20'89		20'70	4'70	44'00		10. 36. 4'80	- 0'77
	47	Polaris S.P. (E&E)	C	..	12'5	8'0	5'0	..	48'0	43'0	36'0	..	13. 10. 28'60		27'32	11'48	44'16		....	
	48	B. F. 1905.	C	33'7	37'3	40'3	44'0	50'6	57'6	1'0	4'3	7'7	13. 44. 50'67		50'51				13. 45. 34'65	- 1'80

Polaris and other stars very near the pole are observed by eye and ear over the wires P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P.; using the Clock Hardy. The Intervals of the Wires of both systems are given in the Introduction.

Reading of Transit-Micrometer, $32'' \cdot 200$.

Corrections to the times by Hardy for reduction to Sidereal Standard, applied to form Concluded Transit, Nos. 15 and 47, $-32'' \cdot 00$: and $-29'' \cdot 50$.

Correction for passage of Semidiameter, No. 26, $-74'' \cdot 07$.

† This clock-error has been used in the reduction of the observations made with the Altazimuth.

April 21. The azimuthal error by tabular places of Polaris S.P. and τ Virginis, allowing $0'' \cdot 01$ for clock-rate.

TRANSITS OBSERVED WITH THE TRANSIT-CIRCLE, AND COMPUTATIONS OF APPARENT RIGHT ASCENSION,

MONTH and DAY.	No. for Reference	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of Collimation. (Level). [Azimuth].	Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at ^h Sidereal and [Losing Rate].	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873, Jan. 1.		
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.										
				s	s	s	s	s	s	s	s	s										
											h	m	s			s			h	m	s	s
Apr. 21	1	Piazzi XIII. 264.	C	35.3	38.0	41.0	43.7	49.5	55.3	58.0	1.0	4.0	13. 51. 49.47	-0.32	49.29			43.97	13. 52. 33.43	- 1.43		
	2	τ Virginis	C	14.6	17.4	20.1	23.0	28.2	34.0	36.7	39.5	42.2	13. 54. 28.35	(-1.00)	28.17	12.34	44.17	[0.30]	13. 55. 12.31	- 1.31		
	3	95 Virginis	C	3.4	6.2	9.0	11.6	17.3	23.1	25.8	28.4	31.2	13. 59. 17.27	[-2.41]	17.08				14. 0. 1.22	- 1.26		
	4	λ Virginis	C	..	20.6	23.4	26.2	31.7	37.6	40.4	43.3	..	14. 11. 31.83		31.63				14. 12. 15.78	- 1.26		
	5	18 Bootis	C	..	..	..	..	..	..	33.6	36.4	39.3	14. 12. 24.99		24.82				14. 13. 8.97	- 1.41		
	6	f Boötis	C	35.7	38.8	41.7	44.7	50.4	56.4	59.3	2.2	5.1	14. 19. 50.42		50.25	34.47	44.22		14. 20. 34.40	- 1.48		
	7	Piazzi XIV. 103.	C	24.9	28.0	31.2	34.4	41.0	47.6	50.9	54.2	57.5	14. 23. 41.01		40.84				14. 24. 24.99	- 1.72		
	8	Mars 1 L.	C	35.3	38.2	41.0	43.8	49.4	55.3	58.0	0.8	3.7	14. 28. 49.44		49.93							
	9	Mars 2 L.	C	36.6	39.5	42.4	45.2	50.7	56.6	59.5	2.2	5.0	14. 28. 50.81						14. 29. 34.08			
	10	μ Libræ	C	24.8	27.6	30.3	33.2	38.9	44.6	47.4	50.2	53.0	14. 41. 38.82		38.62				14. 42. 22.77	- 1.26		
Apr. 22	11	Polaris ....(E&E)	AD	..	..	9.0	6.0	..	..	..	..	1. 10. 24.90	(+1.23)	28.97	11.72	42.75	44.41	1. 11. 13.39	+65.97			
Apr. 23	12	Venus 1 L.	AD	..	..	..	..	55.2	1.2	4.2	7.2	10.0	3. 9. 55.04	[-1.32]	55.06				3. 10. 41.54			
	13	α Hydræ	AD	22.7	25.6	28.3	31.0	36.6	42.2	45.1	47.8	50.6	9. 20. 36.59		36.53	21.04	44.51		9. 21. 21.03	- 0.30		
	14	ε Leonis	AD	24.1	27.1	29.8	32.6	38.3	44.0	46.7	49.4	52.4	9. 33. 38.20		38.18	22.70	44.52		9. 34. 22.69	- 0.47		
	15	Jupiter 1 L.	AD	8.4	11.4	14.2	17.0	22.6	28.3	..	..	..	9. 36. 22.66		24.01				9. 37. 8.52			
	16	Jupiter 2 L.	AD	..	..	..	19.8	25.4	31.2	34.0	36.8	39.7	9. 36. 25.36									
	17	Groomb. 3590 S.P.	AD	20.3	28.0	36.0	44.0	0.0	15.4	23.6	31.5	39.6	9. 43. 59.99		59.71				21. 44. 44.22	+ 2.05		
	18	20 Leonis Minoris	AD	41.0	44.4	47.6	50.9	57.4	3.9	7.2	10.4	13.8	9. 52. 57.33		57.36				9. 53. 41.87	- 0.80		
	19	Regulus	AD	38.4	41.4	44.0	47.0	52.6	58.3	1.1	3.7	6.7	10. 0. 52.52		52.51	37.00	44.49		10. 1. 37.02	- 0.64		
	20	Bradley 2934 S.P.	AD	..	23.6	32.1	41.3	58.8	15.6	24.3	32.8	..	10. 6. 58.54		58.24				22. 7. 42.75	+ 2.70		
	21	Bradley 1429.	AD	40.0	47.0	53.8	0.9	14.0	28.0	35.2	41.8	48.6	10. 14. 14.23		14.44				10. 14. 58.95	- 2.26		
	22	Bradley 1456.	AD	20.1	23.0	25.6	28.4	33.7	39.4	42.2	44.8	47.6	10. 21. 33.81		33.77				10. 22. 18.28	- 0.65		
	23	44 Hydræ	AD	59.7	2.7	5.6	8.8	14.7	20.7	23.7	26.8	29.7	10. 27. 14.65		14.56				10. 27. 59.07	- 0.60		
	24	Piazzi X. 126 ...	AD	35.0	43.0	51.0	58.8	14.7	30.8	39.0	46.5	54.8	10. 33. 14.68		14.93				10. 33. 59.45	- 2.95		
	25	42 Ursæ Majoris.	AD	13.5	19.4	24.6	30.2	41.0	52.0	57.7	3.3	8.7	10. 42. 41.05		41.20				10. 43. 25.72	- 2.10		
	26	Bradley 3038 S.P.	AD	..	..	..	..	2.3	44.0	5.5	26.6	48.5	10. 47. 2.63		1.87				22. 47. 46.39	+ 8.38		
	27	d Leonis	AD	2.4	5.5	8.1	11.0	16.4	21.9	24.8	27.6	30.5	10. 53. 16.40		16.38	0.87	44.49		10. 54. 0.90	- 0.84		
	28	Lalande 21185 ..	AD	23.0	26.4	29.8	33.3	40.0	47.0	50.5	53.8	57.3	10. 55. 40.05		40.09				10. 56. 24.61	- 1.27		
	29	Polaris S.P. (E&E)	AD	..	..	12.0	8.5	..	51.0	..	40.5	..	13. 10. 33.10		29.00	11.83	42.83		1. 11. 13.54	+65.86		
	30	α Draconis	AD	43.6	50.1	56.8	3.2	15.8	29.1	35.5	42.3	48.5	14. 0. 15.97		16.16				14. 1. 0.71	- 3.72		
	31	Lacaille 5869.	AD	41.5	44.4	47.8	51.0	57.4	3.5	6.7	9.8	13.1	14. 6. 57.18		57.08				14. 7. 41.63	- 1.32		
	32	λ Virginis	AD	17.2	19.9	22.8	25.6	31.2	37.0	39.8	42.6	45.6	14. 11. 31.24		31.18				14. 12. 15.73	- 1.28		
33	f Boötis	AD	35.3	38.2	41.3	44.0	49.9	55.8	58.8	1.6	4.5	14. 19. 49.87		49.88	34.49	44.61		14. 20. 34.43	- 1.50			
34	Mars 1 L.	AD	44.2	47.2	50.2	52.9	58.4	4.0	7.0	9.8	12.4	14. 25. 58.39		58.99				14. 26. 43.54				
35	Mars 2 L.	AD	45.6	48.5	51.5	54.0	59.6	5.3	8.2	11.1	13.8	14. 25. 59.70										
36	θ Persei S.P.	AD	..	28.6	32.7	37.0	45.4	53.7	57.7	2.0	..	14. 34. 45.38		45.26				2. 35. 29.82	+ 2.22			
37	μ Libræ	AD	24.2	27.0	29.8	32.5	38.1	44.0	46.8	49.5	52.4	14. 41. 38.19		38.13				14. 42. 22.69	- 1.29			
Apr. 24	38	Jupiter 1 L.	E	12.9	..	18.7	..	27.0	..	35.7	..	41.4	9. 36. 27.08	[-3.36]	28.41				9. 37. 13.37			
	39	Jupiter 2 L.	E	..	..	21.5	..	29.8	..	38.6	..	44.3	9. 36. 29.91									
	40	μ Leonis	E	32.4	35.6	38.6	41.8	48.0	54.2	57.3	0.4	3.6	9. 44. 47.93		47.88	32.87	44.99		9. 45. 32.85	- 0.66		
	41	Piazzi IX. 230 ..	E	44.7	47.6	50.8	53.7	59.7	5.7	8.8	11.7	14.8	9. 54. 59.66		59.60				9. 55. 44.57	- 0.69		
	42	Regulus	E	37.9	40.8	43.7	46.4	52.0	57.7	0.5	3.5	6.4	10. 0. 52.04		51.95	36.98	45.03		10. 1. 36.92	- 0.62		
	43	Piazzi IX. 254 ..	E	..	20.6	24.2	27.8	35.1	42.5	..	50.0	..	10. 2. 35.13		35.16				10. 3. 20.13	- 1.01		
	44	22 Leonis Minoris	E	..	51.4	54.8	57.9	4.4	11.0	14.2	17.5	..	10. 7. 4.39		4.36				10. 7. 49.33	- 0.88		
	45	W. B. (2) X. 243	E	29.1	33.0	36.4	40.4	47.7	55.1	59.0	2.7	6.3	10. 12. 47.67		47.70				10. 13. 32.67	- 1.10		
	46	29 Leonis Minoris	E	24.1	27.5	31.0	34.4	41.2	48.0	51.6	55.0	58.4	10. 17. 41.18		41.18				10. 18. 26.15	- 1.01		

The observations of transits are usually made by the galvanic or chronographic method, the wires employed being generally P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P. Occasionally the observations are made by eye and ear (E & E); the wires then employed are N, O, P, T, X, Y, Z; in reversed order for stars S.P.

Reading of Transit-Micrometer, 32".200.

Corrections to the times by Hardy for reduction to Sidereal Standard, applied to form Concluded Transit, Nos. 11 and 29, -28".90: and -28".60.

Correction for passage of Semidiameter, No. 12, +2".04.

April 22 and 23. The azimuthal error from Polaris and Polaris S.P., allowing -0".01 for clock-rate and change of R.A.

April 24 and 25. The azimuthal error by three consecutive transits of Polaris S.P. and Polaris.

11. Faint; exceedingly tremulous.
31. Very faint.

12, 29. Cloudy.
34, 35. Very tremulous.

1375 GANN. 35A. . . 1A

AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1873.

[29]

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of Collimation. (Level). [Azimuth].	Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at ^h Sidereal and (Losing Rate).	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873, Jan. 1.
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.								
				s	s	s	s	s	s	s	s	s								
Apr. 24	1	ρ Leonis	E	9.3	12.1	15.0	17.7	23.3	29.0	31.7	34.5	37.4	10. 25. 23.28	-0.32	23.17	8.10	44.93	44.86	10. 26. 8.14	-0.75
	2	35 Leonis Minoris	E	2.8	6.0	9.6	13.1	20.0	27.0	30.5	33.8	37.2	10. 28. 19.93	(+1.23)	19.93			[0.26]	10. 29. 4.90	+1.11
	3	46 Leonis Minoris	E	11.8	15.0	18.4	21.6	28.6	35.2	38.6	41.7	45.4	10. 45. 28.40	[-3.36]	28.39				10. 46. 13.37	+1.17
	4	Polaris S.P. (E&E)	E	..	..	..	12.0	4.0	53.0	49.0	..	45.0	13. 10. 36.65		28.90	12.10	43.20		1. 11. 13.90	+65.59
	5	94 Virginis	E	36.8	39.8	42.5	45.3	50.8	56.3	..	..	..	13. 58. 50.78		50.60	35.61	45.01		13. 59. 35.61	+1.29
	6	95 Virginis	E	..	..	..	..	16.3	21.8	24.5	27.5	30.2	13. 59. 16.18		16.00				14. 0. 1.01	+1.28
	7	14 Boötis	E	1.1	3.8	6.7	9.6	15.2	21.0	23.7	26.6	29.5	14. 7. 15.18		15.09				14. 8. 0.10	+1.43
	8	Arcturus	E	53.8	57.0	59.9	2.7	8.6	14.4	17.4	20.4	23.4	14. 9. 8.56		8.50	53.62	45.12		14. 9. 53.51	+1.49
	9	λ Virginis	E	16.7	19.5	22.3	25.3	30.9	36.5	39.2	42.1	45.1	14. 11. 30.80		30.61				14. 12. 15.62	+1.29
	10	f Boötis	E	35.0	37.9	40.8	43.9	49.5	55.4	58.5	1.4	4.3	14. 19. 49.57		49.51	34.50	44.99		14. 20. 34.52	+1.51
	11	Mars 1 L.	E	17.0	19.8	22.7	25.4	31.1	36.6	39.6	42.5	45.4	14. 24. 31.07						14. 25. 16.56	
	12	Mars 2 L.	E	18.2	21.2	24.0	26.8	32.5	38.1	41.0	43.6	46.6	14. 24. 32.39							
	13	Piazzi XIV. 128 . .	E	26.4	29.8	33.4	36.8	43.8	50.7	54.3	57.6	1.3	14. 28. 43.72		43.72				14. 29. 28.74	+1.87
	14	34 Boötis	E	..	54.8	57.9	1.0	7.2	13.4	16.5	19.6	..	14. 37. 7.14		7.11				14. 37. 52.13	+1.63
	15	α Libræ	E	..	56.4	59.4	2.2	7.9	13.8	16.7	19.4	..	14. 43. 7.91		7.71	52.61	44.90		14. 43. 52.73	+1.30
	16	Polaris (E&E)	J	10.0	10.5	4.0	0.5	..	..	..	..	..	1. 10. 19.95	(+1.49)	28.04	12.27	44.23	44.93	1. 11. 12.99	+65.42
Apr. 25	17	$\odot$ 1 L.	J	1.0	3.7	6.6	9.6	15.3	20.6	23.6	26.6	29.4	2. 10. 15.10						2. 12. 5.50	
	18	$\odot$ 2 L.	J	12.0	14.9	17.7	20.5	26.0	31.8	34.8	37.6	40.4	2. 12. 26.13							
	19	α Cancri	J	33.6	36.3	39.3	42.0	47.6	53.3	56.2	59.0	1.8	8. 50. 47.62		47.54	32.56	45.02		8. 51. 32.59	-0.21
	20	α Hydræ	J	22.2	24.9	27.7	30.5	36.0	41.6	44.5	47.4	50.1	9. 20. 36.04		35.87	21.01	45.14		9. 21. 20.93	-0.27
	21	Jupiter 1 L.	J	..	..	..	..	32.3	38.3	40.9	43.7	..	9. 36. 32.31							
	22	Jupiter 2 L.	J	21.0	..	..	..	35.3	..	..	46.9	..	9. 36. 35.32						9. 37. 18.80	
	23	ρ Virginis	J	29.6	32.5	35.3	38.2	43.6	49.3	52.0	55.0	57.7	12. 34. 43.63		43.54	28.65	45.11		12. 35. 28.64	+1.27
	24	23 Cassiopeiæ S.P.	J	39.0	49.7	59.9	9.7	30.4	49.9	0.1	10.2	21.0	12. 38. 30.18		29.39				0. 39. 14.49	+5.34
	25	Bradley 90 S.P. . .	J	..	20.3	25.8	31.5	43.0	53.9	59.6	5.2	..	12. 44. 42.87		42.41				0. 45. 27.52	+2.91
	26	γ Cassiopeiæ S.P.	J	..	..	59.4	4.8	16.0	27.0	32.7	38.0	43.6	12. 48. 16.06		15.61				0. 49. 0.72	+2.88
	27	ϵ Virginis	J	53.5	56.4	59.3	2.0	7.6	13.3	16.2	19.0	21.8	12. 55. 7.62		7.53	52.60	45.07		12. 55. 52.64	+1.31
	28	Polaris S.P. (E&E)	J	..	..	..	..	3.0	50.0	50.0	43.0	42.0	13. 10. 35.45		27.14	12.46	45.32		1. 11. 12.25	+65.23
	29	τ Boötis	J	15.5	18.4	21.6	24.3	30.0	35.9	38.8	41.7	44.6	13. 40. 30.03		29.97	15.09	45.12		13. 41. 15.09	+1.46
Apr. 26	30	Polaris S.P. (E&E)	C	..	..	..	..	..	51.0	47.0	43.0	42.0	13. 10. 35.39	(+1.07)	27.41	12.88	45.47	45.26	..	
	31	ζ Virginis	C	15.7	18.3	21.1	23.8	29.3	35.0	37.7	40.4	43.1	13. 27. 29.31	[-3.68]	29.15	14.63	45.48	[0.35]	..	
	32	25 Canum Venat.	C	48.3	51.7	55.1	58.6	5.4	12.5	16.0	19.4	22.8	13. 31. 5.46		5.44				13. 31. 50.90	+1.86
	33	η Boötis	C	39.8	42.8	45.7	48.7	54.4	0.2	3.3	6.1	9.1	13. 47. 54.40		54.30	39.76	45.46		..	
	34	Arcturus	C	53.6	56.5	59.6	2.4	8.3	14.3	17.2	20.1	23.1	14. 9. 8.28		8.19	53.63	45.44		..	
	35	λ Virginis	C	16.5	19.2	22.1	24.9	30.4	36.2	39.2	41.8	44.7	14. 11. 30.50		30.28				14. 12. 15.75	+1.30
	36	Mars 1 L.	C	..	22.9	25.6	28.5	34.0	39.8	42.7	45.5	..	14. 21. 34.08						14. 22. 19.97	
	37	Mars 2 L.	C	..	24.0	27.0	29.7	35.3	41.1	44.0	46.8	..	14. 21. 35.35							
Apr. 29	38	μ Hydræ	C	57.0	59.8	2.8	5.6	11.4	17.2	20.0	22.8	25.7	10. 19. 11.31	-0.20	11.10	57.42	46.32	46.17†	..	
	39	ρ Leonis	C	7.9	10.8	13.5	16.3	21.8	27.5	30.4	33.3	36.0	10. 25. 21.89	(+1.25)	21.78	8.04	46.26	[0.28]	..	
	40	δ Leonis	E	..	24.0	26.8	29.7	35.7	41.6	44.6	47.5	..	11. 6. 35.64		35.58	22.11	46.53	46.49	..	
	41	Mars 1 L.	E	50.5	53.5	56.3	59.3	..	10.4	13.3	16.0	18.7	14. 17. 4.69							
	42	Mars 2 L.	E	52.0	55.0	57.8	0.5	6.1	11.8	14.8	17.5	20.3	14. 17. 6.14						14. 17. 51.89	
	43	Piazzi XIV. 128 . .	E	..	..	32.0	35.4	42.2	49.2	52.7	..	..	14. 28. 42.24		42.24				14. 29. 28.90	+1.91
	44	ϵ Boötis	E	25.8	29.0	32.1	35.3	41.5	47.7	51.0	54.0	57.3	14. 38. 41.47		41.44	28.10	46.66		..	
	45	α Libræ	E	51.7	54.6	57.6	0.5	6.1	12.0	14.7	17.6	20.8	14. 43. 6.12		5.91	52.67	46.76		..	
	46	Hebe	E	39.4	42.2	45.0	47.6	..	59.0	1.7	..	..	14. 48. 53.27		53.15				14. 49. 39.81	
	47	Parthenope	E	10.6	..	16.2	19.0	24.7	30.2	33.1	..	38.7	15. 2. 24.58		24.39				15. 3. 11.06	

Polaris and other stars very near the pole are observed by eye and ear over the wires P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P.; using the Clock Hardy. The Intervals of the Wires of both systems are given in the Introduction.

Reading of Transit-Micrometer, 32" 200.

Corrections to the times by Hardy for reduction to Sidereal Standard, applied to form Concluded Transit, Nos. 4, 16, 28, and 30, -28^s.60: -28^s.50: -28^s.40: and -28^s.20.

† This clock-error has been used in the reduction of the observations made with the Altazimuth.

April 26 to 29. The azimuthal error by tabular places of Polaris S.P. and ζ Virginis on April 26.

4. Image diffused.
20. Cloudy.

15. Faint.
21, 22. Very cloudy.

17, 18. Very faint.
36, 37. Very faint; limbs indistinct.

TRANSITS OBSERVED WITH THE TRANSIT-CIRCLE, AND COMPUTATIONS OF APPARENT RIGHT ASCENSION,

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of		Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at oh Sidereal and [Losing Rate].	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873, Jan. 1.
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.		Collimation. (Level).	[Azimuth].						
				s	s	s	s	s	s	s	s	s		h	m						
May 1	1	♂ 1 L.	C	54.2	57.3	0.4	3.7	9.9	16.4	19.6	22.8	26.0	6.40. 9.97	-0.20	9.79			46.78	6.42. 7.40		
	2	34 Sextantis....	C	4.0	6.9	9.7	12.4	17.9	23.5	26.3	29.0	31.7	10.35. 17.87	(-2.01)	17.72	4.60	46.88	[46.25]	10.36. 4.61	-0.67	
	3	β Leonis	E	..	..	..	43.3	48.9	54.8	57.6	0.4	3.4	11.41. 48.95	(-0.98)	48.79	35.89	47.10	47.03†	....		
	4	β Virginis	E	5.0	7.7	10.5	13.2	18.6	24.2	27.0	29.7	32.6	11.43. 18.66		18.51	5.71	47.20		....		
	5	π Virginis	C	22.6	25.2	27.8	30.7	36.2	41.8	44.6	47.4	50.2	11.53. 36.22		36.07	22.94	46.87	46.78	11.54. 22.97	-1.06	
	6	Piazzi XL 227...	C	13.4	16.3	19.0	21.8	27.2	32.8	35.6	38.4	41.1	11.57. 27.23		27.08				11.58. 13.98	-1.06	
	7	ε Corvi	C	35.2	38.2	41.0	44.0	50.0	56.0	59.0	..	..	12. 2.49.97		49.86	36.72	46.86		12. 3.36.76	-0.98	
	8	Polaris S.P. (E&E)	C	..	..	..	3.0	..	..	..	..	..	13.10. 26.55		29.67	15.19	45.52		1.11. 16.59	+62.50	
	9	Egeria	C	45.5	48.5	51.0	54.1	..	5.0	7.9	10.7	13.5	13.46. 59.47		59.34				13.47. 46.26		
	10	Piazzi XIII. 286.	C	35.0	37.8	40.7	43.4	49.2	54.9	57.7	0.5	3.4	13.56. 49.11		48.98				13.57. 35.90	-1.32	
	11	κ Virginis	C	7.9	10.8	13.5	16.3	21.8	27.5	30.3	33.2	36.0	14. 5.21.86		21.72	8.69	46.97		14. 6. 8.65	-1.34	
	12	λ Virginis	C	14.8	17.7	20.5	23.4	29.0	34.6	37.6	40.4	43.1	14.11. 28.95		28.82				14.12. 15.75	-1.34	
	13	Mars 1 L.	C	51.3	54.3	57.0	59.6	5.3	11.2	13.9	16.7	19.6	14.14. 5.37		5.90				14.14. 52.83		
	14	Mars 2 L.	C	52.6	55.5	58.3	1.1	6.7	12.4	15.2	18.1	21.0	14.14. 6.68								
	15	Piazzi XIV. 103.	C	21.9	25.3	28.5	31.7	38.3	44.8	48.2	51.4	54.7	14.23. 38.24		38.06				14.24. 24.99	-1.79	
	16	Hebe	C	51.9	54.6	57.5	0.3	5.7	11.3	14.3	17.0	19.7	14.47. 5.75		5.60				14.47. 52.53		
	17	W. B. XIV. 941.	C	..	..	58.4	1.0	6.5	12.1	14.9	17.5	20.4	14.50. 6.50		6.36				14.50. 53.29	-1.40	
	18	ψ Boötis	C	59.6	2.7	5.8	9.0	15.1	21.4	24.5	27.6	30.8	14.58. 15.11		14.93	1.91	46.98		14.59. 1.87	-1.68	
	19	Parthenope	C	..	23.5	26.4	..	34.6	40.3	43.2	45.8	48.7	15. 0.34.64		34.50				15. 1.21.44		
20	Polaris (E&E)	L	..	..	16.0	12.5	2.5	56.0	50.0	..	41.0	1.10. 31.80	(-1.49)	29.57	15.38	45.81	[46.83 0.16]	1.11. 16.41	+62.31		
May 2	21	♂ 1 L.	L	..	..	..	..	..	56.5	59.4	2.4	2.36. 47.86		53.81				2.38. 40.66			
	22	♂ 2 L.	L	45.4	48.8	51.5	54.5	59.9	..	..	..	..	2.39. 0.02								
	23	Castor	L	26.2	29.6	32.9	36.0	..	..	..	..	58.8	7.25. 42.50	(-2.28)	42.30	29.25	46.95		7.26. 29.18	+0.39	
	24	♂ 1 L.	L	53.7	56.8	59.9	3.2	9.2	15.7	19.0	21.9	25.3	7.37. 9.35		9.15				7.39. 5.44		
	25	ρ Leonis	L	7.3	..	..	..	21.3	27.0	29.7	..	..	10.25. 21.30		21.13	8.01	46.88		10.26. 8.03	-0.66	
	26	34 Sextantis	L	4.0	7.0	9.6	12.4	17.7	23.5	26.3	29.0	31.7	10.35. 17.85		17.68	4.59	46.91		10.36. 4.58	-0.66	
	27	ι Leonis	L	34.7	37.7	40.5	43.3	48.8	54.5	57.4	0.1	3.0	10.41. 48.82		48.65	35.56	46.91		10.42. 35.55	-0.75	
	28	Lalande 21185 ..	L	..	..	..	..	45.0	48.4	51.8	55.3	..	10.55. 37.97		37.74				10.56. 24.64	-1.15	
	29	β Leonis	AD	..	..	..	..	48.9	54.6	57.5	0.2	3.3	11.41. 48.83		48.65	35.88	47.23	47.19†	....		
	30	δ² Corvi	AD	17.4	20.3	23.2	25.9	31.6	37.4	40.3	43.3	46.0	12. 2.31.65		31.52	18.82	47.30		....		
	31	θ Virginis	L	23.2	26.0	28.6	31.6	37.0	42.7	45.5	48.2	51.0	13. 2.37.03		36.88	23.73	46.85	46.83	13. 3.23.80	-1.22	
	32	Polaris S.P. (E&E)	L	..	..	5.0	..	..	43.5	38.5	..	..	13.10. 25.49		29.19	15.58	46.39		1.11. 16.11	+62.11	
	33	Polaris (E&E)	HC	..	..	15.0	12.0	..	..	..	..	..	1.10. 30.54	(-1.39)	28.53	15.76	47.23	46.99	1.11. 15.53	+61.93	
May 4	34	ν Leonis	P	26.7	29.5	32.2	35.0	40.4	46.0	48.8	51.5	54.3	11.29. 40.43		40.31	27.63	47.32	47.26†	....		
	35	β Virginis	P	4.8	7.6	10.4	13.4	18.5	24.1	27.0	29.7	32.5	11.43. 18.60		18.48	5.73	47.25	[47.06]	....		
May 5	36	♂ 1 L.	C	18.6	21.6	24.6	27.5	33.4	39.5	42.4	45.1	48.2	10.11. 33.38	-0.32 (-1.07) (-3.67)	33.15			47.27	10.13. 24.23		
	37	α Andromedæ ...	J	45.7	49.0	52.1	55.3	1.4	7.7	11.0	14.0	17.3	0. 1. 1.43	(-0.93)	1.23	48.49	47.26	47.31	0. 1.48.54	+1.05	
	38	α Cassiopeiæ	J	4.8	9.9	14.8	19.7	29.3	39.4	44.4	49.4	54.1	0.32. 29.43		29.31			[47.04]	0.33. 16.62	+2.14	
	39	γ Cassiopeiæ	J	..	..	..	..	..	..	..	57.0	2.4	0.40. 36.66		36.54				0.41. 23.85	+2.25	
	40	Polaris (E&E)	J	..	..	7.0	6.5	55.0	..	..	..	..	1.10. 25.07		28.29	16.88	48.59		1.11. 15.60	+60.81	
	41	Venus 2 L.	J	4.8	7.7	10.8	13.6	19.4	25.4	28.5	31.5	34.4	2.43. 19.50		19.29				2.44. 4.45		
May 6	42	♂ 2 L.	J	8.6	11.5	14.4	17.3	23.0	28.8	31.8	34.7	37.6	2.54. 23.02		22.80				2.54. 3.68		
	43	Regulus	J	35.6	38.5	41.4	44.2	49.7	55.6	58.4	1.1	4.0	10. 0.49.77		49.54	36.84	47.30		10. 1.36.87	-0.48	
	44	γ¹ Leonis	J	56.9	59.7	2.9	5.8	11.6	17.5	20.5	..	..	10.12. 11.58		11.37	58.68	47.31		10.12. 58.70	-0.63	
	45	ι Leonis	J	24.2	27.1	30.0	32.7	38.4	44.3	47.0	49.9	52.8	10.24. 38.43		38.21				10.25. 25.54	-0.64	

The observations of transits are usually made by the galvanic or chronographic method, the wires employed being generally P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P. Occasionally the observations are made by eye and ear (E & E); the wires then employed are N, O, P, T, X, Y, Z; in reversed order for stars S.P.

Reading of Transit-Micrometer, 32.200.

Corrections to the times by Hardy for reduction to Sidereal Standard, applied to form Concluded Transit, Nos. 8, 20, 32, 33, and 40, -29^s.40 : -29^s.30 :

-29^s.20 : -29^s.10 : and -28^s.50.

Corrections for passage of Semidiameter, Nos. 1, 24, 36, 41, and 42, +70^s.77 : +69^s.41 : +63^s.80 : -2^s.15 : and -66^s.43.

† These clock-errors have been used in the reduction of the observations made with the Altazimuth.

May 1 to 4. The azimuthal error from four consecutive transits of Polaris S.P. and Polaris.

May 5 and 6. The azimuthal error from Polaris and Polaris S.P., allowing -0^s.15 for clock-rate and change of R.A.

1. Very faint. Correction to R.A. on true meridian, -0^s.01.

20. Very faint.

7, 21, 22, 32. Very cloudy.

25. Faint; very cloudy.

8, 23, 28, 43, 44. Cloudy.

36. Correction to R.A. on true meridian, -0^s.01.

1976 JAN 1

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of		Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at ϕ^h Sidereal and (Losing Rate).	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873, Jan. 1.								
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.		Collimation. (Level).	Azimuth.														
																						s	s	s	s	s	s	s	s
May 6	1	δ Leonis.....	J	40.9	43.7	46.6	49.6	55.1	0.8	3.9	6.7	9.5	10.38.55.14	-0.32	54.92			47.31	10.39.42.25	-0.71									
	2	δ I L.....	J	44.8	47.7	50.7	53.5	59.3	5.0	8.0	10.7	13.7	10.57.59.20	(-0.93)	58.97			[0.04]	10.59.48.80										
	3	δ Crateris.....	J	59.2	1.9	4.8	7.6	13.1	18.9	21.8	24.6	27.6	11.12.13.22	[-3.67]	12.94	0.25	47.31	11.13.0.27	-0.7										
	4	δ Leonis.....	J	17.8	20.7	23.6	26.4	31.9	37.6	40.5	43.4	46.0	11.16.31.93		31.70			11.17.19.03	-0.89										
	5	86 Leonis.....	J	50.5	53.6	56.4	59.4	5.2	11.0	14.0	16.8	19.9	11.23.5.14		4.92			11.23.52.25	-1.00										
	6	ω Virginis.....	J	54.6	57.3	0.1	3.0	8.5	14.2	17.1	19.7	22.6	11.31.8.50		8.26			11.31.55.59	-0.94										
	7	π Virginis.....	AD	21.8	24.8	27.4	30.3	35.9	41.4	44.1	46.9	49.6	11.53.35.74		35.30	22.91	47.41	47.41†	....										
	8	σ Virginis.....	AD	44.2	47.2	49.8	52.7	58.2	3.9	6.8	9.5	12.4	11.57.58.24		58.00	45.45	47.45	....	....										
	9	Polaris S.P. (E&E)	J	..	17.0	11.0	7.0	..	49.0	..	..	..	13.10.32.12		28.43	17.08	48.65	47.31	1.11.15.76	+60.61									
	10	Piazzi XIII. 286.	J	..	37.7	40.4	43.2	48.8	54.6	57.5	0.3	..	13.56.48.87		48.59			....	13.57.35.92	-1.35									
	11	Mars 1 L.....	J	33.6	36.3	39.3	41.9	47.6	53.2	56.2	58.9	1.8	14.6.47.58		48.00			....	14.7.35.33										
	12	Mars 2 L.....	J	34.9	37.8	40.6	43.4	49.0	54.7	57.4	0.2	3.2	14.6.48.96					....	....										
	13	2 Libræ.....	J	35.7	38.8	41.6	44.4	50.0	55.7	58.6	1.4	4.2	14.15.49.99		49.72			....	14.16.37.05	-1.38									
	14	f Boötis.....	J	32.7	35.7	38.7	41.5	47.4	53.4	56.3	59.2	2.0	14.19.47.37		47.15	34.58	47.43	....	14.20.34.48	-1.59									
	15	Hebe.....	J	21.7	..	27.6	30.4	35.9	40.9	44.2	..	50.0	14.42.35.75		35.51			....	14.43.22.84										
	16	Parthenope.....	J	40.3	43.4	46.1	49.0	54.3	0.0	3.0	5.8	8.6	14.55.54.44		54.18			....	14.56.41.51										
	17	α Coronæ.....	J	17.5	20.7	24.0	26.9	33.2	39.5	42.6	45.6	48.9	15.28.33.15		32.96	20.35	47.39	....	15.29.20.29	-1.70									
May 8	18	f Boötis.....	L	32.9	..	38.8	41.7	47.6	53.4	56.4	..	2.2	14.19.47.51	(-0.03)	47.49	34.58	47.09	47.01†	....										
	19	ρ Boötis.....	L	20.0	23.3	26.5	29.6	36.1	42.6	45.8	49.1	52.3	14.25.36.07	[+0.02]	36.04	23.17	47.13	[0.16]	....										
	20	ζ Ophiuchi.....	AD	9.8	13.0	15.8	18.5	24.0	29.7	32.5	35.4	38.1	16.29.24.03		24.01	11.43	47.42	47.37	....										
	21	α Camelop. S.P..	AD	1.4	8.5	15.2	22.3	35.7	49.4	56.2	2.8	9.8	16.40.35.84		35.89			....	4.41.23.37	+3.03									
	22	53 Herculis.....	AD	7.0	10.3	13.6	16.8	23.2	29.7	33.3	36.2	39.5	16.47.23.22		23.19			....	16.48.10.67	-1.63									
	23	ϵ Herculis.....	AD	23.7	27.2	30.4	33.6	40.0	46.5	49.7	53.0	56.1	16.54.39.95		39.92	27.46	47.54	....	....										
	24	Polaris (E&E)	H	25.5	..	20.0	..	..	..	..	..	..	1.10.33.54	(-0.71)	31.03	18.26	47.23	[0.34]	....										
May 9	25	54 Leonis (1st Star)	H	42.1	45.3	48.2	51.2	57.3	..	..	..	..	10.47.57.33		57.26			....	10.48.44.96	-0.85									
	26	54 Leonis (2nd Star)	H	..	..	..	..	..	3.9	6.8	10.0	13.2	10.47.57.70		57.63			....	10.48.45.33	-0.85									
	27	δ Leonis.....	H	59.4	2.3	5.0	7.7	13.2	18.7	21.5	24.3	27.1	10.53.13.19		13.14	0.71	47.57	....	10.54.0.84	-0.68									
	28	δ Leonis.....	HC	50.0	4.8	..	..	..	..	..	..	..	11.6.34.49		34.43	22.00	47.57	47.39†	....										
	29	δ Crateris.....	HC	58.5	1.4	4.3	7.0	..	..	..	24.3	..	11.12.12.73		12.69	0.22	47.53	....	....										
	30	δ I L.....	H	0.6	3.6	6.4	9.3	14.6	20.6	23.5	26.5	29.4	13.13.14.88		14.83			47.55	13.15.5.31										
	31	ρ Boötis.....	H	..	47.6	50.7	53.8	0.0	6.5	9.8	12.9	..	13.50.0.12		0.05			....	13.50.47.80	-1.68									
	32	Mars 1 L.....	H	24.3	27.0	29.8	32.6	38.0	43.9	46.8	49.4	52.4	14.2.38.18		38.72			....	14.3.26.48										
	33	Mars 2 L.....	H	25.3	28.0	31.0	33.9	39.3	45.0	47.8	50.7	53.6	14.2.39.34					....	....										
	34	Arcturus.....	H	51.3	54.3	57.3	0.0	5.9	11.8	15.0	17.8	20.7	14.9.5.95		5.89	53.68	47.79	....	14.9.53.64	-1.55									
	35	λ Virginis.....	H	14.0	17.0	19.8	22.8	28.2	34.0	36.9	39.6	42.4	14.11.28.24		28.20			....	14.12.15.95	-1.39									
	36	f Boötis.....	H	32.2	35.3	38.2	41.1	46.8	52.7	55.6	58.6	1.7	14.19.46.85		46.79	34.59	47.80	....	14.20.34.54	-1.60									
	37	B. F. 1983.....	H	58.0	1.4	5.0	8.2	15.1	22.2	25.5	29.0	32.4	14.22.15.13		15.04			....	14.23.2.79	-1.93									
	38	ρ Boötis.....	H	19.4	22.8	26.0	29.2	35.5	42.0	45.3	48.4	51.6	14.25.35.51		35.43	23.17	47.74	....	14.26.23.18	-1.79									
	39	Hebe.....	H	41.2	44.3	47.0	49.8	..	0.9	3.6	..	8.9	14.39.55.20		55.15			....	14.40.42.91										
	40	Piazzi XIV. 226.	H	15.9	18.8	21.8	24.7	30.0	36.0	39.1	42.1	44.8	14.50.30.30		30.24			....	14.51.18.00	-1.59									
	41	ω Boötis.....	H	31.6	34.6	37.7	40.8	46.8	53.0	56.2	59.1	2.2	14.55.46.83		46.76			....	14.56.34.52	-1.71									
	42	ψ Boötis.....	H	58.7	1.8	5.0	8.0	14.3	20.4	23.7	26.7	30.0	14.58.14.23		14.16	1.97	47.81	....	14.59.1.92	-1.74									
	43	α Coronæ.....	H	..	..	23.3	26.3	32.6	38.9	42.2	45.3	48.4	15.28.32.66		32.59	20.38	47.79	....	15.29.20.36	-1.73									
	44	τ^6 Serpentis.....	H	8.3	11.4	14.2	17.1	22.6	28.6	31.6	34.4	37.3	15.34.22.78		22.72			....	15.35.10.49	-1.59									
	45	β Serpentis.....	H	19.5	22.0	25.0	27.7	33.4	39.3	42.4	45.0	48.0	15.39.33.53		33.47			....	15.40.21.24	-1.58									
	46	ϵ Serpentis.....	H	29.1	32.1	34.8	37.6	43.0	48.5	51.2	54.1	56.9	15.43.42.98		42.93	30.65	47.72	....	15.44.30.70	-1.50									
	47	κ Coronæ.....	H	24.2	27.6	30.8	34.3	40.8	47.9	51.4	54.8	58.3	15.45.41.06		40.97			....	15.46.28.74	-1.89									

Polaris and other stars very near the pole are observed by eye and ear over the wires P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P.; using the Clock Hardy. The Intervals of the Wires of both systems are given in the Introduction.

Reading of Transit-Micrometer, $32^{\circ}200$.

Corrections to the times by Hardy for reduction to Sidereal Standard, applied to form Concluded Transit, Nos. 9 and 24, $-28^{\circ}50'$: and $-29^{\circ}40'$.

Corrections for passage of Semidiameter, Nos. 2 and 30, $+62^{\circ}51'$: and $+62^{\circ}74'$.

† These clock-errors have been used in the reduction of the observations made with the Altazimuth.

May 8 to 11. The azimuthal error by tabular places of Polaris and δ Leonis on May 8 and 9, allowing $0^{\circ}.04$ for clock-rate.

2. Correction to R.A. on true meridian, $-0^{\circ}.01$.

24, 28, 29. Very cloudy.

9, 30. Cloudy.

32, 33. Faint. Correction for defect of illumination, $+0^{\circ}.01$.

TRANSITS OBSERVED WITH THE TRANSIT-CIRCLE, AND COMPUTATIONS OF APPARENT RIGHT ASCENSION,

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of Collimation, (Level). [Azimuth].	Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at Sidereal and [Losing Rate].	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873, Jan. 1.
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.								
				s	s	s	s	s	s	s	s	s								
May 11	1	o Virginis.....	C	43.2	46.0	48.8	51.5	57.0	2.8	5.6	8.3	11.2	11. 57. 57.09	-0.32	57.03	45.41	48.38	48.16†	....	
	2	e Corvi.....	C	33.6	36.6	39.5	42.5	48.3	54.3	57.2	0.3	3.3	12. 2. 48.34	(-0.71) [+0.02]	48.30	36.65	48.35	[0.42]	....	
May 12	3	⊙ 1 L.....	AD	15.1	17.8	20.8	23.4	29.4	35.2	38.2	41.2	44.2	3. 15. 29.41	-0.35	36.23			48.70	3. 17. 24.99	
	4	⊙ 2 L.....	AD	28.8	31.8	34.7	37.4	43.4	49.3	52.3	55.0	57.9	3. 17. 43.34	(-2.09)				[0.44]		
	5	β Leonis.....	L	33.3	36.0	39.0	42.0	47.4	53.4	56.2	59.1	1.8	11. 41. 47.52	(-0.29)				48.22†		
	6	β Virginis.....	L	3.5	6.5	9.2	11.8	17.3	22.8	25.8	28.5	31.3	11. 43. 17.35		47.37	35.80	48.43		....	
	7	Piazzi XII. 75...	AD	49.0	52.0	55.2	58.1	4.2	10.4	13.2	16.4	19.4	12. 18. 4.15		17.23	5.67	48.44		....	
	8	β Corvi.....	AD	40.5	43.5	46.4	49.6	55.4	1.2	4.4	7.4	10.3	12. 26. 55.35		3.97			48.70	12. 18. 52.90	- 1.30
	9	Polaris S.P. (E&E)	AD	12.0	8.5	4.0	1.5	52.5					13. 10. 24.77		55.26	44.09	48.83		12. 27. 44.19	- 1.01
	10	Spica.....	AD	28.6	31.4	34.3	37.1	42.5	48.4	51.1	54.0	56.9	13. 17. 42.64		29.71	20.45	50.74		1. 11. 18.65	+ 57.24
	11	B. F. 1905.....	AD	29.0	32.4	35.6	39.2	45.8	52.7	56.1	59.5	2.9	13. 44. 45.84		42.53	31.46	48.93		13. 18. 31.47	- 1.24
	12	τ Virginis.....	AD			15.3	18.2	23.6	29.0	31.8	34.8	37.5	13. 54. 23.56		45.63				13. 45. 34.58	- 1.82
	13	Mars 1 L.....	AD			32.0	34.8	37.5	43.2	48.7	51.5	54.4	13. 58. 43.10		23.44	12.43	48.99		13. 55. 12.39	- 1.40
	14	Mars 2 L.....	AD	30.3	33.3	36.1	38.8	44.4	50.1	53.0	55.7	58.5	13. 58. 44.41		43.66				13. 59. 32.63	
	15	14 Boötis.....	AD	57.3	0.2	3.0	5.7	11.4	17.2	20.0	22.8	25.5	14. 7. 11.40							
	16	λ Virginis.....	AD	12.8	15.7	18.5	21.3	27.0	32.7	35.4	38.2	41.2	14. 11. 26.92		11.26				14. 8. 0.22	- 1.51
	17	Bradley 332 S.P.	AD	10.0	17.0	24.1	31.2	45.4	59.0	6.0	13.2	20.7	14. 17. 45.32		26.82				14. 12. 15.78	- 1.40
	18	Bradley 348 S.P.	AD	21.3	30.2	39.3	48.2	6.7	24.8	33.4	42.7	52.0	14. 25. 6.69		45.51				2. 18. 34.47	+ 3.51
	19	θ Persei S.P.....	AD	20.3	24.4	28.5	32.6	41.4	49.6	53.7	57.7	2.0	14. 34. 41.22		6.98				2. 25. 55.94	+ 4.63
	20	ξ ² Libræ.....	AD	51.3	54.2	57.0	59.7	5.3	10.9	13.8			14. 49. 5.31		41.27				2. 35. 30.24	+ 1.97
	21	Piazzi XIV. 260.	AD	14.9	22.0	28.8	35.8	49.3	3.2	10.2	17.1	23.9	14. 55. 49.32		5.20	54.21	49.01		14. 49. 54.17	- 1.48
	22	1 st Libræ.....	AD	57.0	0.0	3.1	6.0	11.8	17.6	20.4	23.5	26.4	15. 4. 11.70		48.93				14. 55. 37.90	- 3.90
	23	Groombridge 2214	AD	50.2	57.3	4.9	12.2	26.2	41.3	48.5	56.2	3.4	15. 12. 26.54		11.61	0.60	48.99		15. 5. 0.59	- 1.52
	24	2 nd Libræ.....	AD	4.0	7.1	10.0	12.8	18.4	24.2	27.1	30.0	32.9	15. 20. 18.44		26.14	7.34	49.00		15. 13. 15.12	- 4.10
	25	θ Ursæ Minoris..	AD	26.6	39.6	52.7	6.0	31.5	57.8	10.7	24.2	37.3	15. 34. 31.57		18.34				15. 21. 7.32	- 1.53
	26	⊙ 2 L.....	AD	35.8	39.0	42.0	45.0	51.0	57.2	0.3	3.2	6.3	15. 46. 51.03		30.90				15. 35. 19.88	- 7.08
	27	γ Serpentis.....	AD	33.6	36.5	39.3	42.2	47.8	53.8	56.7	59.6	2.5	15. 49. 47.94		50.94				15. 46. 30.60	
	28	β ¹ Scorpil.....	AD	1.4	4.3	7.4	10.1	16.0	21.8	25.0	27.8	30.8	15. 57. 16.00		47.79	36.87	49.08		15. 50. 36.78	- 1.61
	29	κ Herculis.....	AD	19.0	22.0	24.8	27.7	33.3	39.4	42.1	45.0	47.8	16. 1. 33.40		15.91	4.81	48.90		15. 58. 4.90	- 1.55
	30	σ Scorpil.....	AD		28.7	31.9	34.9	40.8	46.9	50.0	53.2		16. 12. 40.85		33.25				16. 2. 22.24	- 1.61
	31	Polaris....(E&E)	C	28.0	25.0	21.0	13.0	2.5					1. 10. 35.66		40.76				16. 13. 29.76	- 1.61
	32	Mercury 2 L.....	C	54.8	9.0				5.0	19.0			1. 48. 36.94		30.52	20.79	50.27	49.07 [0.39]	1. 11. 19.61	+ 56.90
May 13	33	⊙ 1 L.....	C	10.0	12.9	16.0	18.7	24.6	30.5	33.4	36.2	39.2	3. 19. 24.55	(-0.93)	31.53				3. 21. 20.65	
	34	⊙ 2 L.....	C	24.2	27.2	29.8	32.8	38.8	44.5	47.6	50.4	53.4	3. 21. 38.68							
	35	γ Ursæ Majoris..	C	57.6	2.4	7.2	11.9	21.4	31.0	35.7	40.3	45.1	11. 46. 21.31							
	36	π Virginis.....	C	19.8	22.6	25.4	28.2	33.6	39.3	42.1	45.0	47.7	11. 53. 33.69		21.16				11. 47. 10.42	- 1.89
	37	10 Cassiopeiæ S.P.	C	28.9	35.0	41.1	47.4	59.8	12.0	18.4	24.4	30.8	11. 58. 59.87		33.61	22.86	49.25		11. 54. 22.87	- 0.98
	38	Bradley 1650.....	C			48.8	0.3	22.5	45.6	57.0			12. 12. 22.64		59.94				23. 59. 49.20	+ 2.17
	39	12 Cassiopeiæ S.P.	C	27.8	33.6	39.3	44.9	56.4					12. 16. 56.52		22.33				12. 13. 11.60	- 4.91
	40	κ Cassiopeiæ S.P.	C			38.3	44.4	56.3	8.0	14.0			12. 24. 56.30		56.58				0. 17. 45.85	+ 2.12
	41	κ Draconis.....	C		45.2	52.9	1.3	17.8	34.8	43.0	51.2		12. 27. 17.86		56.36				0. 25. 45.63	+ 2.29
	42	α Cassiopeiæ S.P.	C	2.8	7.6	12.6	17.7	27.4	37.2	42.2	47.0	52.1	12. 32. 27.50		17.63				12. 28. 6.90	- 3.78
	43	Groomb. 1923 (E&E)	C					17.0	14.5	41.5	9.5	38.0	12. 36. 49.81		27.54				0. 33. 16.81	+ 1.88
	44	31 Comæ.....	C	27.4	30.4	33.6	36.8	43.0	49.3	52.3	55.5	58.7	12. 44. 42.94		49.15				12. 37. 38.42	- 12.95
	45	Polaris S.P. (E&E)	C			6.0	1.0	57.0	46.0	41.0			13. 10. 28.90		42.83	32.15	49.32		12. 45. 32.11	- 1.46
	46	Spica.....	E	27.8	30.7	33.6	36.3	41.8	47.5	50.4	53.3	56.1	13. 17. 41.89		31.35	21.13	49.78		1. 11. 20.63	+ 56.56
	47	ζ Virginis.....	E	11.5	14.3	16.9	19.7	25.3	30.8	33.5	36.3	39.0	13. 27. 25.20		41.82	31.46	49.64	49.37†	....	
															25.12	14.66	49.54		....	

The observations of transits are usually made by the galvanic or chronographic method, the wires employed being generally P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P. Occasionally the observations are made by eye and ear (E & E); the wires then employed are N, O, P, T, X, Y, Z; in reversed order for stars S.P.

Reading of Transit-Micrometer, 32" 200.

Corrections to the times by Hardy for reduction to Sidereal Standard, applied to form Concluded Transit, Nos. 9, 31, 43, and 45, -28" 50: -27" 70: -27" 30. and -27" 30.

Corrections for passage of Semidiameter, Nos. 26 and 32, -69" 33: and -0" 23.

† These clock-errors have been used in the reduction of the observations made with the Altazimuth.

May 12^d. 23^h. The eastern pivot of the Transit-Circle not being properly lowered into the Y, after having been raised for periodical cleaning, the winch-handle was turned half a revolution further, to lower it completely.

May 12 and 13. The azimuthal error from three consecutive transits of Polaris S.P. and Polaris.

3, 4, 18, 33, 34. Very tremulous.

22, 24, 25, 30. Faint and tremulous.

13, 14. Tremulous. Correction for defect of illumination, +0" 01.

26. Exceedingly tremulous.

32. Very tremulous; cloudy.

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of Collimation. (Level). [Azimuth].	Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at ob- sideral and (Loss Rate).	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873, Jan. 1.												
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.																				
				s	s	s	s	s	s	s	s	s																				
																			h	m	s			s	s	s			h	m	s	s
May 13	1	86 Virginis	C	8.5	11.4	14.0	16.8	22.4	28.2	31.1	33.8	36.8	13. 38. 22.50	-0.35	22.43				49.07	13. 39. 11.72	- 1.31											
	2	Mars 1 L.	C	14.6	17.5	20.3	23.1	28.6	34.2	37.3	40.0	42.8	13. 57. 28.65	(-0.93)	} 29.26			[0.39]	13. 58. 18.57													
	3	Mars 2 L.	C	16.0	18.8	21.6	24.4	30.0	35.6	38.6	41.4	44.1	13. 57. 30.00	(-0.29)																		
	4	55 Cassiopeiæ S.P.	C	6.2	12.8	19.6	26.4	40.0	53.2	0.2	7.1	13.9	14. 3. 40.08		40.17				2. 4. 29.47	+ 3.31												
	5	λ Virginis	C	12.5	15.4	18.2	21.1	26.6	32.5	35.2	38.0	41.0	14. 11. 26.66		26.59				14. 12. 15.89	- 1.41												
	6	β ¹ Scorpii	C	0.8	3.8	6.9	9.7	15.6	21.4	24.4	27.4	30.3	15. 57. 15.53		15.47	4.83	49.36		15. 58. 4.80	- 1.57												
	7	σ Scorpii	C	25.4	28.5	31.6	34.4	40.8	46.7	49.8	52.8	55.8	16. 12. 40.59		40.52				16. 13. 29.85	- 1.62												
	8	Antares	C	..	..	..	43.6	49.7	56.0	59.0	2.0	5.3	16. 20. 49.72		49.65	38.99	49.34		16. 21. 38.99	- 1.63												
	9	δ 2 L.	C	54.8	58.0	1.2	4.2	10.5	16.8	19.9	23.1	26.1	16. 45. 10.46		10.39				16. 44. 47.68													
	10	A Ophiuchi (1st Star)	C	29.3	32.3	35.3	38.5	44.4	50.8	54.0	57.0	0.2	17. 6. 44.58		44.52				17. 7. 33.87	- 1.58												
	11	θ Ophiuchi	C	9.7	12.8	15.8	19.0	25.1	31.2	34.2	37.3	40.3	17. 13. 24.98		24.91	14.21	49.30		17. 14. 14.26	- 1.56												
May 15	12	⊙ 1 L.	E	1.5	4.6	7.6	10.6	16.3	22.0	24.8	28.2	31.0	3. 27. 16.23	(-0.24)	} 23.30			50.01	3. 29. 13.34													
	13	⊙ 2 L.	E	..	19.0	21.8	24.7	30.7	36.6	39.5	42.4	..	3. 29. 30.61	(-2.46)				[0.19]														
	14	β Tauri	E	..	12.5	15.6	..	25.0	31.5	..	..	..	5. 17. 25.02		24.90	14.73	49.83		5. 18. 14.95	+ 1.15												
	15	γ Comæ	E	32.0	35.2	38.3	41.4	47.6	53.8	57.1	0.2	3.6	12. 19. 47.63		47.51				12. 20. 37.62	- 1.34												
	16	δ Corvi	E	14.4	17.3	20.0	23.0	28.6	34.4	37.4	40.2	43.2	12. 22. 28.66		28.47	18.75	50.28		12. 23. 18.58	- 0.98												
	17	κ Draconis	E	..	..	..	..	16.4	33.0	41.4	49.9	58.3	12. 27. 16.48		16.52				12. 28. 6.63	- 3.70												
	18	α Cassiopeiæ S.P.	E	2.2	6.8	11.7	16.7	26.8	36.7	41.5	46.3	51.3	12. 32. 26.76		26.53				0. 33. 16.64	+ 1.80												
	19	35 Virginis	E	20.8	23.5	26.4	29.2	34.6	40.2	43.1	45.7	48.6	12. 40. 34.62		34.47	24.58	50.11		12. 41. 24.58	- 1.16												
	20	γ Cassiopeiæ S.P.	E	..	..	54.3	59.8	11.3	22.2	27.7	..	..	12. 48. 11.16		10.91				0. 49. 1.02	+ 2.19												
	21	9 Draconis	E	..	..	58.8	6.0	20.0	34.5	41.9	..	..	12. 54. 20.12		20.14				12. 55. 10.25	- 3.46												
	22	Polaris S.P. (E&E)	E	..	..	..	..	59.0	..	42.5	37.0	34.5	13. 10. 33.98		31.07	22.45	51.38		1. 11. 21.18	+ 55.24												
	23	B. F. 1857.	E	..	..	..	56.3	2.3	8.5	11.6	14.7	17.7	13. 24. 2.37		2.24				13. 24. 52.36	- 1.54												
	24	94 Virginis	E	..	..	..	40.2	45.6	51.3	54.0	57.1	59.7	13. 58. 45.68		45.51	35.70	50.19		13. 59. 35.63	- 1.38												
	25	ε ² Bootis	E	22.6	25.8	28.9	31.9	38.0	44.6	47.5	50.7	53.8	14. 38. 38.25		38.13	28.18	50.05		14. 39. 28.26	- 1.75												
	26	α Libræ	E	48.5	51.4	54.3	57.0	2.8	8.6	11.4	14.3	17.4	14. 43. 2.80		2.61	52.79	50.18		14. 43. 52.74	- 1.48												
	27	α Ophiuchi	C	0.0	2.8	5.6	8.4	14.0	19.8	22.5	25.5	28.3	17. 28. 14.04		13.90	3.79	49.89	49.79†	....													
	28	μ Herculis	C	25.4	28.5	31.8	34.8	41.0	47.4	50.4	53.5	56.6	17. 40. 40.99		40.87	30.83	49.96	[0.19]	....													
	29	λ Sagittarii	AD	4.2	7.4	10.6	13.6	19.7	25.7	28.8	31.8	35.0	18. 19. 19.58		19.37	9.40	50.03	49.89	....													
	30	α Lyræ	AD	32.1	35.8	39.4	42.6	49.6	57.0	0.4	4.0	7.5	18. 31. 49.75		49.65	59.69	50.04	[0.19]	....													
	31	φ Sagittarii	AD	39.4	42.6	45.6	48.7	..	1.2	4.3	7.3	10.3	18. 36. 54.87		54.66				18. 37. 44.70	- 1.42												
	32	Polaris (E&E)	J	..	..	..	..	55.0	48.0	44.0	40.0	..	1. 10. 30.50		33.12	22.74	49.62	49.98	1. 11. 23.10	+ 54.95												
	33	Venus 2 L.	J	7.5	10.4	13.3	16.3	..	..	..	..	..	2. 24. 21.88		21.75			[0.08]	2. 25. 9.76													
May 16	34	⊙ 1 L.	J	59.0	2.0	4.8	7.8	13.7	19.5	22.4	25.5	28.4	3. 31. 13.62		} 20.72				3. 33. 10.71													
	35	⊙ 2 L.	J	13.4	16.5	19.4	22.3	28.0	34.0	36.9	39.7	42.8	3. 33. 28.05																			
	36	Rigel	J	21.4	24.1	26.7	29.7	35.2	40.7	43.6	46.4	49.5	5. 7. 35.20		35.03	25.04	50.01		5. 8. 25.03	+ 1.03												
	37	β Tauri	J	..	12.3	15.3	18.7	25.0	31.2	34.4	37.6	..	5. 17. 24.87		24.75	14.74	49.99		5. 18. 14.75	+ 1.14												
	38	γ Leonis	J	23.8	26.7	29.5	32.4	37.7	43.2	45.9	48.9	51.7	11. 29. 37.69		37.53	27.53	50.00		11. 30. 27.55	- 0.78												
	39	92 Leonis	J	7.1	10.0	12.8	15.8	21.6	27.8	30.7	33.7	36.8	11. 33. 21.75		21.61				11. 34. 11.63	- 0.89												
	40	β Virginis	J	2.0	5.0	7.5	10.3	15.8	21.5	24.2	26.9	29.7	11. 43. 15.82		15.67	5.64	49.97		11. 44. 5.69	- 0.89												
	41	Groombridge 1845	J	19.3	39.1	57.6	16.2	53.7	31.8	51.0	9.4	29.1	11. 52. 53.76		54.06				11. 53. 44.08	- 7.17												
	42	Groomb. 1923 (E&E)	J	..	..	..	..	7.8	35.9	3.7	32.2	12. 36. 46.56		47.08				12. 37. 37.10	- 12.48													
	43	δ Virginis	J	9.7	12.6	15.4	18.3	23.6	29.2	32.0	34.8	37.4	12. 48. 23.61		23.46	13.57	50.11		12. 49. 13.48	- 1.17												
	44	Polaris S.P. (E&E)	J	..	16.0	10.0	..	2.0	50.0	48.0	..	..	13. 10. 36.97		34.06	23.01	48.95		1. 11. 24.08	+ 54.68												
	45	Piazzi XIII. 126	J	52.7	55.7	58.5	1.4	7.0	12.6	15.5	18.4	21.2	13. 27. 6.94		6.76				13. 27. 56.78	- 1.27												
	46	86 Virginis	J	7.8	10.7	13.5	16.3	21.9	27.5	30.4	33.2	36.0	13. 38. 21.86		21.68				13. 39. 11.71	- 1.31												

Polaris and other stars very near the pole are observed by eye and ear over the wires P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P.; using the Clock Hardy. The Intervals of the Wires of both systems are given in the Introduction.

Reading of Transit-Micrometer, 32".200.

Corrections to the times by Hardy for reduction to Sidereal Standard, applied to form Concluded Transit, Nos. 22, 32, 42, and 44, - 24".60.

Corrections for passage of Semidiameter, Nos. 9 and 33, - 72".05; and - 1".98.

† This clock-error has been used in the reduction of the observations with the Altazimuth.

May 15 and 16. The azimuthal error from four consecutive transits of Polaris S.P. and Polaris.

2, 3. Correction for defect of illumination, + 0".01.

14. Exceedingly faint.

4. The time at wire IX. is also used as the second wire of an Altazimuth Transit, 2 L., Face Left.

31, 34, 35, 44. Very tremulous.

32, 33. Very tremulous; cloudy.

TRANSITS OBSERVED WITH THE TRANSIT-CIRCLE, AND COMPUTATIONS OF APPARENT RIGHT ASCENSION,

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.										Concluded Transit over the Center Wire.	Error of		Seconds of Transit Cor- rected.	Tabular R. A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at ^h Sidereal and [Losing Rate].	Apparent R. A. of Center from the Observation.	Correction for Reduction to Mean R. A. 1873, Jan. 1.									
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	Collimation. (Level).		Azimuth].																
																s							s	s	s	s	s	s	s	s	s
May 16	1	Mars 1 L.	J	45.5	48.3	51.2	54.0	59.6	5.3	8.0	10.9	13.8	13.53.59.56	-0.35	} 0.00			49.98 [0.08]	13.54.50.04												
	2	Mars 2 L.	J	46.8	49.6	52.5	55.2	0.9	6.5	9.2	12.1	14.9	13.54. 0.80	(-0.24)																	
	3	94 Virginis	J	..	..	..	..	..	..	54.3	57.2	59.9	13.58.45.90	-2.46																	
	4	α^1 Herculis	J	48.6	51.7	54.5	57.6	3.0	8.8	11.6	14.5	17.3	17. 8. 3.01																		
	5	72 Ophiuchi	J	17.1	20.0	22.9	25.7	31.1	36.9	39.6	42.4	45.3	18. 0.31.17																		
	6	μ Sagittarii	P	..	9.9	13.0	15.8	21.6	27.6	30.6	33.6	..	18. 5.21.67																		
	7	η Serpentis	P	41.9	44.8	47.4	50.2	55.6	1.2	3.9	6.8	9.5	18.13.55.64																		
	8	β^2 Sagittarii	C	54.8	57.8	0.9	4.0	10.0	16.2	19.4	22.5	25.4	19.23.10.06																		
	9	α Aquilæ	C	32.3	35.1	37.8	40.7	46.2	52.0	54.7	57.4	0.2	19.43.46.20																		
	10	δ 2 L.	C	..	..	..	..	52.0	58.3	1.6	4.8	8.0	19.56.51.96																		
	11	Polaris (E&E)	G	..	16.5	13.0	7.5	56.0	48.0	46.0	41.0	..	1.10.31.29																		
	12	Venus 2 L.	G	52.0	54.8	57.7	0.6	6.0	12.1	15.2	17.8	20.9	2.23. 6.28																		
May 19	13	α Virginis	E	..	..	46.8	49.5	..	0.5	3.4	6.2	9.0	11.57.54.96	(+0.81)	} 54.91	45.35	50.44	50.30 [0.20]													
	14	β Cassiopeiæ S.P.	E	6.2	11.4	16.8	22.0	..	4.3	48.4	53.7	59.3	12. 1.32.75	-1.65																	
	15	δ Ursæ Majoris ..	E	..	..	4.0	9.3	..	29.8	35.3	..	..	12. 8.19.49																		
	16	Bradley 1650	E	..	35.6	47.0	58.4	..	4.3	6.4	6.2	..	12.12.20.63																		
	17	Groombridge 1892	E	..	..	51.3	18.8	..	6.4	34.1	..	..	12.19.12.04																		
	18	13 Cassiopeiæ S.P.	E	..	..	..	..	..	..	42.3	49.0	..	12.23.15.44																		
	19	6 Draconis	E	52.0	0.5	8.9	17.1	..	50.4	59.0	7.5	15.9	12.28.33.72																		
	20	α Cassiopeiæ S.P.	E	1.7	6.7	11.7	16.7	..	36.5	41.4	46.2	51.5	12.32.26.66																		
	21	35 Virginis	E	..	..	26.1	28.7	..	40.1	42.6	..	48.3	12.40.34.32																		
	22	2 Ursæ Min. S.P.	E	..	..	54.2	30.4	..	53.0	29.0	..	..	12.50.42.48																		
	23	9 Draconis	E	..	..	..	..	..	34.0	41.3	48.5	55.6	12.54.19.63																		
	24	39 Comæ	E	6.0	9.0	12.0	15.0	..	26.8	29.7	32.7	35.8	12.59.20.81																		
	25	Polaris S.P. (E&E)	E	..	..	..	..	..	51.0	46.0	40.5	39.0	13.10.38.21																		
	26	Groomb. 329 S.P.	E	..	..	..	..	..	25.2	31.2	37.4	43.7	13.23.13.27																		
	27	Piazzi XIII. 126.	E	..	..	..	..	..	15.0	17.7	20.6	13.27. 6.38																			
	28	Mars 1 L.	E	38.6	41.7	44.5	47.2	..	58.4	1.2	4.0	7.0	13.50.52.77																		
	29	Mars 2 L.	E	40.0	43.0	45.7	48.6	..	59.6	2.6	5.4	8.3	13.50.54.09																		
	30	f Boötis	E	..	32.4	35.4	..	..	..	..	..	59.0	14.19.44.14																		
	31	α^2 Capricorni	C	57.1	0.0	2.9	5.7	..	17.0	19.7	22.6	25.6	20.10.11.27																		
	32	β Capricorni	C	48.8	51.8	54.7	57.5	..	9.2	11.8	14.7	17.5	20.13. 3.19																		
	33	δ 2 L.	AD	28.5	31.4	34.5	37.3	..	49.2	51.8	54.7	57.8	22.55.43.07																		
	34	α Pegasi	AD	21.3	24.2	27.1	30.0	..	41.3	44.2	47.1	50.0	22.57.35.59																		
	35	Polaris (E&E)	P	18.5	15.0	9.5	6.0	..	..	..	..	..	1.10.29.96																		
	36	Polaris (E&E)	G	..	..	..	..	..	..	44.5	42.0	37.5	1.10.32.47																		
	37	Venus 2 L.	AD	57.8	0.8	4.0	6.6	..	18.2	21.0	23.8	26.9	2.20.12.33																		
	38	Mercury (center)	AD	14.2	17.0	19.8	22.5	..	34.0	36.9	39.7	42.6	2.28.28.28																		
May 20	39	$\odot$ 1 L.	AD	52.7	56.0	58.9	1.7	..	13.5	16.6	19.5	22.4	3.47. 7.59		} 15.15				3.49. 5.62												
	40	$\odot$ 2 L.	AD	8.1	11.1	14.1	16.9	..	28.7	31.6	..	37.6	3.49.22.78																		
May 22	41	$\odot$ 1 L.	J	53.3	56.3	59.2	2.0	8.0	13.8	16.9	19.7	22.8	3.55. 7.99	-1.05	} 15.47			51.09 [0.25]	3.57. 6.60												
	42	$\odot$ 2 L.	J	8.3	11.6	..	..	..	..	..	..	..	3.57.23.26	(-0.50)																	
	43	η Virginis	J	52.9	6.7	..	34.5	..	2.2	16.0	..	..	12.12.34.48	(-1.44)																	
	44	η Virginis	J	20.6	23.6	26.2	29.0	34.5	40.0	42.8	45.6	48.4	12.12.34.51	(-1.63)																	
	45	10 Canum Venat.	J	15.0	33.4	..	9.4	..	45.4	3.4	..	..	12.38. 9.34																		
	46	10 Canum Venat.	J	51.3	54.8	58.4	2.0	9.4	16.5	20.3	23.6	27.5	12.38. 9.29																		

The observations of transits are usually made by the galvanic or chronographic method, the wires employed being generally P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P. Occasionally the observations are made by eye and ear (E & E); the wires then employed are N, O, P, T, X, Y, Z; in reversed order for stars S.P.

Reading of Transit-Micrometer, 32".200.

Corrections to the times by Hardy for reduction to Sidereal Standard, applied to form Concluded Transit, Nos. 11, 25, 35, and 36, -24".70: -24".20: -24".00: and -24".00.

Corrections for passage of Semidiameter, Nos. 10, 12, 33, and 37, -74".54: -1".96: -68".82: and -1".88.

† These clock-errors have been used in the reduction of the observations made with the Altazimuth.

May 17^h. 0^h. Wire T of the Transit-Circle was found to be broken.

May 19 and 20. The azimuthal error from Polaris S.P. and Polaris, allowing -0".13 for clock-rate and change of R.A.

May 20^h. 0^h. A new set of wires was inserted in the Transit-Circle.

May 22. The azimuthal error by tabular places of Polaris S.P. and Spica.

1, 2. Correction for defect of illumination, +0".01.

28, 29. Correction for defect of illumination, +0".02.

37. Very tremulous.

8, 41, 42. Cloudy.

35, 36. Observed with low power eye-piece.

38. Faint.

10. Very cloudy. Correction to R.A. on true meridian, -0".01.

43, 45. Observed over wires N, O, T, Y, Z, for determination of intervals.

1750 DAMM...35A...1A

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of Collimation. (Level). [Azimuth].		Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at 0 ^h Sidereal and (Losing Rate).	Apparent R.A. of Center from the Observation.			Correction for Reduction to Mean R.A. 1873, Jan. 1.					
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.																
				s	s	s	s	s	s	s	s	s		h	m					s	s	s		s	h	m	s	s
May 22	1	31 Comæ	J	53.8	9.6	..	41.2	..	12.4	28.2	..	..	12. 44. 41.06	-1.05	..	..	..	51.09	..	..	..	..						
	2	31 Comæ	J	25.4	28.5	31.5	34.8	41.2	47.4	50.4	53.5	56.7	12. 44. 41.03	(-1.63)	40.79	32.08	51.29	[0.25]	12. 45. 32.01	-1.39	..	..						
	3	Groomb. 192 S.P.	J	..	..	16.4	23.1	36.4	49.9	56.7	..	..	12. 49. 36.53	-1.44	36.61	..	..	..	0. 50. 27.83	+2.41	..	..						
	4	Polaris S.P. (E&E)	J	..	15.0	2.0	3.0	54.0	43.0	..	..	..	13. 10. 31.44	..	35.28	26.49	51.21	..	..	..	..	..						
	5	Spica	J	58.2	12.3	..	40.4	..	8.6	22.5	..	..	13. 17. 40.42	..	..	..	..	..	..	..	..	..						
	6	Spica	J	26.4	29.3	31.8	34.8	40.4	46.2	48.9	51.7	54.5	13. 17. 40.44	..	40.23	31.44	51.21	..	13. 18. 31.46	-1.22	..	..						
	7	Piazzi XIII. 126.	J	23.3	37.4	..	5.5	..	34.1	48.2	..	..	13. 27. 5.72	..	..	..	..	..	..	..	..	..						
	8	Piazzi XIII. 126.	J	51.4	54.5	57.4	0.0	5.5	11.4	14.3	17.1	20.0	13. 27. 5.72	..	5.51	..	..	..	13. 27. 56.74	-1.26	..	..						
	9	86 Virginis	J	38.3	52.4	..	20.7	..	48.9	3.0	..	..	13. 39. 20.68	..	..	..	..	..	..	..	..	..						
	10	86 Virginis	J	6.4	9.5	12.2	15.0	20.7	26.2	29.2	31.8	34.8	13. 38. 20.64	..	20.43	..	..	..	13. 39. 11.66	-1.30	..	..						
	11	Mars 1 L.	J	56.3	59.2	2.0	4.8	10.3	16.0	18.8	21.6	24.5	13. 48. 10.38	..	10.17	..	..	..	13. 49. 2.06	..	..	..						
	12	τ Virginis	J	7.5	10.4	13.0	15.9	21.5	27.0	29.7	32.5	35.3	13. 54. 21.42	..	21.21	12.44	51.23	..	13. 55. 12.44	-1.41	..	..						
	13	λ Ophiuchi	J	59.5	13.3	..	41.0	..	8.7	22.6	..	..	16. 23. 41.04	..	..	..	..	..	..	..	..	..						
	14	λ Ophiuchi	J	27.2	30.2	32.7	35.6	41.0	46.6	49.4	52.1	55.0	16. 23. 41.08	..	40.87	32.17	51.30	..	16. 24. 32.13	-1.64	..	..						
	15	Groombridge 2432	J	18.6	47.1	..	43.8	..	40.8	9.1	..	..	17. 15. 43.91	..	..	..	..	..	..	..	..	..						
	16	Groombridge 2432	J	15.5	21.5	27.0	32.7	43.8	55.6	1.1	6.7	12.7	17. 13. 44.04	..	43.71	..	..	..	17. 14. 34.98	-2.85	..	..						
	17	Groombridge 2433	J	43.8	12.2	..	9.0	..	5.6	34.0	..	..	17. 14. 8.95	..	..	..	..	..	..	..	..	..						
	18	Groombridge 2433	J	40.5	46.1	51.6	57.7	9.0	20.2	25.8	31.6	37.3	17. 14. 8.87	..	8.54	..	..	..	17. 14. 59.81	-2.84	..	..						
	19	λ Herculis	J	0.4	16.1	..	47.0	..	17.8	33.2	..	..	17. 24. 46.92	..	..	..	..	..	..	..	..	..						
	20	λ Herculis	J	31.5	34.7	37.5	40.9	47.0	53.2	56.2	59.3	2.4	17. 24. 46.94	..	46.70	..	..	..	17. 25. 37.97	-1.69	..	..						
	21	μ Herculis	J	52.9	8.8	..	39.9	..	11.2	26.8	..	..	17. 40. 39.94	..	..	..	..	..	..	..	..	..						
	22	μ Herculis	J	24.3	27.6	30.6	33.8	39.9	46.2	49.2	52.3	55.6	17. 40. 39.92	..	39.69	30.97	51.28	..	17. 41. 30.96	-1.64	..	..						
May 23	23	⊙ 2 L.	AD	..	..	..	..	24.5	30.3	33.3	36.2	39.2	4. 1. 24.37	-1.27	24.14	..	..	51.37	4. 1. 7.76	..	..	..						
	24	g Draconis	AD	31.4	7.3	..	18.8	..	30.5	6.2	..	..	12. 54. 18.88	..	..	..	..	[0.26]	..	..	..	..						
	25	g Draconis	AD	43.0	50.3	57.2	4.5	18.8	33.4	40.4	47.5	54.6	12. 54. 18.81	..	18.41	..	..	..	12. 55. 9.92	-3.21	..	..						
	26	Polaris S.P. (E&E)	AD	..	10.5	5.0	0.0	52.0	39.5	..	..	..	13. 10. 30.22	..	34.42	27.23	52.81	..	1. 11. 25.93	+50.46	..	..						
	27	Spica	AD	57.7	12.0	..	40.1	..	8.2	22.3	..	..	13. 17. 40.08	..	..	..	..	..	..	..	..	..						
	28	Spica	AD	25.8	28.9	31.7	34.6	40.1	45.6	48.5	51.4	54.2	13. 17. 40.08	..	39.88	31.43	51.55	..	..	..	..	..						
	29	Piazzi XIII. 126.	AD	23.0	37.0	..	5.4	..	33.6	47.8	..	..	13. 27. 5.38	..	..	..	..	..	..	..	..	..						
	30	Piazzi XIII. 126.	AD	51.2	54.3	57.0	59.6	5.4	11.1	14.0	16.8	19.5	13. 27. 5.42	..	5.22	..	..	..	13. 27. 56.74	-1.25	..	..						
	31	86 Virginis	AD	37.8	52.0	..	20.4	..	48.7	2.6	..	..	13. 38. 20.32	..	..	..	..	..	..	..	..	..						
	32	86 Virginis	AD	6.2	9.2	12.0	14.8	20.4	26.0	29.0	31.7	34.6	13. 38. 20.43	..	20.23	..	..	..	13. 39. 11.75	-1.30	..	..						
	33	Mars 1 L.	AD	8.0	10.8	13.6	16.4	22.2	27.7	30.6	33.3	36.2	13. 47. 22.08	..	22.51	..	..	..	13. 48. 14.05	..	..	..						
	34	Mars 2 L.	AD	9.1	12.0	14.9	17.8	23.5	29.0	31.7	34.6	37.5	13. 47. 23.34	..														
	35	τ Virginis	AD	39.5	53.5	..	21.2	..	49.0	2.6	..	..	13. 54. 21.18	..														
	36	τ Virginis	AD	7.4	10.2	13.0	15.6	21.2	26.7	29.7	32.3	35.0	13. 54. 21.23	..	21.03	12.44	51.41	..	..	..	..	..						
	37	α Draconis	AD	31.3	4.0	..	9.4	..	14.6	47.3	..	..	14. 0. 9.36	..	..	..	..	..	..	..	..	..						
	38	α Draconis	AD	36.5	43.5	49.7	56.5	9.4	22.5	29.1	35.6	42.1	14. 0. 9.40	..	9.03	..	..	..	14. 1. 0.55	-3.41	..	..						
	39	Bradley 332 S.P.	AD	..	..	..	..	..	..	4.3	11.0	18.4	14. 17. 43.11	..	43.23	..	..	..	2. 18. 34.75	+3.11	..	..						
	40	ρ Boötis	AD	43.3	59.6	..	31.8	..	4.1	20.2	..	..	14. 25. 31.82	..	..	..	..	..	..	..	..	..						
	41	ρ Boötis	AD	15.6	19.1	22.1	25.4	31.8	38.4	41.5	44.6	48.0	14. 25. 31.82	..	31.59	23.18	51.59	..	..	..	..	..						
	42	11 Ursæ Minoris.	AD	40.9	50.6	59.1	8.6	26.6	44.9	34.0	3.0	12.0	15. 16. 26.58	..	26.11	..	..	..	15. 17. 17.65	-4.96	..	..						
	43	α Coronæ	AD	42.4	58.0	..	29.1	..	0.2	15.8	..	..	15. 28. 29.12	..	..	..	..	..	..	..	..	..						
	44	α Coronæ	AD	13.5	17.0	20.0	23.0	29.1	35.4	38.6	41.7	44.8	15. 28. 29.21	..	28.98	20.49	51.51	..	..	..	..	..						
	45	δ Persei S.P.	AD	58.7	19.2	..	0.0	..	41.0	..	..	..	15. 33. 0.02	..	..	..	..	..	..	..	..	..						
	46	δ Persei S.P.	AD	39.6	43.6	47.9	51.8	0.0	8.2	12.4	16.4	20.5	15. 33. 0.07	..	0.07	..	..	..	3. 33. 51.61	+1.74	..	..						
	47	κ Serpentis	AD	28.0	42.6	..	11.8	..	41.1	55.6	..	..	15. 42. 11.84	..	..	..	..	..	..	..	..	..						
	48	κ Serpentis	AD	57.2	0.2	3.1	6.1	11.8	17.6	20.6	23.5	26.5	15. 42. 11.84	..	11.62	..	..	..	15. 43. 3.16	-1.73	..	..						

Polaris and other stars very near the pole are observed by eye and ear over the wires P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P.; using the Clock Hardy. The Intervals of the Wires of both systems are given in the Introduction.

Reading of Transit-Micrometer, 32".200.

Corrections to the times by Hardy for reduction to Sidereal Standard, applied to form Concluded Transit, Nos. 4 and 26, -22".60: and -21".80.

Corrections for passage of Semidiameter, Nos. 11 and 23, +0".66: and -67".79.

May 23 to 26. The azimuthal error from Polaris S.P. and Polaris on May 23, allowing -0".28 for clock-rate and change of R.A.

1, 5, 7, 9, 13, 15, 17, 19, 21, 24, 27, 29, 31, 35, 37, 40, 43, 45, 47. Observed over wires N, O, T, Y, Z, for determination of intervals.

27, 28, 33, 34. Tremulous.

33, 34. Correction for defect of illumination, +0".02.

39. Cloudy.

23. Tremulous; cloudy.

45, 46. Very tremulous.

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of		Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at Sidereal and [Losing Rate].	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873, Jan. 1.
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.		Collimation. (Level).	[Azimuth].						
May 23	1	Groomb. 766 S.P.	AD	53.4	18.4	41.4	6.4	54.8	43.0	8.9	33.0	57.6	15. 57. 54.22	-1.05	55.00			51.37	3. 58. 46.54	+11.96	
	2	Piazzi III. 260 S.P.	AD	19.5	25.4	31.3	37.0	48.5	0.1	6.1	11.7	18.0	16. 4. 48.65	(-1.63)	48.73			[0.26]	4. 5. 40.27	+2.59	
	3	Polaris (E&E)	J	..	22.0	12.0	11.0	..	52.0	49.0	..	..	1. 10. 39.09	[-1.27]	34.67	27.63	52.96	51.58	1. 11. 26.26	+50.06	
May 24	4	♂ Libræ	L	..	..	..	..	..	13.0	15.9	18.7	21.6	15. 15. 7.27		7.07	58.50	51.43		....		
	5	♂ Libræ	L	32.8	47.4	..	16.2	..	45.0	59.2	..	..	15. 20. 16.14		..	..	..		....		
	6	♂ Libræ	L	1.7	4.8	7.6	10.5	16.2	22.0	24.9	27.6	30.6	15. 20. 16.20		16.01	7.45	51.44		....		
	7	α Coronæ	L	42.6	58.2	..	29.3	..	0.3	15.7	..	..	15. 28. 29.24		..	..	..		....		
	8	α Coronæ	L	13.6	16.9	19.8	23.0	29.3	35.6	38.6	41.7	44.9	15. 28. 29.24		29.01	20.49	51.48		....		
	9	λ Ophiuchi	J	59.0	12.8	..	40.6	..	8.3	22.2	..	..	16. 23. 40.60		..	..	..		....		
	10	λ Ophiuchi	J	26.8	29.6	32.4	35.1	40.6	46.2	48.9	51.7	54.5	16. 23. 40.64		40.44	32.19	51.75	16. 24. 32.23	-1.66		
	11	Oeltz. Arg. 15776	J	15.4	18.6	21.5	24.4	..	36.1	38.6	41.4	44.7	16. 29. 30.07		29.88	..	..	16. 30. 21.67	-1.72		
	12	Piazzi IV. 191 S.P.	J	28.0	38.4	48.0	..	18.5	..	49.2	58.5	9.7	16. 45. 18.65		18.88	..	..	4. 46. 10.67	+4.47		
	13	κ Ophiuchi	J	35.5	38.4	41.0	43.8	49.4	55.2	58.0	0.7	3.6	16. 50. 49.50		49.29	41.08	51.79	16. 51. 41.08	-1.66		
	14	θ Ophiuchi	J	37.3	52.4	..	23.0	..	53.5	8.6	..	..	17. 13. 22.98		..	..	..		....		
	15	θ Ophiuchi	J	7.7	10.8	13.5	16.8	23.0	29.0	32.2	35.2	38.2	17. 13. 22.92		22.72	14.44	51.72	17. 14. 14.52	-1.79		
	16	σ Ophiuchi	J	9.0	11.8	14.5	17.4	22.6	28.4	31.1	33.8	36.8	17. 19. 22.81		22.60	14.43	51.83	17. 20. 14.40	-1.62		
	17	γ-yr. Cat. (1860) No. 420 S.P.	J	8.0	41.5	..	48.4	..	55.7	29.3	..	..	17. 28. 48.54		..	..	..		....		
	18	γ-yr. Cat. (1860) No. 420 S.P.	J	15.1	21.7	28.7	35.2	48.4	2.0	9.0	15.3	22.5	17. 28. 48.68		48.93	..	..	5. 29. 40.58	+2.60		
	19	μ Herculis	J	52.4	8.2	..	39.5	..	10.6	26.3	..	..	17. 40. 39.42		..	..	..		....		
	20	μ Herculis	J	23.7	26.8	30.2	33.3	39.5	45.6	49.0	51.7	54.8	17. 40. 39.38		39.15	31.00	51.85	17. 41. 30.95	-1.67		
May 26	21	♂ Libræ	J	32.0	46.4	..	15.1	..	43.8	58.4	..	..	15. 20. 15.16	+0.84	..	..	52.15	....			
	22	♂ Libræ	J	0.5	3.8	6.6	9.4	15.1	21.0	23.8	26.7	29.6	15. 20. 15.16	(-1.63)	15.10	7.46	52.36	[0.24]	15. 21. 7.40	-1.65	
	23	α Coronæ	J	41.6	57.3	..	28.3	..	59.6	15.0	..	..	15. 28. 28.38		..	..	..	....			
	24	α Coronæ	J	12.6	16.0	19.0	22.2	28.3	34.6	37.7	40.6	43.9	15. 28. 28.31		28.22	20.50	52.28	15. 29. 20.52	-1.85		
	25	r Herculis	J	..	..	..	..	..	47.5	50.2	53.2	56.0	15. 54. 41.51		41.42	..	..	15. 55. 33.73	-1.76		
	26	Oeltz. Arg. 15776	J	45.7	0.2	..	29.0	..	57.8	12.3	..	..	16. 29. 29.02		..	..	..	....			
	27	Oeltz. Arg. 15776	J	14.5	17.6	20.5	23.3	29.0	34.8	37.6	40.6	43.6	16. 29. 29.04		28.98	..	..	16. 30. 21.29	-1.75		
	28	25 Scorpii	J	59.0	2.5	5.4	8.6	14.4	20.7	23.6	26.7	29.8	16. 38. 14.50		14.45	..	..	16. 39. 6.77	-1.84		
	29	κ Ophiuchi	J	6.7	21.0	..	48.8	..	17.0	30.9	..	..	16. 50. 48.90		..	..	..	....			
	30	κ Ophiuchi	J	34.8	37.8	40.5	43.4	48.8	54.6	57.4	0.1	2.9	16. 50. 48.91		48.83	41.11	52.28	16. 51. 41.15	-1.69		
	31	α Herculis	J	46.5	49.4	52.2	55.2	0.7	6.5	9.6	12.2	15.2	17. 8. 0.83		0.75	53.09	52.34	17. 8. 53.07	-1.69		
	32	Piazzi XVII. 109.	J	45.4	0.2	..	29.8	..	59.3	13.8	..	..	17. 20. 29.72		..	..	..	....			
	33	Piazzi XVII. 109.	J	15.0	18.0	21.0	24.0	29.8	35.7	38.7	41.5	44.7	17. 20. 29.81		29.72	..	..	17. 21. 22.04	-1.71		
	34	Piazzi XVII. 176.	J	40.1	43.6	46.8	50.0	56.5	2.8	5.8	9.2	12.5	17. 30. 56.34		56.26	..	..	17. 31. 48.59	-1.79		
	35	μ Herculis	J	51.7	7.5	..	38.9	..	10.2	25.7	..	..	17. 40. 38.82		..	..	..	....			
	36	μ Herculis	J	23.2	26.4	29.4	32.8	38.9	45.0	48.2	51.3	54.4	17. 40. 38.83		38.74	31.04	52.30	17. 41. 31.07	-1.71		
May 30	37	γ Draconis	C	41.5	49.0	55.9	3.2	17.4	31.7	38.8	46.0	53.4	12. 54. 17.39	-0.76	17.15	..	52.60	12. 55. 9.77	-2.96		
	38	Polaris S.P. (E&E)	C	13.0	12.0	4.0	2.0	53.0	44.0	..	..	..	13. 10. 37.16	(-0.84)	39.80	32.70	52.90	[0.04]	....		
	39	Spica	C	56.6	10.7	..	39.0	..	7.1	21.0	..	..	13. 17. 38.90	[-0.72]	..	..	..	....			
	40	Spica	C	24.8	27.7	30.4	33.2	39.0	44.5	47.4	50.2	53.0	13. 17. 38.90		38.78	31.40	52.62	....			
	41	ι Virginis	C	55.3	58.3	1.0	3.8	9.5	15.2	18.0	20.8	23.6	13. 19. 9.49		9.37	..	..	13. 20. 1.99	-1.19		
	42	Piazzi XIII. 126.	C	21.7	36.0	..	4.3	..	32.6	46.6	..	..	13. 27. 4.26		..	..	..	....			
	43	Piazzi XIII. 126.	C	50.1	53.0	55.7	58.6	4.3	10.0	12.8	15.5	18.5	13. 27. 4.27		4.15	..	..	13. 27. 56.77	-1.23		
	44	Mars 1 L.	C	..	59.6	2.1	5.0	10.6	16.2	19.1	21.8	..	13. 43. 10.62		10.50	..	..	13. 44. 3.72			
	45	η Boötis	C	32.5	35.6	38.5	41.4	47.2	53.2	56.0	59.0	1.8	13. 47. 47.23		47.10	39.74	52.64	....			
	46	94 Virginis	E	..	32.2	34.7	37.5	43.1	48.7	51.5	54.2	..	13. 58. 43.11		42.99	35.70	52.71	52.75†	....		

The observations of transits are usually made by the galvanic or chronographic method, the wires employed being generally P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P. Occasionally the observations are made by eye and ear (E & E); the wires then employed are N, O, P, T, X, Y, Z; in reversed order for stars S.P.

Reading of Transit-Micrometer, 32".200; from May 26, 32".100; from May 30, 32".300.

Corrections to the times by Hardy for reduction to Sidereal Standard, applied to form Concluded Transit, Nos. 3 and 38, -21".30: and -16".30.

Correction for passage of Semidiameter, No. 44, +0".60.

† This clock-error has been used in the reduction of the observations made with the Altazimuth.

May 27^d. 0^h. The eye-piece end of the Transit-Circle was removed for alteration, and returned May 29^d. 0^h.

May 30 and 31. The azimuthal error used is the mean of two determinations (-0".56 and -0".87) by tabular places of Polaris S.P. and Spica.

4, 34. Cloudy.

5, 7, 9, 14, 17, 19, 21, 23, 26, 29, 32, 35, 39, 42. Observed over wires N, O, T, Y, Z, for determination of intervals.

11. Only just visible.

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of Collimation. (Level). [Azimuth].	Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at 0 ^h Sideral and [Loss Rate].	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873, Jan. 1.
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.								
				s	s	s	s	s	s	s	s	s								
May 30	1	κ Virginis	E	2 ^o	4 ⁹	7 ⁶	10 ⁴	16 ⁰	21 ⁷	24 ⁵	27 ⁴	30 ⁰	14. 5. 16 ^o 04	-0 ^o 76	15 ^o 92	8 ^h 75	52 ^m 83	52 ^s 75†	....	
	2	A Bootis	C	29 ⁸	33 ⁴	36 ⁷	40 ²	47 ⁰	53 ⁷	57 ⁴	0 ⁵	4 ³	14. 11. 46 ^o 98	(-0 ^o 84)	46 ^o 83			52 ^s 60	14. 12. 39 ^o 45	- 1 ^o 84
	3	Groombridge 2105	C	58 ⁶	6 ⁹	14 ⁰	21 ⁶	36 ⁷	51 ⁶	59 ⁴	6 ⁶	14 ³	14. 16. 36 ^o 59	[-0 ^o 72]	36 ^o 34			[0 ^o 04]	14. 17. 28 ^o 96	- 3 ^o 79
	4	B. F. 1983.....	C	18 ⁶	35 ⁷	..	10 ³	..	44 ⁸	2 ⁰	..	..	14. 22. 10 ^o 30		..			..	..	
	5	B. F. 1983.....	C	53 ⁰	56 ⁶	59 ⁹	3 ⁴	10 ³	17 ⁴	20 ⁷	24 ²	27 ⁵	14. 22. 10 ^o 32		10 ^o 17			..	14. 23. 2 ^o 79	- 1 ^o 89
	6	ρ Bootis	C	..	..	21 ¹	24 ³	30 ⁷	37 ²	40 ⁴	43 ⁵	46 ⁷	14. 25. 30 ^o 68		30 ^o 54	23 ^h 16	52 ^m 62	..	..	
	7	Piazzì XIV. 128.	C	44 ⁴	1 ⁷	..	36 ³	..	11 ³	28 ⁶	..	..	14. 28. 36 ^o 48		..			..	..	
	8	Piazzì XIV. 128.	C	19 ⁰	22 ⁷	26 ⁰	29 ⁴	36 ³	43 ⁴	46 ⁹	50 ³	53 ⁸	14. 28. 36 ^o 40		36 ^o 26			..	14. 29. 28 ^o 88	- 1 ^o 93
	9	χ Lupi	C	13 ⁴	29 ⁹	..	3 ²	..	36 ²	52 ⁶	..	..	15. 42. 3 ^o 08		..			..	..	
	10	χ Lupi	C	46 ⁵	49 ⁹	53 ¹	56 ⁶	3 ²	9 ⁸	13 ²	16 ⁴	19 ⁷	15. 42. 3 ^o 14		3 ^o 01			..	15. 42. 55 ^o 64	- 1 ^o 90
	11	π Scorpii	C	33 ⁵	49 ⁰	..	19 ⁷	..	50 ⁷	5 ⁷	..	..	15. 50. 19 ^o 74		..			..	..	
	12	π Scorpii	C	4 ²	7 ⁴	10 ⁵	13 ⁶	19 ⁷	25 ⁸	29 ⁰	31 ⁸	35 ⁰	15. 50. 19 ^o 64		19 ^o 52			..	15. 51. 12 ^o 15	- 1 ^o 82
	13	ρ Coronæ	C	31 ⁰	47 ⁶	..	20 ⁹	..	54 ²	10 ⁷	..	..	15. 55. 20 ^o 90		..			..	..	
	14	ρ Coronæ	C	4 ¹	7 ⁷	10 ⁸	14 ³	20 ⁹	27 ⁶	30 ⁹	34 ⁰	37 ⁵	15. 55. 20 ^o 85		20 ^o 71			..	15. 56. 13 ^o 34	- 1 ^o 99
	15	κ ¹ Herculis	C	46 ⁴	0 ⁸	..	30 ⁰	..	58 ⁹	13 ³	..	..	16. 1. 29 ^o 90		..			..	..	
	16	κ ¹ Herculis	C	15 ⁵	18 ⁴	21 ³	24 ²	30 ⁰	35 ⁸	38 ⁷	41 ⁶	44 ⁴	16. 1. 29 ^o 98		29 ^o 85			..	16. 2. 22 ^o 48	- 1 ^o 78
	17	δ Ophiuchi.....	C	36 ⁸	39 ⁶	42 ³	45 ²	50 ⁷	56 ²	59 ⁰	1 ⁷	4 ⁵	16. 6. 50 ^o 66		50 ^o 54	43 ^h 14	52 ^m 60	..	16. 7. 43 ^o 17	- 1 ^o 71
	18	Circe.....	C	49 ⁰	52 ⁰	54 ⁶	..	3 ³	..	12 ⁰	..	..	16. 27. 3 ^o 30		3 ^o 19			..	16. 27. 55 ^o 82	
May 31	19	⊙ 1 L.....	AD	19 ⁸	23 ²	25 ⁹	29 ⁰	35 ¹	40 ⁹	43 ⁸	46 ⁸	49 ⁹	4. 31. 34 ^o 91		43 ^o 04			52 ^s 74	4. 33. 35 ^o 79	
	20	⊙ 2 L.....	AD	36 ⁵	39 ⁵	42 ⁴	45 ⁷	51 ⁵	57 ⁴	0 ³	3 ³	6 ⁴	4. 33. 51 ^o 43		..			[0 ^o 03]	..	
	21	⊙ 1 L.....	AD	35 ⁶	38 ⁸	41 ⁷	45 ⁰	51 ¹	57 ¹	59 ⁹	3 ²	6 ⁴	9. 1. 50 ^o 96		50 ^o 83			..	9. 3. 50 ^o 13	
	22	α Hydrae.....	AD	14 ¹	16 ⁷	19 ⁴	22 ⁴	27 ⁸	33 ⁶	36 ⁴	39 ⁴	42 ⁰	9. 20. 27 ^o 97		27 ^o 85	20 ^h 58	52 ^m 73	..	9. 21. 20 ^o 60	+ 0 ^o 16
	23	35 Virginis.....	L	..	..	..	..	..	37 ⁹	40 ⁶	43 ⁴	46 ³	12. 40. 32 ^o 32		32 ^o 19	24 ^h 48	52 ^m 29	52 ^s 32†	....	
	24	31 Comæ.....	L	24 ⁰	27 ⁴	30 ⁴	33 ⁴	39 ⁷	46 ⁰	49 ³	52 ³	55 ⁵	12. 44. 39 ^o 75		39 ^o 62	32 ^h 00	52 ^m 38	..	..	
	25	Polaris S.P. (E&E)	AD	16 ⁰	11 ⁵	5 ⁰	0 ⁵	52 ⁵	..	..	..	..	13. 10. 38 ^o 25		40 ^o 89	33 ^h 38	52 ^m 49	52 ^s 74	....	
	26	Spica.....	AD	24 ⁷	27 ⁶	30 ⁴	33 ²	38 ⁸	44 ⁴	47 ²	50 ⁰	52 ⁸	13. 17. 38 ^o 77		38 ^o 65	31 ^h 40	52 ^m 75	..	13. 18. 31 ^o 41	- 1 ^o 18
	27	η Bootis.....	AD	32 ³	35 ⁵	38 ⁴	41 ³	..	..	..	..	..	13. 47. 47 ^o 11		46 ^o 98	39 ^h 74	52 ^m 76	..	13. 48. 39 ^o 74	- 1 ^o 48
	28	β ¹ Scorpii.....	AD	28 ³	43 ¹	..	12 ⁴	..	41 ⁷	56 ⁵	..	..	15. 57. 12 ^o 42		..			..	..	
	29	β ¹ Scorpii.....	AD	57 ⁶	0 ⁶	3 ⁵	6 ⁵	12 ⁴	18 ³	21 ²	24 ¹	27 ¹	15. 57. 12 ^o 36		12 ^o 24	5 ^h 05	52 ^m 81	..	15. 58. 5 ^o 00	- 1 ^o 79
	30	τ Coronæ.....	AD	37 ³	54 ⁶	..	29 ³	..	3 ⁷	21 ⁰	..	..	16. 3. 29 ^o 20		..			..	..	
	31	τ Coronæ.....	AD	11 ⁸	15 ⁴	..	22 ³	29 ³	36 ¹	39 ⁵	..	46 ⁴	16. 3. 29 ^o 16		29 ^o 01			..	16. 4. 21 ^o 77	- 2 ^o 06
June 1	32	Polaris (E&E)	P	..	..	..	..	..	54 ⁰	47 ⁵	39 ⁵	37 ⁰	1. 10. 44 ^o 72	-0 ^o 73	42 ^o 05	34 ^h 52	52 ^m 47	52 ^s 45	....	
	33	Venus 2 L.....	L	35 ³	38 ²	41 ²	44 ⁰	49 ⁵	55 ⁰	57 ⁹	0 ⁶	3 ⁶	2. 22. 49 ^o 46	(-1 ^o 57)	49 ^o 26			[0 ^o 05]	2. 23. 40 ^o 19	
	34	Mercury 2 L.....	L	..	..	..	..	..	..	..	..	..	4. 5. 26 ^o 81	[-1 ^o 70]	26 ^o 60			..	4. 6. 18 ^o 88	
June 2	35	⊙ 1 L.....	L	31 ⁵	34 ⁵	37 ⁴	40 ⁵	46 ⁴	52 ⁶	55 ⁵	58 ⁵	1 ⁵	4. 39. 46 ^o 47		54 ^o 68			..	4. 41. 47 ^o 14	
	36	⊙ 2 L.....	L	48 ⁴	51 ⁶	54 ²	57 ⁴	3 ⁴	9 ³	12 ¹	15 ³	18 ²	4. 42. 3 ^o 30		..			..	..	
	37	α Orionis.....	L	10 ⁶	13 ⁵	..	19 ¹	24 ⁷	30 ²	..	35 ⁷	38 ⁶	5. 47. 24 ^o 61		24 ^o 40	16 ^h 88	52 ^m 48	..	5. 48. 16 ^o 86	+ 0 ^o 89
	38	⊙ 1 L.....	L	50 ⁰	53 ³	55 ⁸	59 ⁰	4 ⁶	10 ⁶	13 ⁶	16 ⁴	19 ²	10. 39. 4 ^o 71		4 ^o 50			..	10. 40. 59 ^o 91	
	39	θ Virginis.....	AD	17 ⁰	20 ⁰	22 ⁶	25 ⁵	31 ⁰	36 ⁷	39 ⁴	42 ⁰	44 ⁹	13. 2. 31 ^o 00		30 ^o 80	23 ^h 63	52 ^m 83	52 ^s 80†	....	
	40	Arcturus.....	L	..	..	..	..	..	10 ³	13 ²	16 ²	14 ⁹	9. 1 ^o 44		1 ^o 23	53 ^h 67	52 ^m 44	52 ^s 45	14. 9. 53 ^o 71	- 1 ^o 54
	41	α Libræ.....	L	17 ⁴	31 ⁸	..	0 ⁴	..	29 ³	43 ⁷	..	..	14. 43. 0 ^o 34		..			..	..	
	42	α Libræ.....	L	46 ⁰	49 ¹	51 ⁹	54 ⁸	0 ⁴	6 ⁴	9 ²	11 ⁸	14 ⁹	14. 43. 0 ^o 49		0 ^o 29	52 ^h 86	52 ^m 57	..	14. 43. 52 ^o 77	- 1 ^o 55
	43	ξ ² Libræ.....	L	19 ⁷	33 ⁸	..	2 ⁰	..	30 ²	44 ³	..	..	14. 49. 2 ^o 02		..			..	..	
	44	ξ ² Libræ.....	L	47 ⁹	51 ⁰	53 ⁶	56 ⁵	2 ⁰	7 ⁷	10 ⁵	13 ⁴	16 ⁰	14. 49. 2 ^o 06		1 ^o 86	54 ^h 30	52 ^m 44	..	14. 49. 54 ^o 34	- 1 ^o 57

Polaris and other stars very near the pole are observed by eye and ear over the wires P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P.; using the Clock Hardy. The Intervals of the Wires of both systems are given in the Introduction.

Reading of Transit-Micrometer, 32^h 300.

Corrections to the times by Hardy for reduction to Sideral Standard, applied to form Concluded Transit, Nos. 25 and 32, - 15^h 40^m: and - 14^h 10^m.

Corrections for passage of Semidiameter, Nos. 21, 33, 34, and 38, + 66^h 55^m: - 1^h 52^m: - 0^h 18^m: and + 62^h 95^m.

† These clock-errors have been used in the reduction of the observations made with the Altazimuth.

June 1 and 2. The azimuthal error by tabular places of Polaris and α Orionis.

4, 7, 9, 11, 13, 15, 28, 30, 41, 43. Observed over wires N, O, T, Y, Z, for determination of intervals.

22. Very faint; tremulous.

25, 26, 32. Faint; cloudy.

27, 40. Cloudy.

34. Very cloudy.

35, 36. Tremulous.

37. Faint; tremulous.

19, 20. Cloudy; limbs tremulous.

30, 31, 43, 44. Faint.

38. Correction to R.A. on true meridian, - 0^h 01^m.

TRANSITS OBSERVED WITH THE TRANSIT-CIRCLE, AND COMPUTATIONS OF APPARENT RIGHT ASCENSION,

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire. h m s	Error of Collimation. (Level). [Azimuth]. "	Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at oh Sidereal and (Losing Rate).	Apparent R.A. of Center from the Observation. h m s	Correction for Reduction to Mean R.A. 1873, Jan. 1. s	
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.									
				s	s	s	s	s	s	s	s	s									
June 4	1	⊙ 1 L.....	AD	43.5	46.4	49.5	52.6	58.7	4.7	7.6	10.6	13.6	4. 47. 58.55	-0.73	6.83			52.74	4. 49. 59.67		
	2	⊙ 2 L.....	AD	0.4	3.7	6.5	9.7	15.6	21.5	24.8	27.7	30.7	4. 50. 15.60	(-2.32)							(-1.52)	[ 0.12]
June 5	3	α Serpentis	C	28.1	41.9	..	9.9	..	37.6	51.6	..	..	15. 37. 9.84	(-3.30)	..	..	52.86	....	....		
	4	α Serpentis	C	55.9	58.9	1.4	4.4	9.9	15.5	18.3	20.9	23.7	15. 37. 9.86	..	9.58	2.50	52.92	....	....		
	5	ε Serpentis	C	56.5	10.5	..	38.1	..	6.0	19.8	..	..	15. 43. 38.20	..	..	..	....	....			
	6	ε Serpentis	C	24.3	27.3	29.9	32.6	38.1	43.8	46.6	49.3	52.0	15. 43. 38.20	37.93	30.88	52.95	....	....			
	7	β Scorpii	E	57.4	0.3	3.3	6.3	12.1	18.0	21.0	23.9	27.0	15. 57. 12.14	11.91	5.09	53.18	53.10	....			
	8	δ Ophiuchi	E	36.2	39.3	41.8	44.7	50.2	55.9	58.7	1.2	4.2	16. 6. 50.24	49.98	43.19	53.21	[0.12]	....			
	9	ε Ophiuchi	E	31.0	34.0	36.5	39.4	45.0	50.5	53.3	56.0	58.8	16. 10. 44.93	44.67	..	..	16. 11. 37.85	- 1.78			
	10	ω Herculis	E	..	31.0	33.7	36.7	42.3	47.9	50.9	53.7	..	16. 18. 42.29	42.00	..	..	16. 19. 35.18	- 1.81			
	11	κ Ophiuchi	E	34.4	37.2	39.8	42.7	48.3	54.0	56.8	59.6	2.5	16. 50. 48.35	48.06	41.22	53.16	....	....			
	12	32 Ophiuchi	E	13.4	16.4	19.1	22.0	27.7	33.4	36.3	39.0	42.0	16. 56. 27.69	27.40	..	..	16. 57. 20.58	- 1.82			
	June 6	13	31 Comæ	L	23.6	27.0	30.0	33.2	39.4	45.7	48.8	52.0	55.0	12. 44. 39.39	(-2.54)	39.10	31.93	52.83	52.75	12. 45. 31.93	- 1.24
		14	ε Virginis	L	45.6	48.6	51.4	54.2	59.6	5.4	8.3	11.2	14.0	12. 54. 59.80	59.55	52.42	52.87	[0.15]	12. 55. 52.38	- 1.13	
15		Polaris S.P. (E&E)	L	..	..	..	1.0	57.0	48.5	39.0	36.5	..	30.0	13. 10. 39.77	44.53	37.84	53.31	....	....		
16		Spica	L	..	..	..	..	..	44.4	47.3	49.8	52.7	13. 17. 38.68	38.46	31.36	52.90	....	13. 18. 31.31	- 1.14		
17		β Virginis	L	16.4	19.4	22.0	24.8	30.3	35.9	38.6	41.5	44.2	13. 24. 30.34	30.11	..	..	....	13. 25. 22.94	- 1.20		
18		δ 1 L.....	L	10.0	13.2	15.8	18.7	24.5	30.2	32.8	35.6	38.8	13. 39. 24.39	24.16	..	..	....	13. 41. 20.47	....		
19		94 Virginis	L	29.2	32.2	34.7	37.3	43.0	48.7	51.6	54.4	57.2	13. 58. 43.14	42.91	35.68	52.77	....	13. 59. 35.75	- 1.36		
20		κ Virginis	L	..	..	..	..	..	21.8	24.6	27.5	30.4	14. 5. 16.23	16.01	8.74	52.73	....	14. 6. 8.85	- 1.39		
21		Arcturus	L	46.2	49.4	52.2	55.2	0.8	6.8	9.8	12.8	15.7	14. 9. 0.98	0.72	53.65	52.93	....	14. 9. 53.56	- 1.52		
22		λ Virginis	L	9.0	12.0	14.8	17.7	23.4	29.0	31.8	34.5	37.5	14. 11. 23.29	23.07	..	..	53.01†	14. 12. 15.91	- 1.41		
23		β Libræ	AD	37.1	51.2	..	19.2	..	47.3	1.0	..	..	15. 9. 19.18	..	..	..	....	....	....		
24		β Libræ	AD	5.2	8.1	10.8	13.7	19.2	25.0	27.4	30.3	33.2	15. 9. 19.20	18.97	12.07	53.10	....	....	....		
25		α Libræ	AD	22.8	37.0	..	5.6	..	34.1	48.5	..	..	15. 15. 5.62	..	..	..	....	....	....		
26		α Libræ	AD	51.4	54.3	57.1	59.9	5.6	11.4	14.4	17.0	20.0	15. 15. 5.67	5.45	58.56	53.11	....	....	....		
27		γ Libræ	L	0.5	3.5	6.3	9.0	14.8	20.8	23.6	26.6	29.4	15. 20. 14.93	14.71	7.51	52.80	52.75	15. 21. 7.56	- 1.70		
28		λ Ophiuchi	L	25.8	28.7	31.4	34.2	39.6	45.3	48.0	50.8	53.5	16. 23. 39.69	39.45	32.32	52.87	....	16. 24. 32.30	- 1.79		
29		* N.P.D. 105°. 45'	L	30.5	..	..	..	45.0	50.2	53.0	56.5	59.3	16. 31. 44.76	44.54	..	..	....	16. 32. 37.39	- 1.87		
30		σ Ophiuchi	L	8.0	11.0	13.6	16.6	22.0	27.6	30.4	33.1	35.8	17. 19. 22.00	21.76	14.62	52.86	....	17. 20. 14.62	- 1.81		
31		α Ophiuchi	L	57.4	0.3	3.1	5.9	11.7	17.4	20.2	22.7	25.8	17. 28. 11.60	11.34	4.15	52.81	....	17. 29. 4.20	- 1.82		
32		δ Ursæ Min. (E&E)	L	59.8	49.0	34.0	20.8	55.0	..	..	..	..	18. 12. 45.61	43.43	37.16	53.73	....	....	....		
33		Ceph. 51 S.P. (E&E)	L	20.0	17.0	14.0	13.5	6.8	..	..	..	..	18. 38. 58.73	0.99	54.36	53.37	....	....	....		
June 7	34	β Leonis	E	27.8	30.7	33.5	36.6	42.2	48.0	50.8	53.6	56.7	11. 41. 42.20	(-1.75)	42.03	35.54	53.51	53.35			
	35	β Virginis	E	58.2	1.2	3.8	6.6	12.0	17.9	20.4	23.3	26.0	11. 43. 12.15	(-0.57)	11.99	5.44	53.45	[0.26]			
	36	Polaris S.P. (E&E)	C	..	..	..	56.0	49.0	36.5	..	..	29.0	13. 10. 40.25	45.01	38.73	53.72	53.09	....	....		
	37	Spica	C	56.0	10.2	..	38.2	..	6.5	20.5	..	..	13. 17. 38.30	..	..	..	[0.26]	....	....		
	38	Spica	C	24.2	27.2	29.8	32.6	38.2	44.0	46.7	49.4	52.3	13. 17. 38.25	38.11	31.36	53.25	....	....	....		
	39	Piazzi XIII. 126.	C	..	..	55.2	58.0	3.5	9.3	12.3	15.0	18.0	13. 27. 3.67	3.54	..	..	....	13. 27. 56.78	- 1.19		
	40	94 Virginis	C	28.5	31.5	34.2	37.0	42.6	48.3	51.0	53.8	56.5	13. 58. 42.59	42.45	35.68	53.23	....	....	....		
	41	κ Virginis	C	1.4	4.5	7.1	10.0	15.6	21.3	24.0	26.8	29.6	14. 5. 15.58	15.44	8.74	53.30	....	....	....		
	42	λ Virginis	C	..	11.4	14.2	17.2	22.6	28.4	31.2	33.8	..	14. 11. 22.67	22.54	..	..	....	14. 12. 15.78	- 1.41		
	43	δ 1 L.....	C	41.9	45.0	47.8	50.8	56.7	2.6	5.5	8.4	11.3	14. 27. 56.65	56.51	..	..	....	14. 29. 55.37	....		
	44	α Libræ	C	45.4	48.3	51.2	53.9	59.7	5.5	8.5	11.2	14.0	14. 42. 59.84	59.70	52.86	53.16	....	....	....		

The observations of transits are usually made by the galvanic or chronographic method, the wires employed being generally P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P. Occasionally the observations are made by eye and ear (E & E); the wires then employed are N, O, P, T, X, Y, Z; in reversed order for stars S.P.

Reading of Transit-Micrometer, 32". 300.

Corrections to the times by Hardy for reduction to Sidereal Standard, applied to form Concluded Transit, Nos. 15, 32, 33, and 36, -9^s.20: -8^s.80: -8^s.80: and -7^s.70.

Corrections for passage of Semidiameter, Nos. 18 and 43, +63^s.48: and +65^s.61.

† This clock-error has been used in the reduction of the observations made with the Altazimuth.

June 4 to 6. The azimuthal error used is the mean of two determinations (-1^m.29 and -1^m.75) by tabular places of Polaris S.P. and Spica, and of δ Ursæ Minoris and Cephei 51 S.P. on June 6.

June 7 and 8. The azimuthal error used is the mean of two determinations (-0^m.31 and -0^m.83) by tabular places of Polaris S.P. and Spica.

1, 2, 20. Cloudy.

14, 19, 22. Faint; cloudy.

29. Very faint; observed over illuminated wires.

3, 5, 23, 25, 37. Observed over wires N, O, T, Y, Z, for determination of intervals.

18. Correction to R.A. on true meridian, -0^s.01.

39. Very faint.

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of Collimation. (Level). [Azimuth].	Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at 0 ^h Sidereal and (Losing Rate).	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873, Jan. 1.
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.								

Polaris and other stars very near the pole are observed by eye and ear over the wires P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P.; using the Clock Hardy. The Intervals of the Wires of both systems are given in the Introduction.

Reading of Transit-Micrometer, 32^h 30.0.

Corrections to the times by Hardy for reduction to Sidereal Standard, applied to form Concluded Transit, Nos. 2, 13, 38, 42, and 43, -6^h 60: -5^h 30: -2^h 30: -1^h 80: and -0^h 90.

Corrections for passage of Semidiameter, Nos. 8, 16, 29, and 46, +68^h 38: +0^h 57: +71^h 43: and -1^h 29.

† These clock-errors have been used in the reduction of the observations made with the Altazimuth.

June 9. In observing the Z.D. of Mars at wire Z, the R.A. micrometer-head was forced out of bearing by the horizontal sliding-plate of the eye-piece. The Collimation error used from η 5 Virginis is determined from the observations of the clock-stars.

June 9. The azimuthal error by tabular places of Polaris S.P. and ζ Virginis.

June 11 to June 12, m Virginis. The azimuthal error from Polaris and Polaris S.P., allowing -0^h 37 for clock-rate and change of R.A.

June 12, Venus 2 L., to June 14. The azimuthal error by tabular places of Polaris and α Orionis on June 13 and 14, allowing -0^h 02 for clock-rate.

4, 6, 20, 40. Observed over wires N, O, T, Y, Z, for determination of intervals.

19. The times at wires VI. and VIII. are also used as the 5th and 6th wires of an Altazimuth transit, γ U. L., Face Left.

29. Correction to R.A. on true meridian, -0^h 04.

43. Hardly visible.

8. Correction to R.A. on true meridian, -0^h 01.

44. Very faint.

45. Faint.

TRANSITS OBSERVED WITH THE TRANSIT-CIRCLE, AND COMPUTATIONS OF APPARENT RIGHT ASCENSION,

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of Collimation. (Level). [Azimuth].	Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at α Sidereal and (Losing Rate).	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873, Jan. 1.
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.								
				s	s	s	s	s	s	s	s	s								
June 13	1	⊙ 1 L.	E	53.6	56.9	59.6	3.1	9.0	15.0	17.9	20.8	24.1	5. 25. 8.87	-0.67	} 17.64	47.31	41.29	53.98	54.07 [-0.17]	5. 27. 11.67
	2	⊙ 2 L.	E	11.4	14.7	17.7	20.7	26.7	32.7	35.8	38.7	41.9	5. 27. 26.68	(-1.92)						
	3	κ Ophiuchi.	E	33.3	36.2	38.9	41.8	47.3	53.0	55.8	58.8	1.7	16. 50. 47.41	[+1.08]						
	4	η Ophiuchi.	E	59.4	2.5	5.2	8.1	13.7	19.5	22.4	25.3	28.2	17. 2. 13.80							
	5	Piazzi XVII. 109	E	13.7	16.8	19.7	22.6	28.5	34.5	37.2	40.2	43.2	17. 20. 28.47							
	6	α Ophiuchi.	C	56.4	59.4	2.0	5.0	10.7	16.4	19.2	22.1	25.0	17. 28. 10.68							
	7	α ² Capricorni	L	54.6	57.6	0.3	3.0	8.7	14.5	17.3	20.0	23.0	20. 10. 8.76							
	8	β Capricorni	L	46.4	49.5	52.2	55.0	0.8	6.7	9.7	12.3	15.3	20. 13. 0.87							
	9	Saturn 1 L.	L	..	..	48.2	51.4	57.2	3.2	6.1	9.1	12.0	20. 15. 57.23							
	10	Saturn 2 L.	L	..	..	49.9	52.9	58.9	4.8	7.6	10.3	13.4	20. 15. 58.74							
	11	ε Delphini	L	2.9	5.8	8.3	11.2	16.9	22.6	25.4	28.1	31.0	20. 26. 16.90							
	12	δ 2 L.	L	26.1	29.5	32.4	35.7	42.0	48.1	51.3	54.4	57.7	20. 38. 41.89							
	13	Polaris. (E&E)	G	16.0	19.0	8.5	7.0	55.5	..	..	..	..	1. 10. 57.91	(-1.46)						
	14	Venus 2 L.	G	7.5	10.5	13.2	16.0	21.9	27.4	30.4	33.2	36.0	2. 43. 21.78							
June 14	15	⊙ 1 L.	G	3.0	6.3	9.2	12.2	18.2	24.3	27.3	30.3	33.3	5. 29. 18.20		} 27.08	23.51	16.99	53.48	5. 31. 20.56	
	16	⊙ 2 L.	G	..	24.0	27.2	30.2	36.0	42.3	45.3	48.2	..	5. 31. 36.15							
	17	α Orionis	G	9.5	12.6	15.2	18.0	23.5	29.1	31.9	34.8	37.7	5. 47. 23.58							
	18	Mercury (center).	G	..	19.1	34.7	..	5.3	20.5	..	..	..	5. 57. 49.91							
June 16	19	κ Ophiuchi.	J	33.9	36.9	39.7	42.5	48.0	53.7	56.4	59.2	2.1	16. 50. 48.03	+0.34	47.99	41.31	53.32			
	20	η Ophiuchi.	J	59.9	3.0	5.6	8.6	14.5	20.0	23.1	25.9	28.8	17. 2. 14.37	(-1.93) [+0.99]	14.40	7.72	53.32			
June 17	21	⊙ 1 L.	H	31.2	34.2	37.3	40.3	46.2	52.4	55.4	58.3	1.1	5. 41. 46.24	+0.46	} 55.12	54.26	47.13	52.87	53.42 [-0.01]	5. 43. 48.54
	22	⊙ 2 L.	H	49.0	51.9	54.8	58.0	4.1	10.2	13.4	16.4	19.5	5. 44. 4.13							
	23	Polaris S.P. (E&E)	H	4.5	1.5	54.0	53.0	42.0	33.5	..	..	..	13. 10. 50.87	(-1.36)						
	24	ζ Virginis	H	7.3	10.1	12.8	15.7	21.2	26.6	29.5	32.3	35.2	13. 27. 21.18							
	25	τ Bootis	H	7.0	10.0	12.6	15.8	21.6	27.4	30.3	33.3	36.2	13. 40. 21.57							
	26	η Bootis	H	31.5	34.6	37.5	40.4	46.1	52.1	55.1	57.9	0.8	13. 47. 46.21							
	27	ζ Herculis	H	22.1	25.6	28.8	32.0	38.6	45.0	48.5	51.6	55.0	16. 35. 38.55							
	28	53 Herculis	H	..	5.2	8.0	11.4	17.7	24.5	27.6	30.8	..	16. 47. 17.87							
	29	κ Ophiuchi.	H	33.7	37.0	39.5	42.3	47.8	53.4	56.3	59.0	2.0	16. 50. 47.88							
	30	72 Ophiuchi	H	14.0	17.0	19.7	22.5	28.3	33.8	36.7	39.7	42.5	18. 0. 28.23							
	31	δ Ursæ Min. (E&E)	H	43.5	32.0	..	4.0	38.5	12.0	..	..	..	18. 12. 45.65							
June 18	32	ε ² Boötis	L	19.4	22.6	25.7	28.8	35.1	41.4	44.4	47.5	50.7	14. 38. 35.05	+0.74	35.06	28.10	53.04	53.00	14. 39. 28.05 - 1.67	
	33	α Libræ	L	45.4	48.3	51.3	54.2	59.8	5.5	8.5	11.3	14.2	14. 42. 59.82	[+1.46]	59.92	52.84	52.92	[-0.01]	14. 43. 52.91 - 1.53	
	34	λ Ophiuchi.	L	25.4	28.2	31.0	33.8	39.3	44.8	47.7	50.3	53.2	16. 23. 39.29		39.35	32.39	53.04		16. 24. 32.34 - 1.86	
	35	* N.P.D. 106°. 9'.	L	11.9	..	..	21.5	26.5	32.6	..	..	41.4	16. 29. 26.77		26.87				16. 30. 13.86 - 1.96	
	36	κ Ophiuchi.	L	34.1	37.2	39.8	42.7	48.3	54.0	56.7	59.6	2.3	16. 50. 48.29		48.34	41.32	52.98		16. 51. 41.33 - 1.90	
	37	δ Ursæ Min. (E&E)	L	40.0	28.8	13.0	2.2	..	10.0	55.0	41.8	28.0	18. 12. 44.40		43.03	37.14	54.11			
	38	2 Aquilæ	L	14.2	16.7	19.8	22.6	28.0	33.7	36.6	39.3	42.0	18. 34. 28.09		28.18	21.15	52.97		18. 35. 21.17 - 2.01	
	39	Ceph. 51 S.P. (E&E)	L	..	..	34.5	53.0	49.0	42.5	..	..	..	18. 38. 58.08		59.78	54.08	54.30			
	40	μ Aquarii	AD	42.2	45.3	47.9	..	..	..	..	..	..	20. 44. 56.35		56.44	49.77	53.33	53.35†		
	41	32 Vulpeculæ ...	AD	1.2	4.6	7.5	10.8	17.0	23.3	26.4	29.5	32.6	20. 48. 16.97		16.98	10.32	53.34	[-0.01]		
	June 20	42	Polaris S.P. (E&E)	AD	56.0	54.0	50.5	46.5	37.0	..	..	..	..	13. 10. 50.85	(-2.33)	56.39	49.87	53.48	53.39	
43		Spica	AD	23.7	26.6	29.4	32.1	37.8	43.4	46.3	49.1	52.0	13. 17. 37.81		37.87	31.27	53.40	[0.04]	13. 18. 31.28 - 1.05	
44		25 Canum Venat.	AD	39.8	43.5	46.8	50.3	..	..	..	..	..	13. 30. 57.21		57.11				13. 31. 50.52 - 1.45	

The observations of transits are usually made by the galvanic or chronographic method, the wires employed being generally P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P. Occasionally the observations are made by eye and ear (E & E); the wires then employed are N, O, P, T, X, Y, Z; in reversed order for stars S.P.

Reading of Transit-Micrometer, 32" 300.

Corrections to the times by Hardy for reduction to Sidereal Standard, applied to form Concluded Transit, Nos. 13, 23, 31, 37, 39 and 42, +1" 30: -52" 60: -52" 20:

-50" 20: -50" 20: and -46" 40.

Corrections for passage of Semidiameter, Nos. 12 and 14, -74" 32: and -1" 27.

† This clock-error has been used in the reduction of the observations made with the Altazimuth.

June 16 and 17. The azimuthal error by tabular places of Polaris S.P. and δ Ursæ Minoris on June 17.

June 16^d. 0^h. The R.A. micrometer-head was found out of bearing as on June 9, and the micrometer was removed and released from its constraint.

June 16^d. 11^h. The R.A. micrometer-head was again pressed out of bearing in observing η Ophiuchi.

June 16^d. 22^h. The R.A. micrometer was removed and released from its constraint.

June 18^d. 0^h. The R.A. micrometer was taken out, and a worn-out screw removed (replaced June 18^d. 22^h), and a stop was placed in the eye-piece slide.

June 18 to 21. The azimuthal error used is the mean of three determinations (+1" 57, +1" 51, and +1" 31) by tabular places of δ Ursæ Minoris and Cephei 51 S.P. on June 18, and of Polaris S.P. and Spica and δ Ursæ Minoris and Cephei 51 S.P. on June 20.

18. Very cloudy.

31. Cloudy.

21, 22, 23. Tremulous.

32, 33. Faint; cloudy.

29, 35. Faint.

35. Mag. = 10.

30. Very tremulous.

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire. h m s	Error of Collimation (Level). [Azimuth]. "	Seconds of Transit Cor- rected. s	Tabular R.A. of Known Stars. s	Clock appa- rently Slow. s	Adopted Clock Slow at 0 ^h Sidereal and (Lossing Rate). s	Apparent R.A. of Center from the Observation. h m s	Correction for Reduction to Mean R.A. 1873, Jan. 1. s
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.								
				s	s	s	s	s	s	s	s	s								
June 20	1	Mars 1 L.	AD	30.8	33.6	36.4	..	44.9	..	53.4	56.1	59.2	13. 45. 44.90	+0.74	44.97			53.39	13. 46. 38.91	
	2	δ Boötis	AD	58.4	13.8	..	44.5	..	15.1	30.5	..	..	14. 3. 44.48	(-2.33)	..			[0.04]	..	
	3	δ Boötis	AD	29.1	32.2	35.2	38.3	44.5	50.7	53.8	56.8	59.8	14. 3. 44.47	+1.46	44.42				14. 4. 37.83	-1.48
	4	Arcturus	AD	45.3	48.5	51.3	54.3	0.2	6.0	9.0	11.9	14.9	14. 9. 0.15		0.11	53.56	53.45	14. 9. 53.52	-1.43	
	5	κ Ophiuchi	AD	..	36.8	39.5	42.2	47.9	53.6	56.4	59.1	..	16. 50. 47.91		47.91	41.33	53.42	16. 51. 41.33	-1.91	
	6	η Herculis	AD	30.0	33.7	37.0	40.2	..	..	..	..	..	17. 11. 46.80		46.72			17. 12. 40.14	-2.09	
	7	Groomb. 966 S.P.	AD	54.5	5.1	15.5	26.2	47.5	8.8	19.6	29.8	41.5	17. 21. 47.66		48.13			5. 22. 41.55	+3.76	
	8	α Ophiuchi	AD	56.8	59.7	2.4	5.2	10.9	16.6	19.4	22.2	25.1	17. 28. 10.92		10.90	4.29	53.39	17. 29. 4.32	-1.96	
	9	26 Draconis	AD	21.1	27.4	33.1	39.1	50.9	2.7	8.4	14.2	20.3	17. 32. 50.77		50.51			17. 33. 43.93	-3.09	
	10	δ Ursæ Min. (E&E)	AD	35.5	25.0	11.0	58.5	31.0	..	..	..	..	18. 12. 44.94		42.68			..		
	11	ϕ Draconis	AD	2.0	11.5	19.5	28.4	45.2	2.8	11.3	20.0	28.6	18. 21. 45.44		45.03	37.10	52.07	18. 22. 38.45	-3.95	
	12	α Lyrae	AD	..	..	..	40.1	47.1	54.1	57.9	..	..	4.9 18. 31. 47.12		47.01	40.40	53.39	18. 32. 40.43	-2.11	
	13	Ceph. 51 S.P. (E&E)	AD	..	..	50.0	48.5	43.5	37.5	35.0	..	..	18. 38. 57.18		59.89	54.08	54.19	..		
	14	θ Aquilæ	AD	..	..	..	..	53.4	..	1.8	4.3	7.1	20. 3. 53.33		53.36	46.83	53.47	20. 4. 46.79	-1.79	
	15	Saturn 1 L.	AD	11.1	..	..	20.2	26.1	32.0	34.9	38.0	41.1	20. 14. 26.11		26.87			20. 15. 20.30		
	16	Saturn 2 L.	AD	..	15.8	18.5	21.5	27.5	33.2	36.3	39.3	..	20. 14. 27.42							
	17	ξ Aquarii	L	53.7	56.7	59.3	2.0	7.8	13.2	16.0	19.1	21.8	21. 30. 7.72		7.78	0.84	53.06	53.02†	..	
June 21	18	$\odot$ 1 L.	C	..	13.0	15.7	18.7	24.9	31.0	33.9	37.2	..	5. 58. 24.89	(-3.58)	33.74			53.35	6. 0. 27.09	
	19	$\odot$ 2 L.	C	..	30.8	33.7	36.8	42.7	49.1	52.0	54.9	..	6. 0. 42.84					[0.02]		
	20	β Libræ	C	36.6	50.8	..	18.7	..	46.7	0.6	..	..	15. 9. 18.70		..			..		
	21	β Libræ	C	4.7	7.6	10.3	13.2	18.7	24.3	27.1	29.9	32.7	15. 9. 18.71		18.73	12.07	53.34	..		
	22	7 Serpentis	C	..	19.6	22.3	25.1	30.7	36.4	39.3	42.2	..	15. 15. 30.78		30.69			15. 16. 24.05	-1.69	
	23	γ Serpentis	C	41.3	44.3	47.1	50.1	55.8	1.7	4.6	7.5	10.5	15. 28. 55.87		55.77			15. 29. 49.13	-1.76	
	24	α Serpentis	C	55.0	58.1	0.8	3.7	9.3	14.8	17.6	20.4	23.2	15. 37. 9.20		9.15	2.52	53.37	..		
	25	N.P.D. 106°. 7' ...	C	..	..	..	..	27.0	32.8	35.6	38.4	41.5	16. 29. 26.98		27.02			16. 30. 20.38	-1.98	
June 23	26	$\odot$ 1 L.	L	..	32.6	35.4	38.6	44.5	50.7	53.7	56.7	..	6. 6. 44.58	+0.80	53.37			53.46	6. 8. 46.82	
	27	$\odot$ 2 L.	L	47.3	50.3	53.2	56.3	2.4	8.5	11.6	14.5	17.5	6. 9. 2.38	(-3.38)				[-0.05]		
June 24	28	ψ Boötis	P	53.0	56.2	59.3	2.6	8.8	15.0	18.0	21.1	24.2	14. 58. 8.67		8.55	1.94	53.39	53.41	14. 59. 1.93	-1.71
	29	ζ Libræ	P	59.3	2.8	5.3	8.2	14.0	19.8	22.8	25.5	28.4	15. 20. 14.00		14.07	7.52	53.45	..	15. 21. 7.45	-1.71
	30	α Serpentis	P	55.1	58.0	0.7	3.7	9.2	15.0	17.7	20.3	23.2	15. 37. 9.20		9.16	2.51	53.35	..	15. 38. 2.54	-1.73
	31	Piazzi XV. 198 ..	P	23.2	29.8	35.7	41.8	54.0	6.1	12.2	18.2	24.5	15. 43. 53.92		53.51			15. 44. 46.89	-2.98	
	32	β Scorpii	P	27.7	42.3	..	11.8	..	41.1	55.8	..	..	15. 57. 11.76		..			..		
	33	β Scorpii	P	57.0	0.1	2.9	6.0	11.8	17.8	20.5	23.4	26.3	15. 57. 11.75		11.83	5.16	53.33	..	15. 58. 5.21	-1.90
	34	τ Coronæ	P	11.0	15.0	18.1	21.8	28.6	35.3	38.8	42.3	45.8	16. 4. 28.50		28.33			16. 5. 21.71	-2.05	
	35	N.P.D. 105°. 44' ..	P	29.9	33.0	36.0	38.9	44.8	50.3	53.2	56.1	59.1	16. 31. 44.58		44.64			16. 32. 38.02	-1.99	
	36	50 Herculis	P	34.2	37.7	40.8	44.0	50.4	56.9	59.9	3.2	6.3	16. 44. 50.36		50.21			16. 45. 43.59	-2.03	
	37	α Herculis	P	17.1	31.2	..	0.1	..	28.7	43.0	..	..	17. 8. 0.04		..			..		
	38	α Herculis	P	45.6	48.8	51.2	54.4	0.1	5.9	8.8	11.5	14.3	17. 8. 0.06		59.99	53.37	53.38	17. 8. 53.36	-1.97	
June 25	39	Polaris S.P. (E&E)	AD	54.5	48.0	44.0	40.0	30.0	..	..	..	..	13. 10. 56.05	(-2.16)	1.12	54.69	53.57	53.34	..	
	40	Spica	AD	55.6	9.6	..	37.8	..	6.0	20.0	..	..	13. 17. 37.82		..			[0.01]	..	
	41	Spica	AD	23.7	..	..	32.2	37.8	43.4	46.3	49.0	51.8	13. 17. 37.78		37.85	31.23	53.38	..	13. 18. 31.20	-1.01
	42	ψ Boötis	HC	21.8	37.6	..	8.6	..	39.8	55.4	..	..	14. 58. 8.66		..			..		
	43	ψ Boötis	HC	53.0	56.3	59.4	2.5	8.6	15.0	18.0	21.2	24.3	14. 58. 8.69		8.65	1.93	53.28	..		
	44	μ Libræ	HC	23.4	38.0	..	7.4	..	36.6	51.3	..	..	15. 4. 7.36		..			..		
	45	μ Libræ	HC	52.5	55.6	58.5	1.4	7.4	13.3	16.0	19.1	22.0	15. 4. 7.30		7.41	0.72	53.31	..		

Polaris and other stars very near the pole are observed by eye and ear over the wires P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P.; using the Clock Hardy. The Intervals of the Wires of both systems are given in the Introduction.

Reading of Transit-Micrometer, 32".300.

Corrections to the times by Hardy for reduction to Sidereal Standard, applied to form Concluded Transit, Nos. 10, 13, and 39, -46".00: -46".00: and -35".70.

Correction for passage of Semidiameter, No. 1, +0".53.

† This clock-error has been used in the reduction of the observations made with the Altazimuth.

June 23 to 25. The azimuthal error used is the mean of two determinations (+1".60 and +1".38) by tabular places of Polaris S.P. and Spica and of δ Ursæ Minoris and Cephei 51 S.P. on June 25.

2, 20, 32, 37, 40, 42, 44. Observed over wires N, O, T, Y, Z, for determination of intervals.
29. Faint; cloudy.

7. Exceedingly tremulous.
39. Very tremulous.

10. Tremulous.

TRANSITS OBSERVED WITH THE TRANSIT-CIRCLE, AND COMPUTATIONS OF APPARENT RIGHT ASCENSION,

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of Collimation. (Level). [Azimuth].	Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at Sidereal and [Losing Rate].	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R. A. 1873, Jan. 1.
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.								
				s	s	s	s	s	s	s	s	s								
June 25	1	δ Persei S.P.	AD	38.8	42.8	46.9	51.0	59.2	7.3	11.4	15.4	19.7	15.33.59.18	+0.80	59.27			53.34	3.34.52.62	+0.81
	2	ε Serpentis.	AD	56.0	9.7	..	37.5	..	5.3	19.1	..	..	15.43.37.54	(-2.16)	..			[0.01]	..	
	3	ε Serpentis.	AD	23.5	..	29.2	32.0	37.5	43.1	..	48.6	51.4	15.43.37.50	[+1.49]	37.52	30.91	53.39	15.44.30.87	-1.76	
	4	Piazzi IV. 22 S.P.	AD	..	28.0	33.7	39.4	50.6	1.6	7.5	12.8	..	16.9.50.54		50.73			4.10.44.08	+1.48	
	5	Antares.	AD	59.6	15.2	..	45.8	..	16.6	32.2	..	..	16.21.45.90		..			..		
	6	Antares.	AD	30.5	33.7	36.6	39.7	45.8	52.0	55.4	58.2	1.3	16.20.45.90		46.04	39.43	53.39	16.21.39.39	-2.07	
	7	N.P.D. 106°. 7' ...	AD	12.3	15.5	18.4	..	26.7	..	35.9	..	41.4	16.29.26.94		27.04			16.30.20.39	-1.99	
	8	γ Draconis.	AD	40.0	47.0	53.4	0.0	13.0	25.8	32.4	38.8	45.5	16.39.12.85		12.60			16.40.5.95	-3.27	
	9	h ¹ Draconis.	AD	57.2	4.0	10.4	17.1	30.4	43.4	50.2	56.9	3.5	16.54.30.32		30.05			16.55.23.40	-3.32	
	10	h ² Draconis.	AD	..	..	..	..	..	11.5	18.1	25.0	31.3	16.54.58.29		58.02			16.55.51.37	-3.32	
	11	26 Draconis.	AD	21.1	27.3	33.0	..	50.7	..	8.3	14.2	20.3	17.32.50.67		50.43			17.33.43.78	-3.03	
	12	72 Ophiuchi.	AD	46.3	0.3	..	28.4	..	56.4	10.5	..	..	18.0.28.40		..			..		
	13	72 Ophiuchi.	AD	14.2	17.2	..	22.8	28.4	34.0	..	39.6	42.5	18.0.28.37		28.38	21.71	53.33	18.1.21.73	-2.01	
	14	δ Ursæ Min. (E&E)	AD	..	..	..	..	19.5	54.0	41.0	26.5	13.0	18.12.44.64		42.58	36.64	54.06	..		
	15	42 Draconis.	AD	7.3	40.5	..	47.4	..	54.0	27.0	..	..	18.24.47.28		..			..		
	16	42 Draconis.	AD	13.6	20.7	27.3	..	47.4	..	7.4	13.8	20.7	18.24.47.24		46.97			18.25.40.32	-3.24	
	17	Ceph. 51 S.P. (E&E)	AD	..	..	..	..	..	26.5	22.0	20.0	18.38.58.19		0.67	54.54	53.87	..			
	18	Groombridge 2742	AD	40.4	46.6	52.3	58.7	..	22.4	28.4	34.0	39.7	18.55.10.28		10.05			18.56.3.40	-2.86	
	19	ψ Sagittarii.	AD	8.0	23.4	..	54.0	..	24.6	39.8	..	..	19.6.53.98		..			..		
	20	ψ Sagittarii.	AD	38.6	41.9	44.8	47.9	54.0	0.0	3.4	6.3	9.3	19.6.54.00		54.13	47.38	53.25	19.7.47.48	-2.34	
	21	Bradley 2459.	AD	48.7	..	..	..	..	28.2	..	4.7	19.19.19.08		19.06			19.20.12.41	-1.94		
	22	N.P.D. 110°. 18' ...	AD	..	..	..	..	41.6	47.4	50.4	53.3	56.4	20.11.41.54		41.65			20.12.35.00	-2.11	
	23	Saturn 1 L.	AD	..	..	..	..	..	22.1	24.5	27.6	20.13.12.91		13.62				20.14.6.97		
	24	Saturn 2 L.	AD	..	..	..	..	..	23.0	25.8	29.0	20.13.14.11								
June 26	25	2 Aquilæ.	E	13.6	16.5	19.3	21.8	27.5	33.2	36.0	38.8	41.6	18.34.27.58	[+1.91]	27.68	21.27	53.59	53.51	....	
	26	Ceph. 51 S.P. (E&E)	E	..	..	..	..	24.0	24.0	18.0	19.5	18.38.58.09		0.96	54.67	53.71	[0.08]	....		
	27	δ Aquilæ.	E	59.9	3.1	5.6	8.4	14.0	19.6	22.5	25.3	28.0	19.18.14.04		14.09	7.63	53.54	....		
	28	λ Ursæ Min. (E&E)	E	28.0	3.0	24.0	56.0	..	15.5	..	..	19.51.16.02		8.64	2.22	53.58	....			
	29	N.P.D. 110°. 18' ...	E	5.2	8.2	11.1	14.0	20.0	25.9	28.8	31.7	34.6	20.11.19.94		20.08			20.12.13.66	-2.14	
	30	Saturn 1 L.	E	42.4	45.4	48.4	51.4	57.4	3.2	6.0	9.0	12.0	20.12.57.23		58.02			20.13.51.60		
	31	Saturn 2 L.	E	43.6	46.8	49.6	52.7	58.5	4.5	7.4	10.4	13.4	20.12.58.53							
	32	Venus 2 L.	H	43.0	45.8	48.7	51.6	57.5	3.0	6.0	8.9	11.8	3.18.57.35		57.37			3.19.49.71		
	33	Rigel.	H	18.0	20.8	23.5	26.3	31.8	37.5	40.4	43.4	46.2	5.7.31.98		32.07	25.42	53.35	[0.02]	....	
	34	β Tauri.	H	6.2	9.3	12.4	15.6	22.0	28.3	31.5	34.5	37.3	5.17.21.88		21.85	15.23	53.38	....		
June 27	35	⊙ 1 L.	H	6.6	9.7	12.4	15.5	21.7	27.7	31.0	33.8	36.6	6.23.21.65		30.47			6.25.23.88		
	36	⊙ 2 L.	II	24.1	27.4	30.0	33.3	39.3	45.3	48.4	51.5	54.6	6.25.39.30							
	37	λ Ophiuchi.	II	25.0	27.8	30.6	33.3	38.9	44.4	47.2	49.9	52.7	16.23.38.85		38.90	32.41	53.51	....		
	38	ζ Ophiuchi.	AD	36.1	50.2	..	18.4	..	46.5	0.4	..	..	16.29.18.34		..			....		
	39	ζ Ophiuchi.	AD	4.2	7.1	9.8	12.7	18.4	24.0	26.8	29.6	32.5	16.29.18.33		18.42	11.95	53.53	....		
	40	ζ Herculis.	AD	49.7	6.0	..	38.6	..	11.0	27.4	..	..	16.35.38.56		..			....		
	41	ζ Herculis.	AD	..	25.6	28.8	32.2	38.6	..	..	..	54.9	16.35.38.59		38.54	32.00	53.46	....		
	42	50 Herculis.	II	34.2	37.7	40.6	43.9	50.1	56.6	59.8	3.0	6.3	16.44.50.23		50.18			16.45.43.59	-2.03	
	43	53 Herculis.	II	1.5	5.0	8.1	11.5	17.9	24.3	27.6	31.0	34.2	16.47.17.88		17.83			16.48.11.24	-2.05	
	44	ε Herculis.	H	..	..	..	..	..	..	44.3	47.5	..	16.54.34.57		34.52	27.93	53.41	....		
June 28	45	⊙ 1 L.	L	..	..	..	..	37.0	40.0	43.0	46.0	6.27.30.90		39.69			53.18	6.29.32.84		
	46	⊙ 2 L.	L	33.4	36.6	39.4	42.6	48.4	54.6	57.6	0.4	3.6	6.29.48.49					[0.10]		

The observations of transits are usually made by the galvanic or chronographic method, the wires employed being generally P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P. Occasionally the observations are made by eye and ear (E & E); the wires then employed are N, O, P, T, X, Y, Z; in reversed order for stars S.P.

Reading of Transit-Micrometer, 32". 300.

Corrections to the times by Hardy for reduction to Sidereal Standard, applied to form Concluded Transit, Nos. 14, 17, 26, and 28, -35".00 : -35".00 : -32".50 : and -32".50.

Correction for passage of Semidiameter, No. 32, -1".06.

June 26 to 28. The azimuthal error used is the mean of two determinations (+1".95 and +1".86) by tabular places of Cephei 51 S.P. and λ Ursæ Minoris on June 26, and of δ Ursæ Minoris and Cephei 51 S.P. on June 28.

2, 5, 12, 15, 19, 38, 40. Observed over wires N, O, T, Y, Z, for determination of intervals.

32. Extremely tremulous; misty.

35, 36. Cloudy.

33. Barely visible.

43, 44. Very faint; cloudy.

17. Very tremulous.

34. Faint.

AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1873.

[43]

1875

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of		Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at 0 ^h Sidereal and (Losing Rate).	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873, Jan. 1.
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.		Collimation. (Level).	[Azimuth].						
s	s	s	s	s	s	s	s	s	h m s	"	s	s	s	s	h m s	s					
June 28	1	α Libræ	L	16.4	31.0	..	59.6	..	28.4	42.7	..	..	14. 42. 59.64	+0.80	..	..	..	53.18	....		
	2	α Libræ	L	45.3	48.2	51.1	53.8	59.6	5.4	8.3	11.2	13.8	14. 42. 59.62	(-2.87)	59.72	52.80	53.08	[0.10]	....		
	3	α Coronæ	L	40.7	56.3	..	27.4	..	58.5	14.0	..	..	15. 28. 27.40	[+1.91]	..	..	..	..	....		
	4	α Coronæ	L	11.7	15.1	18.0	21.3	27.4	33.7	36.8	39.8	43.0	15. 28. 27.40		27.32	20.44	53.12	..	....		
	5	α Serpentis	E	27.0	41.0	..	8.8	..	36.8	50.7	..	..	15. 37. 8.88		..	..	..	53.69†	....		
	6	α Serpentis	E	54.8	57.8	0.4	3.3	8.8	14.5	17.2	20.0	22.9	15. 37. 8.84		8.84	2.50	53.66	..	....		
	7	ϵ Serpentis	L	56.0	10.0	..	37.8	..	5.5	19.4	..	..	15. 43. 37.76		..	..	..	53.18	....		
	8	ϵ Serpentis	L	23.8	26.8	29.4	32.2	37.8	43.4	46.2	48.9	51.7	15. 43. 37.79		37.80	30.90	53.10	..	....		
	9	δ Ophiuchi	L	8.6	22.4	..	50.0	..	17.8	31.7	..	..	16. 6. 50.12		..	..	..	..	....		
	10	δ Ophiuchi	L	36.1	39.0	41.8	44.5	50.0	55.6	58.4	1.2	4.0	16. 6. 50.06		50.10	43.26	53.16	..	....		
	11	ϵ Ophiuchi	L	31.0	33.8	36.5	39.4	44.9	50.4	53.3	56.0	58.8	16. 10. 44.89		44.94	27.38	53.58	53.69†	16. 11. 38.05	- 1.86	
	12	γ Herculis	E	12.8	15.8	18.5	21.5	..	33.3	36.3	39.2	42.2	16. 15. 27.43		27.38	20.96	53.58	..	....		
	13	δ Ursæ Min. (E&E)	L	19.5	9.0	54.0	41.0	14.8	47.0	35.0	20.8	7.5	18. 12. 45.66		42.48	36.32	53.84	53.18	....		
	14	Ceph. 51 S.P. (E&E)	L	39.0	36.0	33.0	31.8	..	19.5	18.0	14.0	14.0	18. 38. 57.70		1.31	54.87	53.56	..	....		
July 1	15	δ 1 L.	G	27.0	30.0	32.6	35.5	41.0	46.8	49.4	52.4	55.4	11. 50. 41.12	+0.91	41.18	..	..	53.04	11. 52. 35.57		
	16	Polaris S.P. (E&E)	G	44.0	40.5	36.0	31.0	22.5	..	..	..	..	13. 11. 0.76	(-2.21)	6.72	59.66	52.94	[-0.06]	....		
	17	Spica	G	..	26.7	29.7	32.5	37.9	43.7	46.6	49.4	..	13. 17. 38.06	[+2.10]	38.18	31.17	52.99	..	13. 18. 31.19	- 0.95	
	18	ϵ^2 Bootis	AD	..	22.6	..	28.7	..	41.2	44.4	47.5	50.6	14. 38. 34.98		34.96	27.99	53.03	53.10†	....		
	19	α Libræ	AD	16.4	31.0	..	59.6	..	28.2	42.7	..	..	14. 42. 59.60		..	..	..	..	....		
	20	α Libræ	AD	..	..	51.0	..	59.6	..	..	11.1	13.8	14. 42. 59.57		59.70	52.78	53.08	..	....		
	21	ϵ Ophiuchi	G	31.0	34.0	36.6	39.4	45.0	50.6	53.4	56.1	58.8	16. 10. 44.98		45.08	..	..	53.04	16. 11. 38.08	- 1.86	
	22	Antares	G	30.8	34.2	37.0	40.0	46.3	52.4	55.4	58.6	1.7	16. 20. 46.24		46.42	39.44	53.02	..	16. 21. 39.42	- 2.08	
	23	λ Ophiuchi	G	57.6	11.7	..	39.4	..	7.1	21.0	..	..	16. 23. 39.38		..	..	..	..	....		
	24	λ Ophiuchi	G	25.4	28.4	31.2	33.9	39.4	45.0	47.6	50.4	53.2	16. 23. 39.36		39.43	32.41	52.98	..	16. 24. 32.43	- 1.88	
	25	Piazzi XVI. 195	G	15.7	30.0	42.0	55.4	21.6	47.5	0.5	13.4	26.0	16. 35. 21.28		20.65	..	..	..	16. 36. 13.65	- 5.44	
	26	κ Ophiuchi	G	34.2	37.2	..	42.8	48.5	..	56.7	..	2.3	16. 50. 48.33		48.37	41.36	52.99	..	16. 51. 41.37	- 1.94	
	27	Piazzi XVII. 3	G	23.8	27.5	30.8	34.4	41.2	48.0	51.4	54.9	58.4	17. 2. 41.14		41.09	..	..	..	17. 3. 34.09	- 2.13	
	28	η Herculis	G	30.4	34.0	37.2	..	47.3	..	57.2	0.4	3.8	17. 11. 47.18		47.13	..	..	..	17. 12. 40.13	- 2.10	
	29	Piazzi XVII. 109	G	14.4	17.6	20.3	23.4	29.3	35.3	38.1	41.1	44.0	17. 20. 29.26		29.26	..	..	..	17. 21. 22.26	- 2.03	
	30	α Ophiuchi	G	57.0	0.0	2.8	5.6	11.4	17.0	19.8	22.5	25.5	17. 28. 11.28		11.31	4.35	53.04	..	17. 29. 4.31	- 2.02	
	31	Juno	G	49.0	..	..	..	3.8	..	..	15.2	18.1	18. 10. 3.76		3.86	..	..	..	18. 10. 56.86		
	32	δ Ursæ Min. (E&E)	G	..	..	..	..	..	..	14.5	1.3	18. 12. 45.30		42.93	36.06	53.13	..	....			
	33	Ceph. 51 S.P. (E&E)	G	..	31.5	27.5	25.0	22.0	..	..	..	..	18. 38. 58.96		1.92	53.10	53.18	..	....		
July 2	34	$\odot$ 1 L.	L	49.8	53.0	55.9	59.2	5.0	11.1	14.0	17.0	20.2	6. 44. 5.00		} 13.73	..	..	52.72	6. 46. 6.44		
	35	$\odot$ 2 L.	L	7.3	10.4	13.3	16.5	22.5	28.7	31.5	34.5	37.3	6. 46. 22.45			..	..	[-0.04]	..		
	36	Arcturus	L	46.0	49.2	51.9	55.0	0.6	6.6	9.6	12.4	15.4	14. 9. 0.74		0.74	53.45	52.71	..	....		
	37	α Serpentis	E	55.2	58.2	0.8	3.6	9.3	14.9	17.6	20.5	23.4	15. 37. 9.26		9.31	2.49	53.18	53.21†	....		
	38	ϵ Serpentis	E	23.7	26.6	29.3	32.1	37.7	43.3	46.0	48.8	51.5	15. 43. 37.63		37.71	30.89	53.18	..	....		
	39	ζ Herculis	L	50.4	6.7	..	39.3	..	11.9	28.2	..	..	16. 35. 39.32		..	..	..	52.72	....		
	40	ζ Herculis	L	23.0	26.5	29.3	32.6	39.3	45.8	49.2	52.3	55.6	16. 35. 39.29		39.25	31.98	52.73	..	....		
	41	α Ophiuchi	L	29.1	43.5	..	11.6	..	40.0	54.3	..	..	17. 28. 11.72		..	..	..	..	....		
	42	α Ophiuchi	L	57.5	0.4	3.2	6.0	11.6	17.5	20.4	23.0	25.8	17. 28. 11.70		11.73	4.35	52.62	..	....		
July 3	43	$\odot$ 1 L.	AD	57.6	0.5	3.5	..	12.6	..	21.6	24.7	27.7	6. 48. 12.58		12.58	..	..	52.68	6. 50. 13.89		
July 4	44	$\odot$ 1 L.	E	5.1	8.3	11.2	14.2	20.2	26.2	29.2	32.2	35.3	6. 52. 20.20	(-2.81)	} 28.76	..	..	53.03	6. 54. 21.74		
	45	$\odot$ 2 L.	E	..	25.5	28.4	31.4	37.4	43.5	46.5	49.5	..	6. 54. 37.44	[+1.33]		..	..	[-0.16]	..		

Polaris and other stars very near the pole are observed by eye and ear over the wires P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P.; using the Clock Hardy. The Intervals of the Wires of both systems are given in the Introduction.

Reading of Transit-Micrometer, 32".300.

Corrections to the times by Hardy for reduction to Sidereal Standard, applied to form Concluded Transit, Nos. 13, 14, 16, 32, and 33, - 28".40: - 28".30: - 22".50: - 22".00: and - 22".00.

Corrections for passage of Semidiameter, Nos. 15 and 43, + 61".38: and + 68".64.

† These clock-errors have been used in the reduction of the observations made with the Altazimuth.

July 1 to 3. The azimuthal error used is the mean of two determinations (+ 2".07 and + 2".13) by tabular places of Polaris S.P. and Spica and of δ Ursæ Minoris and Cephei 51 S.P. on July 1.

July 4 to July 6, ω Ophiuchi. The azimuthal error used is the mean of two determinations (+ 1".42 and + 1".23) by tabular places of δ Ursæ Minoris and Cephei 51 S.P. and of λ Ursæ Minoris and α^2 Capricorni on July 4.

1, 2. Faint; cloudy.

1, 3, 5, 7, 9, 19, 23, 39, 41. Observed over wires N, O, T, Y, Z, for determination of intervals.

13. Very faint.

15. Very faint; cloudy.

31. Barely visible.

TRANSITS OBSERVED WITH THE TRANSIT-CIRCLE, AND COMPUTATIONS OF APPARENT RIGHT ASCENSION,

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire. h m s	Error of Collimation. (Level). [Azimuth].	Seconds of Transit Cor- rected.	Tabular R. A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at α^h Sidereal and (Losing Rate).	Apparent R. A. of Center from the Observation. h m s	Correction for Reduction to Mean R. A. 1873, Jan. 1. s
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.								
				s	s	s	s	s	s	s	s	s								
July 4	1	Procyon	E	31.7	34.6	37.4	40.4	45.7	51.2	54.0	56.7	59.6	7. 31. 45.69	+0.91	45.68	38.64	52.96	53.03	7. 32. 38.66	+ 0.53
	2	δ 1 L.	E	28.7	31.8	34.5	37.4	43.3	49.1	51.9	54.8	57.6	14. 5. 43.23	(-2.81)	43.28			[-0.16]	14. 7. 40.40	
	3	ϵ^2 Boötis	E	..	..	..	..	..	41.5	44.5	47.6	50.8	14. 38. 35.15	[+1.33]	35.06	27.95	52.89		14. 39. 27.99	- 1.52
	4	α Libræ	E	..	..	51.3	54.2	59.7	5.6	8.4	..	..	14. 42. 59.83		59.89	52.76	52.87		14. 43. 52.82	- 1.45
	5	ψ Boötis	E	53.4	56.7	59.6	2.9	9.0	15.3	18.4	21.5	24.7	14. 58. 9.03		8.94	1.85	52.91		14. 59. 1.87	- 1.62
	6	α Serpentis	L	56.0	58.8	1.8	4.6	10.1	15.7	18.5	21.3	24.2	15. 37. 10.11		10.09	2.48	52.39	52.49†	....	
	7	ϵ Serpentis	L	24.6	27.6	30.2	33.0	38.5	44.1	46.8	49.6	52.4	15. 43. 38.52		38.52	30.88	52.36		....	
	8	ω Herculis	E	28.0	31.0	33.8	36.9	42.3	48.1	51.0	53.8	56.6	16. 18. 42.38		42.34			53.03	16. 19. 35.26	- 1.86
	9	λ Ophiuchi	E	25.5	28.5	31.2	34.0	39.5	45.1	47.9	50.4	53.3	16. 23. 39.47		39.48	32.41	52.93		16. 24. 32.40	- 1.88
	10	N.P.D. 105°. 44' ..	E	..	33.6	36.4	39.2	45.0	50.5	53.4	56.3	..	16. 31. 44.89		44.96				16. 32. 37.88	- 2.01
	11	ϵ Scorpii	E	48.9	52.3	55.4	58.8	5.7	12.2	15.5	18.7	22.2	16. 41. 5.50		5.66				16. 41. 58.58	- 2.29
	12	κ Ophiuchi	E	34.4	37.3	40.0	42.9	48.4	54.3	56.8	59.6	2.4	16. 50. 48.44		48.42	41.36	52.94		16. 51. 41.34	- 1.94
	13	δ Ursæ Min. (E&E)	E	5.5	54.5	39.5	27.0	0.0	34.5	..	..	..	18. 12. 45.27		42.84	35.75	52.91		....	
	14	Ceph. 51 S.P. (E&E)	E	27.0	24.5	22.0	19.0	13.5	8.5	..	..	..	18. 38. 59.42		2.30	55.36	53.06		....	
	15	ι Vulpeculæ	E	39.9	43.0	45.8	48.8	54.8	0.8	3.6	6.6	9.6	19. 9. 54.75		54.69				19. 10. 47.59	- 2.07
	16	δ Aquilæ	E	..	..	6.6	9.3	14.7	20.3	23.2	25.7	28.5	19. 18. 14.75		14.75	7.74	52.99		19. 19. 7.65	- 2.11
	17	Bradley 2459.	E	..	..	..	..	19.8	26.0	28.9	32.0	35.0	19. 19. 19.79		19.71				19. 20. 12.61	- 2.06
	18	θ Vulpeculæ	E	54.8	57.8	0.5	3.6	9.6	15.4	18.2	21.3	24.2	19. 28. 9.47		9.41				19. 29. 2.31	- 2.05
	19	α Aquilæ	E	30.2	33.2	35.9	38.8	44.3	49.9	52.7	55.5	58.3	19. 43. 44.31		44.29	37.22	52.93		19. 44. 37.19	- 2.06
	20	Melpomene	E	9.3	12.2	14.8	17.8	23.3	29.0	31.8	34.6	37.3	19. 46. 23.34		23.38				19. 47. 16.28	
	21	λ Ursæ Min. (E&E)	E	..	..	..	..	34.0	27.0	56.0	22.0	..	19. 51. 17.81		10.24	3.30	53.06		....	
	22	α^2 Capricorni.	E	55.4	58.5	1.2	4.0	9.5	15.3	18.2	21.1	23.8	20. 10. 9.65		9.71	2.55	52.84		20. 11. 2.61	- 2.19
	23	Saturn 1 L.	E	..	..	..	41.6	47.5	53.4	56.3	59.2	2.4	20. 10. 47.48		48.27				20. 11. 41.17	
	24	Saturn 2 L.	E	..	..	..	43.3	48.8	54.8	57.7	0.6	3.6	20. 10. 48.88						20. 12. 13.77	- 2.31
	25	N.P.D. 110°. 18' ..	E	..	..	..	..	..	29.6	32.6	35.6	20. 11. 20.78		20.87				..		
July 5	26	Arcturus	P	16.6	31.5	..	0.8	..	30.3	45.0	..	..	14. 9. 0.86	(-1.68)	..			52.66	....	
	27	Arcturus	P	46.0	49.2	52.0	55.1	0.8	6.7	9.7	12.7	15.6	14. 9. 0.86		0.87	53.42	52.55	[-0.15]	....	
	28	α Libræ	P	45.5	48.8	51.4	54.4	59.8	5.9	8.7	11.5	14.3	14. 43. 0.02		0.11	52.75	52.64		....	
	29	δ 1 L.	P	11.6	14.7	17.7	20.8	26.6	32.6	35.6	38.6	41.5	14. 55. 26.62		26.73				14. 57. 26.03	
	30	α Persei S.P.	P	..	..	..	..	22.8	31.2	35.4	39.7	44.2	15. 14. 22.73		22.92				3. 15. 15.48	+ 0.40
	31	α Coronæ	P	..	..	..	21.6	27.9	34.1	37.3	40.4	43.4	15. 28. 27.88		27.87	20.39	52.52		....	
July 6	32	ϵ^2 Boötis	E	..	23.0	25.9	29.2	35.3	41.7	44.9	47.9	..	14. 38. 35.39		35.38	27.93	52.55	52.70†	....	
	33	ζ^1 Libræ	L	31.8	46.2	..	15.1	..	44.0	58.3	..	..	15. 20. 15.10		..			52.25	....	
	34	ζ^1 Libræ	L	0.7	3.8	6.4	9.5	15.1	20.9	23.8	26.7	29.6	15. 20. 15.16		15.27	7.47	52.20		....	
	35	α Coronæ	L	41.6	57.2	..	28.1	..	59.3	14.8	..	..	15. 28. 28.22		..				....	
	36	α Coronæ	L	12.6	..	18.9	22.1	28.1	34.5	37.7	..	44.0	15. 28. 28.28		28.27	20.38	52.11		....	
	37	κ Libræ	L	32.7	35.8	38.5	41.6	47.2	53.1	56.1	59.0	2.0	15. 33. 47.32		47.43				15. 34. 39.59	- 1.75
	38	α Serpentis	E	55.9	58.8	1.3	4.1	9.8	15.3	18.2	20.9	23.8	15. 37. 9.77		9.81	2.47	52.66	52.70†	....	
	39	δ 1 L.	L	16.7	19.9	22.8	26.0	32.0	38.1	41.2	44.2	47.2	15. 49. 31.99		32.11			52.25	15. 51. 34.10	
	40	θ Scorpii	L	54.2	57.6	0.4	3.3	9.5	15.6	18.7	21.6	24.8	16. 12. 9.50		9.63				16. 13. 1.79	- 2.00
	41	ω Ophiuchi	L	31.3	34.3	37.3	40.3	46.2	52.1	55.2	58.2	1.0	16. 23. 46.19		46.31				16. 24. 38.46	- 2.03
	42	Venus 2 L.	AD	..	42.2	45.1	48.0	53.7	59.5	2.3	5.2	..	3. 52. 53.69	+1.02	53.86			52.31	3. 53. 45.23	
	43	Aldebaran	AD	30.9	34.0	36.8	39.6	45.4	51.2	54.0	56.8	59.9	4. 27. 45.39	(-1.19) [+4.30]	45.56	37.81	52.25	[-0.02]	4. 28. 37.87	+ 0.25
July 7	44	$\odot$ 1 L.	AD	25.7	28.8	31.7	34.9	40.9	46.6	49.8	52.8	55.8	7. 4. 40.76		49.32				7. 6. 41.62	
	45	$\odot$ 2 L.	AD	42.5	..	48.4	51.5	57.6	3.7	6.7	..	12.8	7. 6. 57.59						..	
	46	Mercury 1 L.	AD	15.1	..	21.0	24.1	29.8	35.7	38.6	..	44.6	8. 51. 29.83		29.99				8. 52. 22.53	

The observations of transits are usually made by the galvanic or chronographic method, the wires employed being generally P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P. Occasionally the observations are made by eye and ear (E & E); the wires then employed are N, O, P, T, X, Y, Z; in reversed order for stars S.P.

Reading of Transit-Micrometer, 32" 300.

Corrections to the times by Hardy for reduction to Sidereal Standard, applied to form Concluded Transit, Nos. 13, 14, and 21, -14°. 90: -14°. 90: and -14°. 70.

Corrections for passage of Semidiameter, Nos. 2, 29, 39, 42, and 46, +64". 18: +66". 73: +69". 83: -0". 94: and +0". 24.

† These clock-errors have been used in the reduction of the observations made with the Altazimuth.

July 6, Venus 2 L., to July 7. The azimuthal error used is the mean of three determinations (+4". 12, +5". 03, and +3". 74) by tabular places of Polaris S.P. and Spica, of δ Ursæ Minoris and Cephei 51 S.P., and of γ Aquilæ and λ Ursæ Minoris on July 7.

11. Very faint.

36, 37. Faint; cloudy.

44, 45. Tremulous.

26, 33, 35. Observed over wires N, O, T, Y, Z, for determination of intervals.

38. Cloudy.

46. Faint and tremulous.

29. Very faint; cloudy.

41, 43. Very tremulous.

187500AM...35A...1A

MONTH and D A Y.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of Collimation. (Level). [Azimuth].	Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at 0 ^h Sidereal and [Local Rate].	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873, Jan. 1.
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.								
				s	s	s	s	s	s	s	s	s								
July 7	1	Polaris S.P. (E&E)	AD	33.5	31.5	26.0	22.0	10.0	..	..	..	..	13. 11. 6.18	+1.02	13.57	5.48	51.91	52.31	....	
	2	Spica	AD	24.5	27.4	30.1	33.0	38.7	44.0	47.0	49.9	52.9	13. 17. 38.60	(-1.19)	38.89	31.11	52.22	[-0.02]	13. 18. 31.19	- 0.89
	3	δ Ophiuchi	AD	9.2	22.7	..	50.8	..	18.4	32.2	..	..	16. 6. 50.68	[+4.30]	..	..	..	..	..	
	4	δ Ophiuchi	AD	36.8	39.8	42.2	45.2	50.8	56.3	59.1	1.9	4.7	16. 6. 50.75		51.00	43.24	52.24	..	16. 7. 43.30	- 1.81
	5	19 Scorpii	AD	23.7	38.9	..	9.3	..	39.3	54.5	..	..	16. 12. 9.16		..	..	..	..	..	
	6	19 Scorpii	AD	54.0	57.1	0.0	3.1	9.3	15.3	18.2	21.2	24.2	16. 12. 9.14		9.49	..	..	..	16. 13. 1.79	- 2.00
	7	ω Ophiuchi	AD	31.0	34.1	37.0	40.0	46.0	52.0	54.9	57.9	0.8	16. 23. 45.94		46.27	..	..	..	16. 24. 38.57	- 2.02
	8	ζ Herculis	J	23.2	..	29.8	33.1	39.5	46.1	49.3	..	56.0	16. 35. 39.56		39.66	31.95	52.29	52.29†	..	
	9	γ Draconis	AD	41.0	47.8	54.0	0.7	13.8	26.7	33.1	39.4	45.8	16. 39. 13.56		13.38	..	..	52.31	16. 40. 5.68	- 2.99
	10	δ 1 L.	AD	27.9	31.1	34.0	37.3	43.8	49.9	53.1	56.1	59.4	16. 48. 43.60		43.97	..	..	..	16. 50. 49.31	
	11	ε Herculis	J	47.0	3.1	..	35.5	..	8.0	24.0	..	..	16. 54. 35.54		..	..	..	52.29†	..	
	12	ε Herculis	J	19.2	22.9	25.9	29.1	35.5	42.1	45.2	48.2	51.8	16. 54. 35.52		35.63	27.90	52.27	..	..	
	13	Groombridge 2419	AD	..	..	..	..	..	54.0	7.5	20.6	33.7	17. 1. 27.83		27.21	..	..	52.31	17. 2. 19.51	- 5.25
	14	α ¹ Ophiuchi	AD	..	29.7	32.5	35.8	41.9	48.0	51.2	54.2	..	17. 6. 41.88		42.25	..	..	..	17. 7. 34.55	- 2.27
	15	β Ophiuchi	AD	31.2	34.7	37.5	40.4	46.3	52.6	55.7	58.6	1.9	17. 17. 46.52		46.87	..	..	..	17. 18. 39.17	- 2.29
	16	β Draconis	AD	21.2	25.9	30.2	34.9	44.1	53.2	57.8	2.1	6.9	17. 26. 44.01		43.98	..	..	..	17. 27. 36.28	- 2.47
	17	β Ophiuchi	AD	39.8	53.7	..	21.3	..	49.1	3.0	..	..	17. 36. 21.40		..	..	..	..	..	
	18	β Ophiuchi	AD	7.4	10.5	13.1	16.0	21.3	26.9	29.8	32.4	35.2	17. 36. 21.39		21.61	13.96	52.35	..	17. 37. 13.91	- 2.06
	19	98 Herculis	AD	5.8	20.9	..	50.8	..	20.8	35.5	..	..	17. 59. 50.78		..	..	..	..	..	
	20	98 Herculis	AD	..	38.9	41.7	44.9	50.8	56.7	59.4	2.5	..	17. 59. 50.68		50.82	..	..	..	18. 0. 43.12	- 2.09
	21	δ Ursæ Min. (E&E)	AD	..	..	..	17.0	50.0	24.5	11.0	57.5	..	18. 12. 43.68		40.96	35.29	54.33	..	..	
	22	α Lyræ	AD	54.9	12.8	..	48.1	..	23.4	41.1	..	..	18. 32. 48.08		..	..	..	..	..	
	23	α Lyræ	AD	30.1	34.0	37.2	41.2	48.1	55.1	58.9	2.2	5.9	18. 31. 48.05		48.12	40.52	52.40	..	18. 32. 40.41	- 2.23
	24	Ceph. 51 S.P. (E&E)	AD	19.0	15.5	13.0	10.5	4.5	..	..	..	..	18. 38. 59.11		0.39	55.86	55.47	..	..	
	25	γ Aquilæ	AD	8.8	11.8	14.2	17.1	23.0	28.5	31.2	34.2	36.9	19. 39. 22.85		23.05	15.36	52.31	..	19. 40. 15.34	- 2.09
	26	λ Ursæ Min. (E&E)	AD	..	..	..	..	24.0	..	51.0	..	43.0	19. 51. 18.81		9.79	3.32	53.53	..	..	
	27	Saturn 1 L.	AD	..	44.3	47.1	50.1	56.0	2.0	5.0	7.9	..	20. 9. 56.04		..	..	..	..	..	
	28	Saturn 2 L.	AD	42.4	45.8	48.5	51.2	57.3	3.2	6.1	9.2	12.1	20. 9. 57.30		57.00	..	..	..	20. 10. 49.29	
	29	N.P.D. 110°. 18'..	AD	27.6	31.0	33.9	36.7	42.2	48.1	51.2	54.1	57.2	20. 11. 42.44		42.77	..	..	..	20. 12. 35.06	
July 8	30	⊙ 1 L.	E	31.7	34.7	37.7	..	46.7	..	55.6	58.7	1.6	7. 8. 46.66	(-3.26)	54.97	..	..	52.56	..	
	31	⊙ 2 L.	E	..	..	..	57.5	3.5	9.4	12.4	15.4	18.4	7. 11. 3.40	[+2.18]		..	..	[0.02]	7. 10. 47.54	
	32	Polaris S.P. (E&E)	E	..	..	..	..	9.0	0.5	59.0	50.5	51.0	13. 11. 5.88		13.92	6.47	52.55	..	..	
	33	Spica	E	24.3	27.3	30.0	32.8	38.4	44.2	47.0	49.7	52.6	13. 17. 38.46		38.55	31.10	52.55	..	13. 18. 31.12	- 0.88
	34	ζ Virginis	E	7.8	10.7	13.4	16.2	21.6	27.4	30.0	32.8	35.6	13. 27. 21.71		21.75	14.33	52.58	..	13. 28. 14.32	- 0.98
	35	η Boötis	E	32.3	35.3	38.1	41.2	47.0	53.0	55.6	58.6	1.5	13. 47. 46.94		46.89	39.43	52.54	..	13. 48. 39.46	- 1.17
	36	Arcturus	E	..	..	52.0	55.1	0.7	6.8	9.6	12.6	15.5	14. 9. 0.81		0.76	53.38	52.62	..	14. 9. 53.33	- 1.25
	37	α Libræ	E	45.6	48.6	51.4	54.4	0.0	5.9	8.6	11.5	14.4	14. 43. 0.04		0.16	52.73	52.57	..	14. 43. 52.73	- 1.42
	38	ψ Boötis	L	54.1	57.4	0.3	3.6	9.7	16.0	19.2	22.5	25.4	14. 58. 9.78		9.70	1.80	52.10	52.12†	..	
	39	ι ¹ Libræ	L	53.8	56.8	59.6	2.5	8.3	14.2	17.1	20.1	23.0	15. 4. 8.36		8.49	0.65	52.16	[0.02]	..	
	40	Venus 2 L.	G	59.4	2.4	5.2	8.2	13.8	19.8	22.5	25.5	28.4	4. 0. 13.90	[+4.08]	13.94	..	..	52.38	4. 1. 5.39	
	41	Rigel	G	19.1	22.2	24.8	27.6	33.3	38.7	41.7	44.4	47.3	5. 7. 33.23		33.43	25.66	52.23	[-0.07]	5. 8. 25.80	+ 0.41
	42	β Tauri	G	..	..	13.6	16.8	23.2	..	..	35.7	39.0	5. 17. 23.13		23.10	15.50	52.40	..	5. 18. 15.46	+ 0.38
July 9	43	ι ¹ Libræ	AD	24.0	38.7	..	8.0	..	37.3	52.0	..	..	15. 4. 8.02	(-2.20)	..	..	..	52.39†	..	
	44	ι ¹ Libræ	AD	53.3	56.3	59.2	2.2	8.0	13.9	16.8	19.8	22.6	15. 4. 8.00		8.29	0.64	52.35	..	..	
	45	α ² Libræ	AD	51.5	54.5	57.3	0.0	5.9	11.6	14.5	17.3	20.3	15. 15. 5.87		6.14	58.48	52.34	..	..	
	46	δ Ursæ Min. (E&E)	G	51.7	40.9	27.0	14.0	..	..	..	..	..	18. 12. 45.70		42.19	34.89	52.70	52.38	..	
	47	η Serpentis	G	40.0	42.9	45.6	48.4	54.0	59.5	2.2	5.1	7.5	18. 13. 53.90		54.10	46.44	52.34	..	18. 14. 46.43	- 2.16

Polaris and other stars very near the pole are observed by eye and ear over the wires P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P.; using the Clock Hardy.
The Intervals of the Wires of both systems are given in the Introduction.

Reading of Transit-Micrometer, 32^h 300.

Corrections to the times by Hardy for reduction to Sidereal Standard, applied to form Concluded Transit, Nos. 1, 21, 24, 26, 32, and 46, -6^h 90: -6^h 60: -6^h 50: -6^h 20: -4^h 70: and -1^h 20.

Corrections for passage of Semidiameter, Nos. 10, and 40, +73^h 03: and -0^h 92.

† These clock-errors have been used in the reduction of the observations made with the Altazimuth.

July 8 to ι¹ Libræ. The azimuthal error by tabular places of Polaris S.P. and Spica.

July 8, Venus 2 L., to July 9. The azimuthal error by tabular places of δ Ursæ Minoris and Cephei 51 S.P. on July 9.

1, 7, 14, 24. Tremulous.

10. Correction to R.A. on true meridian, +0^h 01.

3, 5, 11, 17, 19, 22, 43. Observed over wires N, O, T, Y, Z, for determination of intervals.

22, 23. Very diffused.

TRANSITS OBSERVED WITH THE TRANSIT-CIRCLE, AND COMPUTATIONS OF APPARENT RIGHT ASCENSION,

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of Collimation. (Level). [Azimuth].	Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at Sidereal and [Lossing Rate].	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873, Jan. 1.
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.								
				s	s	s	s	s	s	s	s	s	h m s	"	s	s	s	s	h m s	s
July 9	1	α Lyrae	G	55.2	13.0	..	48.2	..	23.6	41.4	..	..	18. 31. 48.30	+1.02	..	..	..	52.38	....	
	2	α Lyrae	G	30.4	34.1	37.6	41.2	48.2	55.3	58.8	2.0	5.8	18. 31. 48.14	(-2.20)	48.12	40.53	52.41	[-0.07]	18. 32. 40.45	- 2.24
	3	Ceph. 51 S.P. (E&E)	G	13.5	9.5	7.0	6.0	59.5	..	..	..	..	18. 38. 59.01	[+4.08]	3.61	56.32	52.71	....	....	
	4	50 Draconis	G	..	..	..	19.2	40.5	2.7	13.4	24.0	35.0	18. 49. 40.61		39.91	..	..	....	18. 50. 32.24	- 4.49
July 10	5	$\odot$ 1 L.	L	43.0	46.0	48.8	51.8	57.7	3.8	6.8	9.8	12.8	7. 16. 57.81	(-3.00)	57.80	..	..	52.04	7. 18. 58.10	
	6	Polaris S.P. (E&E)	L	..	24.5	17.0	13.0	..	55.5	..	..	..	13. 12. 6.79	[+3.10]	15.92	8.27	52.35	[-0.09]	....	
	7	Spica	L	24.7	27.8	30.5	33.4	38.9	44.6	47.4	50.2	53.0	13. 17. 38.93		39.09	31.08	51.99	....	....	
	8	α Aquilæ	L	3.4	17.5	..	45.4	..	13.4	27.3	..	..	19. 43. 45.42		..	..	..	....	....	
	9	α Aquilæ	L	31.4	34.2	36.8	39.6	45.4	50.8	53.6	56.5	59.4	19. 43. 45.29		45.35	37.31	51.96	....	....	
	10	δ 2 L.	L	7.6	11.1	14.2	17.3	23.7	30.0	33.2	36.4	39.5	20. 10. 23.65		23.90	..	..	....	20. 9. 59.82	
July 12	11	δ Ursæ Min. (E&E)	E	..	..	..	..	..	10.0	57.0	43.5	29.0	18. 12. 44.81	(-1.76)	42.34	34.32	51.98	52.19	....	
	12	Ceph. 51 S.P. (E&E)	E	..	5.0	0.0	58.0	..	46.5	..	41.5	..	18. 39. 2.07		5.32	56.99	51.67	[-0.09]	....	
	13	Piazzi XVIII. 259	E	..	25.0	..	30.4	36.2	42.0	44.9	47.6	50.5	18. 52. 36.21		36.31	..	..	....	18. 53. 28.43	- 2.14
	14	ζ Aquilæ	E	..	33.0	..	38.6	44.2	50.0	52.8	55.6	58.0	18. 58. 44.17		44.27	36.45	52.18	....	18. 59. 36.39	- 2.14
	15	1 Vulpeculæ	E	..	43.6	..	49.6	55.5	1.2	4.4	7.3	10.2	19. 9. 55.41		55.48	..	..	....	19. 10. 47.00	- 2.14
	16	δ Aquilæ	E	..	53.8	..	59.3	4.9	10.6	13.4	16.1	..	19. 18. 4.91		5.03	..	..	....	19. 18. 57.15	- 2.18
	17	9 Vulpeculæ	E	..	58.5	..	4.4	10.1	16.0	19.1	21.8	24.9	19. 28. 10.15		10.23	..	..	....	19. 29. 2.35	- 2.13
	18	10 Vulpeculæ	E	..	24.0	..	30.0	36.0	42.1	45.4	48.2	51.5	19. 37. 36.06		36.12	..	..	....	19. 38. 28.24	- 2.13
	19	γ Aquilæ	C	..	12.2	..	17.7	23.4	29.0	31.8	34.7	37.5	19. 39. 23.36		23.48	15.42	51.94	52.01†	....	
	20	α Aquilæ	C	..	34.1	..	39.8	45.3	51.0	53.6	56.4	59.3	19. 43. 45.27		45.39	37.33	51.94	....	....	
	21	Saturn 1 L.	E	..	15.8	..	21.7	27.5	33.5	36.5	39.3	42.3	20. 8. 27.53		28.44	..	..	52.19	20. 9. 20.55	
	22	Saturn 2 L.	E	..	17.2	..	23.2	29.0	34.6	37.7	40.6	43.6	20. 8. 28.86			..	..	....	....	
	23	32 Vulpeculæ	E	..	6.1	..	12.5	18.7	25.0	28.0	31.3	34.5	20. 48. 18.70		18.75	10.83	52.08	....	20. 49. 10.86	- 1.99
	24	δ Capricorni	E	..	..	..	6.7	11.6	17.5	20.1	23.0	25.8	21. 39. 11.65		11.87	3.88	52.01	....	21. 40. 3.98	- 2.18
	25	16 Pegasi	E	..	14.5	..	20.7	26.6	32.7	35.8	39.0	42.0	21. 46. 26.66		26.72	18.86	52.14	....	21. 47. 18.83	- 1.81
	26	α Aquarii	E	..	14.2	..	19.6	25.2	30.8	33.5	36.2	39.0	21. 58. 25.17		25.33	17.45	52.12	....	21. 59. 17.44	- 1.90
	27	δ 2 L.	E	..	59.2	..	5.0	11.0	17.0	20.0	23.0	25.9	22. 17. 11.00		11.22	..	..	....	22. 16. 51.80	
	28	58 Aquarii	E	..	55.6	..	1.2	6.9	12.5	15.4	18.1	21.0	22. 24. 6.84		7.05	..	..	....	22. 24. 59.16	- 1.91
July 13	29	α^2 Capricorni	AD	..	59.7	..	5.2	10.8	16.5	19.4	..	24.8	20. 10. 10.70		10.91	2.71	51.80	51.95†	....	
	30	β Capricorni	AD	..	51.5	..	57.2	2.8	8.6	11.4	14.3	17.2	20. 13. 2.83		3.05	54.78	51.73	[-0.21]	....	
	31	δ 2 L.	C	..	25.0	..	30.7	36.4	42.2	45.2	48.0	51.0	23. 14. 36.45		36.65	..	..	51.93	23. 14. 19.11	
	32	ι Piscium	C	..	23.6	..	29.3	34.8	40.2	43.0	45.8	48.6	23. 32. 34.69		34.83	26.55	51.72	[-0.21]	....	
	33	Venus 2 L.	J	..	6.5	..	12.2	18.0	23.8	27.0	29.6	32.6	4. 19. 18.02		18.11	..	..	51.70	4. 20. 8.89	
July 14	34	$\odot$ 1 L.	J	..	2.7	..	8.7	14.6	20.6	23.5	26.4	29.4	7. 33. 14.54		22.56	..	..	....	7. 35. 14.20	
	35	$\odot$ 2 L.	J	..	..	..	24.5	30.4	36.5	39.4	42.4	..	7. 35. 30.44			..	..	....	....	
	36	δ Virginis	J	7.4	10.4	13.0	15.8	21.5	26.8	29.5	32.3	35.2	12. 48. 21.31	+1.76	21.49	13.10	51.61	....	12. 49. 13.08	- 0.70
	37	ϵ Virginis	J	46.2	49.0	51.8	54.6	0.1	5.9	8.7	11.5	14.4	12. 55. 0.23	(-1.21)	0.39	52.06	51.67	[-0.21]	12. 55. 51.98	- 0.77
	38	Polaris S.P. (E&E)	J	..	..	14.0	9.5	59.5	51.0	..	..	39.5	13. 11. 15.58	[+2.38]	17.51	11.46	53.95	....	....	
	39	Spica	J	25.2	28.0	30.9	33.6	39.4	45.0	47.8	50.5	53.3	13. 17. 39.28		39.50	31.04	51.54	....	13. 18. 31.09	- 0.82
	40	σ Ophiuchi	J	9.3	12.2	14.7	17.6	23.0	28.7	31.4	34.2	37.0	17. 19. 23.10		23.28	14.84	51.56	....	17. 20. 14.84	- 2.03
	41	78 Herculis	J	13.5	29.3	45.0	48.2	..	..	..	..	..	17. 26. 0.75		0.86	..	..	....	17. 26. 52.41	- 2.06
	42	Ceph. 51 S.P. (E&E)	J	..	..	..	..	..	42.5	40.0	37.5	36.5	18. 39. 4.00		4.99	57.32	52.33	....	....	
	43	ϵ Aquilæ	J	47.6	50.5	53.4	56.3	2.0	7.7	10.6	13.4	16.2	18. 53. 1.95		2.10	53.60	51.50	....	18. 53. 53.64	- 2.15
	44	δ Aquilæ	E	2.0	4.9	7.5	10.3	15.8	21.5	24.2	26.9	29.8	19. 18. 15.86		16.05	7.86	51.81	51.97†	....	
	45	α Vulpeculæ	E	20.3	23.3	26.4	29.4	35.5	41.6	44.6	47.6	50.7	19. 22. 35.46		35.59	27.40	51.81	....	....	

The observations of transits are usually made by the galvanic or chronographic method, the wires employed being generally P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P. Occasionally the observations are made by eye and ear (E & E); the wires then employed are N, O, P, T, X, Y, Z; in reversed order for stars S.P.

Reading of Transit-Micrometer, 32".300.

Corrections to the times by Hardy for reduction to Sidereal Standard, applied to form Concluded Transit, Nos. 3, 6, 11, 12, 38, and 42, -1".20: +1".10: -51".30: -51".30: -45".40: and -44".90.

Corrections for passage of Semidiameter, Nos. 5, 10, 27, 31, and 33, +68".29: -76".05: -71".54: -69".25: and -0".88.

† These clock-errors have been used in the reduction of the observations made with the Altazimuth.

July 10 to 14, $\odot$ 2 L. The azimuthal error used is the mean of two determinations (+3".30 and +2".90) by tabular places of Polaris S.P. and Spica on July 10, and of δ Ursæ Minoris and Cephei 51 S.P. on July 12.

July 11^d. 0^h. Wires O, P, and R were found broken.

July 14^d. 1^h. New wires O, P, R, and S were inserted in the Transit-Circle.

July 14, δ Virginis, to * N.P.D. 110°. 18'. The azimuthal error used is the mean of two determinations (+3".77 and +0".99) by tabular places of Polaris S.P. and Spica, and of Cephei 51 S.P. and λ Ursæ Minoris, allowing -0".01 for clock-rate in the latter case.

1, 8. Observed over wires N, O, T, Y, Z, for determination of intervals.

6. Cloudy; disturbed by noise.

14. The times at wires VII. and IX. are also used as the 3rd and 4th wires of an Altazimuth transit, δ 2 L., Face Right.

5. Very cloudy.

10, 27, 31. Correction to R.A. on true meridian, +0".01.

41. Wires N, O, P, Q. Sky overcast.

1875GAMM...35A...1A

AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1873.

[47]

1875 G. G. M. V. W.

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of Collimation. (Level). [Azimuth].	Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at Sidereal and [Losing Rate].	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873, Jan. 1.
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.								
				s	s	s	s	s	s	s	s	s								
														</						

Polaris and other stars very near the pole are observed by eye and ear over the wires P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P.; using the Clock Hardy. The Intervals of the Wires of both systems are given in the Introduction.

Reading of Transit-Micrometer, 32". 300.

Corrections to the times by Hardy for reduction to Sidereal Standard, applied to form Concluded Transit, Nos. 3, 10, 23, 29, 34, and 43, -44".80: -43".20: -42".50: -42".50: -42".40: and -42".00.

Corrections for passage of Semidiameter, Nos. 8, 42, and 47, -67".62: -66".85: and -0".86.

† This clock-error has been used in the reduction of the observations made with the Altazimuth.

July 14, α Andromedæ, to July 16. The azimuthal error from three consecutive transits of Polaris S.P. and Polaris.

3. Cloudy.

8, 42. Correction to R.A. on true meridian, +0".01.

10. Very cloudy.

25. Magnitude = 7½.

38. Wires X, Y, Z.

TRANSITS OBSERVED WITH THE TRANSIT-CIRCLE, AND COMPUTATIONS OF APPARENT RIGHT ASCENSION,

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of Collimation. (Level). [Azimuth].	Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at Sidereal and (Losing Rate).	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1875, Jan. 1.
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.								
				s	s	s	s	s	s	s	s	s								
July 16	1	Regulus	G	30.6	33.6	36.5	39.2	44.8	50.7	53.7	56.3	59.3	10. 0. 44.95	+0.28	45.09	36.29	51.20	51.27	10. 1. 36.32	+ 0.07
	2	γ^1 Leonis	G	51.9	54.9	57.8	0.9	6.8	12.6	15.5	18.5	21.6	10. 12. 6.69	(-0.50)	6.80	58.08	51.28	[-0.09]	10. 12. 58.03	- 0.03
	3	Polaris S.P. (E&E)	G	..	..	..	5.5	55.0	44.0	..	35.0	31.0	13. 11. 14.40	[+3.38]	20.74	13.25	52.51	..	1. 12. 11.96	+ 4.44
	4	Spica	G	25.5	28.4	31.4	34.0	39.5	45.3	48.2	50.8	53.6	13. 17. 36.61	..	39.81	31.02	51.21	..	13. 18. 31.03	- 0.80
	5	ζ Virginis	G	9.0	..	14.5	17.3	23.0	28.5	31.0	..	36.6	13. 27. 22.82	..	23.00	14.24	51.24	..	13. 28. 14.22	- 0.89
	6	η^2 Ophiuchi	G	16.5	19.4	22.0	24.8	30.5	..	..	..	44.4	18. 0. 30.41	..	30.55	21.81	51.26	..	18. 1. 21.75	- 2.11
	7	δ Ursæ Min. (E&E)	G	..	..	..	51.5	24.3	59.8	44.5	30.5	18.0	18. 12. 44.10	..	41.78	33.66	51.88	..	18. 13. 32.98	-15.37
	8	B. A. C. 6702* ..	G	..	30.0	40.7	52.4	16.2	39.6	51.4	2.5	..	19. 25. 18.00	..	15.55	..	..	..	19. 26. 6.75	- 4.52
	9	ϵ Camelop. S.P.	G	3.7	..	..	24.3	..	51.0	..	..	11.3	19. 33. 37.62	..	38.10	..	..	..	7. 34. 29.30	+ 1.22
	10	γ Aquilæ	G	10.1	13.0	15.8	18.5	24.3	29.9	32.6	35.4	38.3	19. 39. 24.19	..	24.33	15.45	51.12	..	19. 40. 15.53	- 2.18
	11	α Aquilæ	G	32.0	35.0	37.6	40.5	46.0	51.6	54.4	57.1	0.0	19. 43. 46.20	..	46.35	37.37	51.02	51.09†	..	..
	12	λ Ursæ Min. (E&E)	G	..	15.5	..	2.5	..	54.0	..	..	..	19. 51. 18.34	..	10.61	2.01	51.40	51.27	19. 52. 1.81	-44.61
July 17	13	Polaris S.P. (E&E)	WC	..	..	..	1.5	53.0	..	..	30.0	..	13. 11. 14.71	(-1.45)	21.83	14.21	52.38	51.26	..	..
	14	Spica	WC	25.5	28.5	31.3	34.0	39.6	45.4	48.1	51.0	53.6	13. 17. 39.64	[+2.69]	39.77	31.01	51.24	[-0.07]	13. 18. 30.99	- 0.79
	15	η Ursæ Majoris ..	WC	..	25.0	29.3	33.5	42.2	50.7	55.1	59.3	..	13. 41. 42.12	..	42.01	..	..	..	13. 42. 33.23	- 1.19
	16	α Draconis	WC	35.1	42.0	48.4	54.7	7.8	20.8	27.4	33.8	40.4	14. 0. 7.76	..	7.47	..	..	..	14. 0. 58.69	- 1.54
	17	Arcturus	WC	47.4	50.2	53.2	56.2	2.2	8.0	10.8	13.8	16.8	14. 9. 2.04	..	2.07	53.28	51.21	..	14. 9. 53.29	- 1.15
	18	γ Aquilæ	WC	10.2	13.1	15.7	18.6	24.1	29.8	32.7	35.4	38.2	19. 39. 24.18	..	24.24	15.46	51.22	..	19. 40. 15.44	- 2.19
	19	N.P.D. 63° 1' ..	WC	..	10.0	13.3	16.2	22.3	28.7	31.7	35.0	..	19. 42. 24.43	..	24.43	..	..	..	19. 43. 15.63	- 2.17
	20	λ Ursæ Min. (E&E)	WC	..	..	..	..	56.0	51.0	..	..	..	19. 51. 18.16	..	9.29	1.90	52.61	..	..	..
	21	Saturn 1 L.	WC	..	..	48.5	51.4	57.2	3.2	6.4	9.2	12.0	20. 6. 57.31	..	58.09	..	..	..	20. 7. 49.29	..
	22	Saturn 2 L.	WC	..	..	..	52.6	58.6	4.4	7.5	10.2	13.4	20. 6. 58.52	..	..	..	..	..	..	..
	23	ϵ Delphini	WC	..	..	11.4	14.0	19.6	25.2	28.0	31.0	33.7	20. 26. 19.63	..	19.69	10.84	51.15	..	20. 27. 10.89	- 2.15
	24	α Delphini	AD	..	..	46.7	49.4	55.2	0.8	3.8	..	..	20. 32. 55.16	..	55.21	46.46	51.25	51.31†	..	..
July 18	25	Antares	C	32.8	35.9	38.8	42.0	48.2	54.3	57.5	0.5	3.5	16. 20. 48.13	[+3.13]	48.36	39.38	51.02	51.02	16. 21. 39.33	- 2.02
	26	32 Herculis	C	27.0	30.2	33.4	36.8	43.2	49.5	52.8	56.0	59.2	16. 27. 43.09	..	43.09	..	..	[-0.08]	16. 28. 34.06	- 1.85
	27	α Ophiuchi	C	59.3	2.1	4.9	7.6	13.4	19.0	21.8	24.7	27.5	17. 28. 13.35	..	13.42	4.35	50.93	..	17. 29. 4.38	- 2.02
	28	Piazzi XVII. 176	C	41.7	45.1	48.2	51.4	57.8	4.3	7.5	10.7	14.0	17. 30. 57.82	..	57.82	..	..	..	17. 31. 48.78	- 2.06
	29	η^2 Ophiuchi	C	16.7	19.6	22.4	25.2	30.8	36.4	39.2	42.0	44.8	18. 0. 30.77	..	30.86	21.81	50.95	..	18. 1. 21.82	- 2.11
	30	A Herculis	C	2.4	5.7	9.0	12.2	18.6	25.1	28.4	31.6	34.8	18. 6. 18.61	..	18.60	..	..	..	18. 7. 9.56	- 2.14
	31	δ Ursæ Min. (E&E)	C	..	..	..	47.0	19.5	54.5	41.0	26.5	..	18. 12. 45.31	..	42.27	33.25	50.98	..	..	..
	32	2 Aquilæ	C	16.4	19.2	22.0	24.8	30.4	36.0	38.8	41.6	44.4	18. 34. 30.38	..	30.53	21.46	50.93	..	18. 35. 21.49	- 2.32
	33	Cephei 51 S.P. (E&E)	C	..	..	..	..	37.0	32.5	29.0	25.5	24.5	18. 39. 2.84	..	6.82	58.10	51.28	..	..	..
	34	λ Ursæ Min. (E&E)	C	..	..	..	..	56.0	49.0	20.0	..	..	19. 51. 20.18	..	10.31	1.71	51.40	..	..	..
	35	θ Aquilæ	C	42.6	45.3	48.0	50.7	56.2	1.8	4.4	7.2	10.0	20. 3. 56.22	..	56.35	47.32	50.97	..	20. 4. 47.30	- 2.28
	36	Saturn 1 L.	C	24.2	27.3	30.3	33.3	39.2	45.0	48.0	50.9	54.0	20. 6. 39.10	..	..	..	..	..	..	..
July 19	37	Saturn 2 L.	C	25.8	28.8	31.7	34.7	40.4	46.5	49.5	52.4	55.4	20. 6. 40.55	..	40.03	..	..	..	20. 7. 30.98	..
	38	μ Pegasi	E	..	51.0	54.0	57.0	3.1	9.2	12.2	15.3	..	22. 43. 3.08	..	3.12	54.22	51.10	51.22†	..	..
	39	λ Aquarii	E	55.8	58.8	1.4	4.2	9.8	15.4	18.2	21.0	23.8	22. 45. 9.80	..	9.95	1.12	51.17	[-0.08]	..	..
	40	δ 2 L.	AD	..	..	..	32.2	37.8	43.9	47.2	49.9	53.0	3. 39. 37.95	(-0.68)	38.06	..	..	51.01	3. 39. 20.31	..
	41	Aldebaran	AD	32.6	35.5	38.4	41.3	47.0	52.6	55.5	58.5	1.2	4. 27. 46.92	[+3.36]	47.03	38.13	51.10	[0.11]	4. 28. 38.06	- 0.07
	42	Venus 2 L.	AD	4.6	7.6	10.5	13.4	19.3	25.3	28.0	31.0	34.0	4. 39. 19.28	..	19.39	..	..	..	4. 40. 9.59	..
	43	Polaris S.P. (E&E)	AD	12.0	9.0	..	..	..	..	..	..	..	13. 11. 17.73	..	24.43	16.20	51.77	..	..	..
	44	Spica	AD	..	..	..	..	39.7	45.3	48.3	51.3	53.9	13. 17. 39.80	..	40.00	30.99	50.99	..	13. 18. 31.07	- 0.77
	45	κ Ophiuchi	AD	36.1	39.0	41.7	44.6	50.1	55.7	58.4	1.2	4.2	16. 50. 50.10	..	50.24	41.32	51.08	..	16. 51. 41.33	- 1.90

The observations of transits are usually made by the galvanic or chronographic method, the wires employed being generally P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P. Occasionally the observations are made by eye and ear (E & E); the wires then employed are N, O, P, T, X, Y, Z; in reversed order for stars S.P.

Reading of Transit-Micrometer, $32^{\circ} 400$.

Corrections to the times by Hardy for reduction to Sidereal Standard, applied to form Concluded Transit, Nos. 3, 7, 12, 13, 20, 31, 33, 34, and 43, $-40^{\circ} 60$: $-40^{\circ} 20$:

$-40^{\circ} 00$: $-38^{\circ} 00$: $-37^{\circ} 20$: $-34^{\circ} 70$: $-34^{\circ} 60$: and $-33^{\circ} 90$.

Correction for passage of Semidiameter, Nos. 40 and 42, $-68^{\circ} 78$: and $-0^{\circ} 83$.

† These clock-errors have been used in the reduction of the observations made with the Altazimuth.

July 17. The azimuthal error used is the mean of two determinations ($+3'' 34$ and $+2'' 04$) by tabular places of Polaris S.P. and Spica and of γ Aquilæ and λ Ursæ Minoris.

July 18 to λ Aquarii. The azimuthal error used is the mean of two determinations ($+3'' 32$ and $+2'' 94$) by tabular places of δ Ursæ Minoris and Cephei 51 S.P. and of λ Ursæ Minoris and θ Aquilæ.

July 18^d, 16^h. The pendulum contact of the Sidereal Standard was very slightly deepened.

July 18, δ 2 L., to July 19. The azimuthal error used is the mean of three determinations ($+3'' 81$, $+3'' 65$, and $+2'' 63$) by tabular places of Polaris S.P. and Spica, of δ Ursæ Minoris and Cephei 51 S.P., and of λ Ursæ Minoris and β Capricorni on July 19.

1. Very faint and tremulous.

2. Very faint.

12, 44. Cloudy.

40. Very faint indeed; misty.

43. Cloudy; very tremulous.

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of Collimation. (Level). [Azimuth].	Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at 0 ^h Sidereal and [Lossing Rate].	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873, Jan. 1.
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.								
				s	s	s	s	s	s	s	s	s			s	s	s	s	h m s	s
July 19	1	δ^1 Draconis	AD	58.8	5.6	12.0	18.8	32.1	45.2	52.0	58.4	5.1	16.54.31.94	+0.28	31.74			51.01	16.55.22.83	- 2.73
	2	δ^2 Draconis	AD	..	..	..	..	..	12.9	19.7	26.1	32.7	16.54.59.66	(-0.68)	59.46			[0.11]	16.55.50.55	- 2.71
	3	Capella S.P.	AD	7.0	11.0	15.0	18.7	26.8	34.8	38.8	42.7	47.0	17.6.26.90	[+3.36]	27.20				5.7.18.29	+ 0.23
	4	μ Herculis	AD	24.5	27.7	30.8	34.0	40.2	46.5	49.7	52.8	55.8	17.40.40.20		40.27	31.37	51.10		17.41.31.36	- 2.04
	5	δ Ursæ Min. (E&E)	AD	..	..	..	..	..	52.0	38.5	24.5	12.0	18.12.43.91		41.44	33.01	51.57		..	
	6	δ^2 Draconis	AD	15.9	22.8	29.4	36.0	49.3	2.6	9.4	15.9	22.6	18.24.49.26		49.06				18.25.40.15	- 3.02
	7	α Lyræ	AD	31.6	35.3	38.7	42.4	49.4	56.4	0.0	3.5	7.2	18.31.49.35		49.37	40.52	51.15		18.32.40.47	- 2.23
	8	Ceph. 51 S.P. (E&E)	AD	..	..	..	42.0	36.5	31.0	28.5	..	..	18.39.2.96		6.33	58.36	52.03		..	
	9	*	AD	41.3	44.7	47.9	51.2	57.7	4.3	7.5	10.8	14.0	18.51.57.68		57.74				18.52.48.84	- 2.19
	10	γ Lyræ	AD	6.2	9.6	12.8	16.0	22.7	29.4	32.4	35.6	39.2	18.53.22.63		22.69				18.54.13.79	- 2.19
	11	Piazzi VI. 285 S.P.	AD	..	58.4	16.8	35.8	12.9	50.1	8.6	26.8	..	19.0.12.93		14.11				7.1.5.21	+ 4.71
	12	δ Draconis	AD	7.4	14.8	21.8	29.0	43.5	57.9	5.0	12.0	19.7	19.11.43.39		43.17				19.12.34.27	- 3.18
	13	δ Aquilæ	AD	2.7	5.7	8.5	11.2	16.6	22.2	24.9	27.6	30.5	19.18.16.63		16.79	7.90	51.11		19.19.7.89	- 2.27
	14	δ Cygni	AD	52.0	56.0	59.7	3.6	11.5	19.2	23.2	27.0	31.0	19.40.11.44		11.45				19.41.2.55	- 2.31
	15	λ Ursæ Min. (E&E)	AD	..	..	..	..	51.5	48.0	15.0	41.0	9.0	19.51.16.99		8.78	1.46	52.68		..	
	16	Saturn 1 L.	AD	5.9	8.8	11.6	..	20.5	..	29.5	32.4	35.5	20.6.20.57						..	
	17	Saturn 2 L.	AD	7.1	10.1	13.1	..	21.8	..	30.9	33.6	36.6	20.6.21.86		21.45				20.7.12.55	
	18	β Capricorni	AD	49.2	52.2	55.1	58.0	3.6	9.4	12.2	15.0	18.0	20.13.3.61		3.82	54.87	51.05		20.13.54.92	- 2.47
	19	μ Aquarii	J	45.3	48.0	50.8	53.6	59.1	4.7	7.7	10.3	13.4	20.44.59.19		59.39	50.45	51.06	50.91†	..	
	20	32 Vulpeculæ	J	4.4	7.5	10.5	13.6	19.9	26.3	29.4	32.4	35.5	20.48.19.91		19.98	10.94	50.96	[0.11]	..	
July 20	21	ϵ Ceti	L	53.6	56.5	59.2	1.9	7.6	13.2	16.2	18.8	21.7	0.12.7.61	-0.35	7.65	58.89	51.24	51.25†	..	
	22	ϵ Andromedæ	L	45.4	48.5	51.6	54.7	1.3	7.4	10.6	13.5	16.8	0.31.1.06	(-3.20)	0.88	52.14	51.26	[0.10]	..	
	23	Venus 2 L.	E	19.2	22.3	25.3	28.1	33.9	39.8	42.8	45.8	48.7	4.47.33.96	[+2.88]	33.86			51.56	4.48.24.63	
	24	Castor	E	21.6	24.8	..	31.3	37.7	44.3	..	50.7	54.3	7.25.37.78		37.58	29.36	51.78	[0.10]	7.26.29.17	+ 0.28
	25	Procyon	E	..	36.2	39.0	41.8	47.3	52.7	55.5	58.3	..	7.31.47.23		47.20	38.82	51.62		7.32.38.79	+ 0.35
	26	Pollux	E	..	..	31.4	34.7	40.8	47.0	50.4	53.4	56.6	7.36.40.84		40.67	32.20	51.53		7.37.32.26	+ 0.30
July 21	27	$\odot$ 1 L.	E	9.9	13.2	15.9	18.8	24.6	30.7	33.6	36.3	39.5	8.1.24.69						8.3.23.69	
	28	$\odot$ 2 L.	E	24.9	28.0	31.0	34.0	39.8	45.7	48.6	51.4	54.6	8.3.39.74		32.10				..	
	29	Mercury 1 L.	E	51.1	53.9	56.7	59.6	5.2	11.0	13.8	16.5	19.4	9.45.5.22		5.16				9.45.57.06	
	30	Regulus	E	30.5	33.5	36.4	39.3	44.8	50.4	53.3	56.0	59.0	10.0.44.78		44.71	36.29	51.58		10.1.36.31	+ 0.07
	31	Polaris S.P. (E&E)	E	..	4.0	58.5	55.0	..	38.0	..	..	..	13.11.13.75		26.74	18.14	51.40		..	
	32	Spica	E	25.3	28.2	31.0	33.7	39.3	45.0	47.9	50.7	53.4	13.17.39.36		39.41	30.97	51.56		13.18.31.03	- 0.75
	33	η Bootis	E	33.2	36.2	39.1	42.1	47.8	53.7	56.5	59.6	2.5	13.47.47.82		47.72	39.28	51.56		13.48.39.34	- 1.02
	34	Arcturus	E	46.9	50.1	53.0	55.8	1.7	7.5	10.5	13.4	16.5	14.9.1.68		1.57	53.23	51.66		14.9.53.19	- 1.10
	35	α Ophiuchi	E	58.6	1.5	4.4	7.2	12.8	18.4	21.4	24.4	27.0	17.28.12.84		12.77	4.34	51.57		17.29.4.40	- 2.01
	36	Piazzi XVII. 203	E	12.8	15.9	18.6	21.4	27.1	33.0	35.9	38.7	41.6	17.35.27.19		27.11				17.36.18.74	- 2.03
	37	Piazzi XVII. 255	E	12.8	15.6	18.6	21.6	27.6	33.4	36.4	39.2	42.1	17.42.27.45		27.35				17.43.18.98	- 2.04
	38	γ Ophiuchi	E	58.8	1.7	4.4	7.2	12.7	18.2	21.1	23.8	26.6	17.58.12.70		12.68				17.59.4.31	- 2.15
	39	δ Ursæ Min. (E&E)	E	..	..	..	..	..	51.5	39.5	26.5	12.0	18.12.45.33		40.12	32.51	52.39		..	
	40	*	E	..	..	..	45.4	51.4	57.4	0.3	3.5	6.4	18.21.51.33		51.19				18.22.42.83	- 2.13
	41	Ceph. 51 S.P. (E&E)	E	45.5	44.0	40.5	37.0	32.0	..	..	..	..	18.39.0.01		6.44	58.97	52.53		..	
	42	ζ Aquilæ	E	30.7	33.6	36.5	39.4	45.0	50.7	53.4	56.4	59.3	18.58.44.98		44.90	36.50	51.60		18.59.36.54	- 2.19
	43	δ Cygni	E	57.4	0.4	4.0	7.2	14.0	20.7	24.0	27.2	30.6	19.26.13.91		13.70				19.27.5.34	- 2.22
	44	α Sagittæ	E	..	24.4	27.3	30.0	35.8	41.7	44.7	47.5	..	19.33.35.88		35.78				19.34.27.42	- 2.20
	45	Piazzi XIX. 237	E	..	..	23.0	26.4	32.8	39.1	42.4	..	..	19.36.32.72		32.88				19.37.24.52	- 2.86
	46	α Aquilæ	E	31.7	34.6	37.5	40.1	45.7	51.3	54.2	56.9	59.7	19.43.45.72		45.67	37.42	51.75		19.44.37.31	- 2.26
	47	14 Vulpeculæ ...	E	..	..	..	48.4	54.4	0.3	3.5	6.4	9.4	19.52.54.38		54.24				19.53.45.88	- 2.18

Polaris and other stars very near the pole are observed by eye and ear over the wires P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P.; using the Clock Hardy. The Intervals of the Wires of both systems are given in the Introduction.

Reading of Transit-Micrometer, 32.400.

Corrections to the times by Hardy for reduction to Sidereal Standard, applied to form Concluded Transit, Nos. 5, 8, 15, 31, 39, and 41, -33.80: -33.80: -33.80: -33.20: -33.00: and -33.00.

Corrections for passage of Semidiameter, Nos. 23 and 29, -0.81: and +0.30.

† These clock-errors have been used in the reduction of the observations made with the Altazimuth.

July 20 to July 21, κ Piscium. The azimuthal error used is the mean of two determinations (+2.78 and +2.97) by tabular places of Polaris S.P. and Spica and of δ Ursæ Minoris and Cephei 51 S.P. on July 21.

3. Tremulous.

40. Magnitude = 8.9.

TRANSITS OBSERVED WITH THE TRANSIT-CIRCLE, AND COMPUTATIONS OF APPARENT RIGHT ASCENSION,

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of		Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at α^h Sidereal and (Losing Rate).	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873, Jan. 1.
														Collimation. (Level).	Azimuth.						
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.										h	m	s
				s	s	s	s	s	s	s	s	s	s	s	s	s	s	h	m	s	s
July 21	1	Saturn 1 L.	E	28.5	31.5	34.4	37.4	43.4	49.4	52.2	55.1	58.0	20. 5. 43.29	-0.35	44.03	11.23	2.82	51.59	51.56 [0.10]	20. 6. 35.67	- 2.46
	2	Saturn 2 L.	E	29.9	32.9	35.6	38.7	44.6	50.6	53.5	56.4	59.4	20. 5. 44.59	(-3.20)							
	3	α^2 Capricorni.	E	57.0	59.8	2.5	5.4	11.3	17.0	19.8	22.5	25.4	20. 10. 11.17	+2.88							
	4	γ Piscium.	C	31.5	34.4	37.0	39.7	45.4	50.9	53.7	56.4	59.3	23. 9. 45.35	(-3.47)	44.58	45.33	36.66	51.33	51.33 [†] [0.04]		
	5	κ Piscium.	C	21.8	24.6	27.4	30.2	35.6	41.3	44.0	46.7	49.5	23. 19. 35.66								
	6	Venus 2 L.	L	29.9	33.0	35.8	38.7	44.6	50.5	53.5	56.5	59.6	4. 51. 44.65								(-3.47)
	7	Rigel.	L	20.8	23.7	26.5	29.2	34.8	40.3	43.3	46.0	48.8	5. 7. 34.80	+4.29	34.91	25.97	51.06	51.15 [-0.02]	4. 52. 34.93	+ 0.10	
	8	β Tauri.	L	8.9	12.2	15.4	18.5	24.8	31.1	34.1	37.4	40.6	5. 17. 24.75								
	9	α Orionis.	L	12.5	15.3	18.2	21.0	26.5	32.1	34.8	37.6	40.4	5. 47. 26.47								
July 22	10	$\odot$ 1 L.	L	9.6	12.7	15.4	18.3	24.2	30.2	33.3	36.1	39.1	8. 5. 24.29	(-4.26)	31.67	12.89	36.29	51.08	51.08	8. 7. 22.81	+ 0.07
	11	$\odot$ 2 L.	L	24.6	27.4	30.3	33.4	39.2	45.3	48.0	51.1	54.0	8. 7. 39.22								
	12	Mercury 1 L.	L	...	...	...	7.4	12.8	18.6	21.4	24.2	27.0	9. 47. 12.90								
	13	Regulus.	L	31.0	33.9	36.8	39.4	45.4	50.9	53.8	56.6	59.5	10. 0. 45.24	(-5.05)	39.80	30.96	51.16	51.16	10. 1. 36.35	+ 0.74	
	14	ϵ Ursæ Majoris. ...	L	11.0	16.2	21.4	26.1	36.4	46.3	51.5	56.2	1.4	12. 47. 36.24								
	15	Polaris S.P. (E&E)	L	3.5	0.5	56.0	50.0	41.0	30.5	...	...	...	13. 11. 10.09								
	16	Spica.	L	25.7	28.4	31.3	34.0	39.6	45.6	48.2	50.9	53.8	13. 17. 39.70	(-5.05)	52.06	43.15	51.09	51.09	13. 18. 30.94	- 0.74	
	17	δ Ophiuchi.	L	38.3	40.9	43.8	46.5	52.0	57.7	0.3	3.2	5.9	16. 6. 52.05								
	18	Piazzi IV. 22 S.P.	L	...	...	36.6	42.4	53.6	4.7	10.4	15.8	21.4	16. 9. 53.54								
	19	λ Ophiuchi.	L	27.4	30.1	32.8	35.6	41.1	47.0	49.5	52.2	55.0	16. 23. 41.17	(-5.05)	41.15	32.32	51.17	51.17	16. 24. 32.29	- 1.79	
	20	α Ophiuchi.	L	59.2	2.0	4.8	7.6	13.4	19.0	21.8	24.6	27.5	17. 28. 13.30								
	21	ρ Capricorni.	L	33.5	36.6	39.4	42.3	48.1	54.0	56.8	59.8	2.8	20. 20. 48.12								
	22	Fomalhaut.	AD	32.3	35.6	38.8	41.9	48.4	54.9	58.0	1.0	4.4	22. 49. 48.33	(-5.05)	48.57	40.03	51.46	51.47 [†] [-0.02]		- 2.55	
	23	α Pegasi.	AD	22.3	25.2	28.0	31.0	36.7	42.3	45.3	48.0	50.9	22. 57. 36.61								
	July 23	24	$\odot$ 1 L.	C	8.2	11.3	14.2	17.1	23.0	28.7	31.9	34.8	37.7	8. 9. 22.97	(-5.52)	30.11	28.56	19.89	51.33	51.33	8. 11. 21.44	- 0.73
25		$\odot$ 2 L.	C	23.0	26.0	28.8	31.7	37.7	...	...	...	...	8. 11. 37.68								
26		Polaris S.P. (E&E)	C	...	...	...	48.0	39.0	31.0	...	...	19.0	13. 11. 8.50								
27		Spica.	C	25.5	28.4	31.2	34.0	39.6	45.3	48.0	50.8	53.6	13. 17. 39.58	(-5.52)	20.44	39.62	30.95	51.33	51.33	13. 18. 30.96	- 3.80
28		Piazzi XVI. 195.	C	17.9	31.2	43.8	56.7	22.5	48.8	2.0	14.6	27.6	16. 36. 22.68								
29		Piazzi IV. 191 S.P.	C	30.3	40.8	50.6	0.4	20.8	...	...	...	...	16. 45. 20.87								
30		κ Ophiuchi.	C	35.9	39.0	41.6	44.4	50.1	55.7	58.8	1.2	4.0	16. 50. 50.06	(-5.52)	49.94	41.29	51.35	51.35	16. 51. 41.28	- 1.87	
31		ϕ Ophiuchi.	C	50.2	53.4	56.4	59.5	5.6	11.7	14.7	17.7	20.9	16. 56. 5.54								
32		17 Camelop. S.P.	C	47.8	53.6	59.7	5.9	...	...	...	...	...	17. 17. 18.10								
33		72 Ophiuchi.	C	16.6	19.6	22.2	25.0	30.4	36.1	39.0	41.7	44.5	18. 0. 30.55	(-5.52)	30.44	21.76	51.32	51.32	18. 1. 21.78	- 2.06	
34		Piazzi VI. 75 S.P.	C	...	32.2	47.4	3.2	33.8	...	...	...	...	18. 23. 34.04								
35		θ Aquilæ.	C	42.3	45.2	47.6	50.5	56.1	1.5	4.4	7.1	10.0	20. 3. 56.06								
36		Saturn 1 L.	C	...	...	...	...	...	...	...	...	...	18.3 21.3 20. 5. 6.48	(-5.52)	7.28	56.02	47.38	51.36	51.36	20. 4. 47.37	- 2.34
37	Saturn 2 L.	C	...	...	...	...	...	...	...	...	...	19.6 22.7 20. 5. 7.83									
July 24	38	$\odot$ 1 L.	H	6.3	9.5	12.2	15.3	21.0	26.8	29.9	32.7	35.6	8. 13. 21.01	(-3.72)	28.06	44.85	36.29	51.44	51.52 [0.03]	8. 15. 19.59	+ 0.07
	39	$\odot$ 2 L.	H	20.7	23.6	26.5	29.5	35.5	41.4	44.4	47.2	50.3	8. 15. 35.42								
	40	Regulus.	H	31.0	33.6	36.5	39.5	44.7	50.5	53.5	56.2	59.3	10. 0. 44.96								
	41	Polaris S.P. (E&E)	H	...	...	59.5	54.5	46.0	35.5	...	29.5	23.0	13. 11. 15.77	(-3.72)	23.23	14.91	51.68	51.68	17. 14. 14.77	- 2.26	
	42	θ Ophiuchi.	H	...	...	...	...	29.3	32.3	35.4	38.4	17. 13. 23.15									
	43	σ Ophiuchi.	H	9.4	12.4	14.9	17.7	23.4	28.9	31.5	34.4	37.2	17. 19. 23.29								
	44	7.37. Cat. (1860) No. 420 S.P.	H	16.5	23.1	29.6	36.5	49.8	3.2	10.1	16.2	23.3	17. 28. 49.87	(-3.72)	50.57	39.82	31.34	51.52	51.52	17. 20. 14.76	+ 0.71
	45	μ Herculis.	H	24.5	27.5	30.7	33.7	40.1	46.2	49.5	52.6	55.7	17. 40. 40.03								
	46	87 Herculis.	H	35.5	38.7	41.7	44.6	50.8	57.0	0.0	3.2	6.2	17. 42. 50.83								

The observations of transits are usually made by the galvanic or chronographic method, the wires employed being generally P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P. Occasionally the observations are made by eye and ear (E & E); the wires then employed are N, O, P, T, X, Y, Z; in reversed order for stars S.P.

Reading of Transit-Micrometer, $32'' \cdot 400$.

Corrections to the times by Hardy for reduction to Sidereal Standard, applied to form Concluded Transit, Nos. 15, 26, and 41, $-32'' \cdot 20$; $-31'' \cdot 50$; and $-31'' \cdot 00$.

Corrections for passage of Semidiameter, Nos. 6 and 12, $-0'' \cdot 81$; and $+0'' \cdot 30$.

† This clock-error has been used in the reduction of the observations made with the Altazimuth.

July 21, Venus 2 L., to July 22. The azimuthal error by tabular places of Polaris S.P. and Spica on July 22.

July 23. The azimuthal error by tabular places of Polaris S.P. and Spica.

July 24. The azimuthal error by tabular places of Regulus and Polaris S.P.

12. Very faint.

15, 40. Very tremulous.

42. Cloudy.

43. Faint at times.

AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1873.

[51]

1875 GOA

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of Collimation. (Level). [Azimuth].	Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at 0 ^h Sidereal and [Losing Rate].	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873, Jan. 1.		
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.										
				s	s	s	s	s	s	s	s	s										
											h	m	s		s	s	s	s	h	m	s	s
July 24	1	Piazzi XVIII. 132	H	9 ^o 12 ^m 15 ^s	18 ^o 23 ^m 30 ^s	33 ^o 33 ^m 36 ^s	39 ^o 2	18. 29. 24 ^o 02						-0 ^o 35	23 ^o 84			51 ^o 52	18. 30. 15 ^o 38	- 2 ^o 14		
	2	ψ Sagittarii	H	41 ^o 04 ^m 47 ^s	50 ^o 2	56 ^o 0	2 ^o 1	5 ^o 4	8 ^o 4	11 ^o 5				(-3 ^o 72) [+ 2 ^o 53]	56 ^o 24	47 ^o 73	51 ^o 49	[0 ^o 03]	19. 7. 47 ^o 78	- 2 ^o 69		
July 25	3	⊙ 1 L.	E	3 ^o 5	6 ^o 8	9 ^o 6	12 ^o 5	18 ^o 4	24 ^o 4	27 ^o 4	30 ^o 0	33 ^o 0	8. 17. 18 ^o 37	}	25 ^o 46			51 ^o 65	8. 19. 17 ^o 10			
	4	⊙ 2 L.	E	18 ^o 1	21 ^o 2	24 ^o 0	26 ^o 9	32 ^o 7	38 ^o 7	41 ^o 6	44 ^o 4	47 ^o 6	8. 19. 32 ^o 78						[-0 ^o 04]			
	5	α Lyræ	E	31 ^o 4	35 ^o 2								6 ^o 8	18. 31. 49 ^o 14		48 ^o 87	40 ^o 49	51 ^o 62				
July 26	6	Polaris S.P. (E&E)	AD	7 ^o 0	3 ^o 0	57 ^o 5	52 ^o 0	44 ^o 5						(-3 ^o 41)	0 ^o 16	22 ^o 23	22 ^o 07	21 ^o 95				
	7	Spica (E&E)	AD	26 ^o 5	40 ^o 2	54 ^o 7	8 ^o 8	23 ^o 1	37 ^o 0	51 ^o 0					8 ^o 85	30 ^o 92	22 ^o 07	[0 ^o 38]				
	8	α Draconis. (E&E)	AD	58 ^o 7	31 ^o 6	4 ^o 0	36 ^o 8	9 ^o 5	42 ^o 0	14 ^o 7					36 ^o 06				14. 0. 58 ^o 35	- 1 ^o 16		
	9	Arcturus .. (E&E)	AD	46 ^o 8	1 ^o 4	15 ^o 9	31 ^o 0	45 ^o 7	0 ^o 2	15 ^o 0					30 ^o 76	53 ^o 16	22 ^o 40					
	10	κ Ophiuchi. (E&E)	AD	36 ^o 8	51 ^o 0	5 ^o 1	19 ^o 0	32 ^o 9	47 ^o 0	0 ^o 9					18 ^o 94	41 ^o 26	22 ^o 32					
	11	ε Ursæ Min. (E&E)	AD	5 ^o 5	26 ^o 4	46 ^o 8	7 ^o 6	48 ^o 4	29 ^o 0	50 ^o 3	10 ^o 8	30 ^o 9			45 ^o 69				16. 59. 8 ^o 05	- 5 ^o 33		
	12	Groomb. 1223 S.P. (E&E)	AD	22 ^o 6	4 ^o 9	47 ^o 4	29 ^o 5	12 ^o 0	54 ^o 2	37 ^o 4					30 ^o 77				6. 46. 53 ^o 17	+ 1 ^o 32		
	13	17 Lyncis S.P. (E&E)	AD	25 ^o 5	53 ^o 8	22 ^o 3	51 ^o 0	19 ^o 5	48 ^o 0	16 ^o 4					51 ^o 61				6. 58. 14 ^o 02	+ 0 ^o 65		
	14	ψ Sagittarii (E&E)	AD	39 ^o 4	55 ^o 0	9 ^o 2	25 ^o 0	40 ^o 5	55 ^o 7	11 ^o 0					25 ^o 39	47 ^o 74	22 ^o 35					
	15	Melpomene (E&E)	AD	13 ^o 1	27 ^o 0	41 ^o 3	55 ^o 7	9 ^o 8	24 ^o 0	38 ^o 1					55 ^o 67				19. 26. 18 ^o 09			
	16	Groomb. 2917 (E&E)	AD	39 ^o 2	48 ^o 0	57 ^o 0	5 ^o 1	22 ^o 5	39 ^o 7	48 ^o 5	56 ^o 9	6 ^o 0			21 ^o 49				19. 35. 43 ^o 91	- 3 ^o 47		
	17	55 Camelop. S.P. (E&E)	AD	6 ^o 0		21 ^o 1	29 ^o 0	44 ^o 1	59 ^o 0	7 ^o 1					45 ^o 02				8. 0. 7 ^o 45	+ 1 ^o 17		
	18	Saturn 1 L. (E&E)	AD			25 ^o 0	40 ^o 1															
	19	Saturn 2 L. (E&E)	AD					56 ^o 5	11 ^o 2	25 ^o 7												
	20	κ ¹ Cephei .. (E&E)	AD			12 ^o 8	25 ^o 9	50 ^o 7	15 ^o 5	28 ^o 1	40 ^o 5	53 ^o 6			48 ^o 91				20. 13. 11 ^o 35	- 4 ^o 49		
	21	ρ Capricorni (E&E)	AD	32 ^o 9	47 ^o 5	2 ^o 2	16 ^o 8	31 ^o 5	45 ^o 8	0 ^o 4					16 ^o 88	59 ^o 42	22 ^o 54					
	22	α Cygni (E&E)	AD	47 ^o 3	7 ^o 0	26 ^o 4	45 ^o 9	5 ^o 8	24 ^o 8	44 ^o 6					45 ^o 67				20. 37. 8 ^o 12	- 2 ^o 29		
	23	Elpis	AD		25 ^o 4	39 ^o 0	53 ^o 1	7 ^o 0	20 ^o 8						53 ^o 12				20. 51. 15 ^o 57			
	24	Ausonia ... (E&E)	AD	30 ^o 4	45 ^o 0	0 ^o 1	14 ^o 8	29 ^o 9	44 ^o 8	59 ^o 5					15 ^o 09				21. 8. 37 ^o 55			
July 27	25	β Ophiuchi (E&E)	C	9 ^o 4	23 ^o 4	37 ^o 1	51 ^o 0	4 ^o 9	18 ^o 6	32 ^o 5					51 ^o 00	13 ^o 94	22 ^o 94	[0 ^o 70]				
	26	Venus 2 L. .. (E&E)	L		23 ^o 7	38 ^o 7			22 ^o 8	37 ^o 7					53 ^o 47				22 ^o 80	5. 18. 15 ^o 66		
	27	α Orionis .. (E&E)	L	12 ^o 8	26 ^o 5	40 ^o 7	54 ^o 6	8 ^o 7	22 ^o 6	36 ^o 6					54 ^o 81	17 ^o 78	22 ^o 97	[0 ^o 70]				
July 28	28	δ Virginis	L							30 ^o 1	32 ^o 8	35 ^o 5			21 ^o 85	12 ^o 96	51 ^o 11	50 ^o 91	12. 49. 12 ^o 91	- 0 ^o 56		
	29	ε Virginis	L	46 ^o 6	49 ^o 4	52 ^o 3	55 ^o 0	0 ^o 6	6 ^o 5	9 ^o 2	12 ^o 1	15 ^o 0			0 ^o 87	51 ^o 92	51 ^o 05	[0 ^o 28]	12. 55. 51 ^o 93	- 0 ^o 63		
	30	Polaris S.P. (E&E)	L	10 ^o 5	6 ^o 5	1 ^o 0	56 ^o 5									32 ^o 28	23 ^o 78	51 ^o 50				
	31	γ Herculis	E		17 ^o 4	20 ^o 4	23 ^o 3	29 ^o 3	35 ^o 0	37 ^o 8	40 ^o 9				29 ^o 23	20 ^o 74	51 ^o 51	51 ^o 34†				
	32	ζ Ophiuchi	L	6 ^o 4	9 ^o 5	12 ^o 2	14 ^o 8	20 ^o 6	26 ^o 3	29 ^o 0	31 ^o 7	34 ^o 6			20 ^o 79	11 ^o 84	51 ^o 05	50 ^o 91	16. 30. 11 ^o 89	- 1 ^o 84		
	33	ξ Herculis	L	24 ^o 4	27 ^o 6	30 ^o 9	33 ^o 8	40 ^o 6	47 ^o 2	50 ^o 3	53 ^o 6	56 ^o 9			40 ^o 59	31 ^o 73	51 ^o 14		16. 36. 31 ^o 69	- 1 ^o 75		
	34	Piazzi IV. 191 S.P.	L	31 ^o 6	41 ^o 8	51 ^o 5	1 ^o 7	21 ^o 9	42 ^o 0	52 ^o 3	1 ^o 9	12 ^o 6			23 ^o 11				4. 46. 14 ^o 22	+ 0 ^o 86		
	35	μ Draconis (S.Star)	L						3 ^o 0	7 ^o 8	12 ^o 4	17 ^o 2			53 ^o 19				17. 2. 44 ^o 30	- 2 ^o 09		
	36	μ Draconis (N.Star)	L	29 ^o 5	34 ^o 4	39 ^o 1	43 ^o 9	53 ^o 3							53 ^o 21				17. 2. 44 ^o 32	- 2 ^o 09		
	37	θ Ophiuchi	E	7 ^o 7	11 ^o 0	13 ^o 8	17 ^o 0	23 ^o 0	29 ^o 2	32 ^o 2	35 ^o 2	38 ^o 2			23 ^o 32	14 ^o 89	51 ^o 57	51 ^o 34†				
	38	δ Ursæ Min. (E&E)	L							31 ^o 8	18 ^o 0	6 ^o 8			39 ^o 20	30 ^o 70	51 ^o 50	50 ^o 91				
	39	β Aquilæ	L					9 ^o 8	15 ^o 5	21 ^o 0	23 ^o 8	26 ^o 6			15 ^o 60	6 ^o 75	51 ^o 15		19. 49. 6 ^o 74	- 2 ^o 30		
	40	Vesta	L	38 ^o 5	41 ^o 7	44 ^o 8	47 ^o 7	53 ^o 6	59 ^o 7	2 ^o 8	5 ^o 9	9 ^o 0			54 ^o 03				19. 51. 45 ^o 17			
	41	Saturn 1 L.	L	19 ^o 6	22 ^o 7	25 ^o 6	28 ^o 6	34 ^o 3	40 ^o 2	43 ^o 4	46 ^o 1	48 ^o 9							20. 4. 26 ^o 48			
	42	Saturn 2 L.	L	21 ^o 0	24 ^o 0	26 ^o 9	29 ^o 8	35 ^o 8	41 ^o 7	44 ^o 6	47 ^o 5	50 ^o 6										
	43	α ² Capricorni	L	57 ^o 4	0 ^o 2	3 ^o 0	5 ^o 9	11 ^o 6	17 ^o 2	20 ^o 0	22 ^o 9	25 ^o 6			11 ^o 77	2 ^o 89	51 ^o 12		20. 11. 2 ^o 91	- 2 ^o 53		
	44	α Cygni	L	57 ^o 9	2 ^o 0	5 ^o 6	9 ^o 6	17 ^o 6	25 ^o 3	29 ^o 3	33 ^o 1	36 ^o 9			17 ^o 39				20. 37. 8 ^o 54	- 2 ^o 30		
	45	Ausonia	L						49 ^o 5	52 ^o 3		58 ^o 5			43 ^o 73				21. 6. 54 ^o 89			

Polaris and other stars very near the pole are observed by eye and ear over the wires P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P.; using the Clock Hardy. The Intervals of the Wires of both systems are given in the Introduction.

Reading of Transit-Micrometer, 32^o 400.

Correction to the times by Hardy for reduction to Sidereal Standard, applied to form Concluded Transit, Nos. 30 and 38, - 28^o 10.

Correction for passage of semidiameter, No. 26, - 0^o 76.

† These clock-errors have been used in the reduction of the observations made with the Altazimuth.

July 25 to July 27, β Ophiuchi. The azimuthal error by tabular places of Polaris S.P. and Spica on July 26.

July 26 and 27. The observations were made by the eye-and-ear method, using the Transit-Clock Hardy; the Chronograph being under repair.

July 27, Venus 2 L., to July 28. The azimuthal error by tabular places of Polaris S.P. and δ Ursæ Minoris.

6. Tremulous.

12. Extremely tremulous.

16. Wire II. was set down 49^o 0.

28. Faint.

8. Wire II. was set down 30^o 6.

13. Faint very tremulous.

19. Wires VI. and VII. were set down 12^o 2 and 26^o 7.

30. Very tremulous.

11, 16, 17, 20. Observed over the system of nine wires.

14. Wire II. was set down 54^o 0.

TRANSITS OBSERVED WITH THE TRANSIT-CIRCLE, AND COMPUTATIONS OF APPARENT RIGHT ASCENSION,

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of Collimation. (Level). [Azimuth].	Seconds of Transit Cor- rected.	Tabular R. A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at ^h Sidereal and (Losing Rate).	Apparent R. A. of Center from the Observation.	Correction for Reduction to Mean R. A. 1873, Jan. 1.
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.								
				s	s	s	s	s	s	s	s	s								
July 28	1	Venus 2 L.....	C	..	35.7	38.6	41.4	47.5	53.4	56.2	59.4	..	5. 21. 47.43	+0.03	47.49	17.80	54.49	51.46	5. 22. 38.22	
	2	α Orionis	C	12.3	15.1	17.9	20.7	26.2	31.7	34.5	37.3	40.1	5. 47. 26.18	(-1.84) [+4.69]	26.31			[0.13]		
July 29	3	Venus 2 L.	E	56.8	59.7	2.6	5.6	11.5	17.5	20.6	23.5	26.5	5. 26. 11.56	(-2.48) [+5.07]	11.59			51.76	5. 27. 2.58	
July 30	4	$\odot$ 1 L.....	E	42.4	45.4	48.4	51.0	57.0	2.8	5.7	8.6	11.6	8. 36. 56.93	}	3.71	36.30	51.83	24.25 ⁺ [1.07]	51.76	8. 38. 55.43
	5	$\odot$ 2 L.....	E	55.8	58.8	1.6	4.4	10.5	16.4	19.2	22.2	25.0	8. 39. 10.41							
	6	Regulus	E	30.0	33.1	35.9	38.7	44.4	50.0	52.9	55.9	58.7	10. 0. 44.38							
	7	δ 1 L.....	E	..	25.0	27.6	30.6	36.4	42.0	44.8	47.7	..	13. 1. 36.27							
	8	Polaris S.P. (E&E)	E	..	..	..	..	..	36.0	32.0	24.0	25.5	13. 11. 19.27							
	9	γ 2 Ophiuchi (E&E)	L	14.6	..	42.6	56.5	10.7	..	38.9	..	..	18. 0. 56.67							
	10	α Lyrae.... (E&E)	L	21.9	40.1	37.8	15.4	33.2	51.0	8.7	..	..	18. 32. 15.45							
	11	ϵ Aquilæ	E	47.6	50.6	53.4	56.3	1.9	7.6	10.6	13.4	16.3	18. 53. 1.95							
	12	Melpomene	E	32.0	35.0	37.8	40.6	46.3	51.8	54.6	57.4	0.2	19. 21. 46.17							
	13	51 Camelop. S.P.	E	..	10.0	16.3	23.5	36.6	50.0	57.0	3.8	..	19. 33. 36.80							
	14	δ Cygni	E	..	55.6	59.5	3.4	11.2	19.0	22.8	26.7	..	19. 40. 11.13							
	15	Vesta	E	47.4	50.5	53.5	56.6	..	..	15.0	18.0	19. 49. 2.69								
	16	55 Camelop. S.P.	E	..	..	51.4	59.4	14.8	29.8	37.5	..	..	19. 59. 14.63							
	17	Saturn 1 L.....	E	..	..	..	..	57.6	3.6	6.4	9.4	12.4	20. 2. 57.55							
	18	Saturn 2 L.....	E	..	..	..	..	59.0	4.8	7.7	10.7	13.8	20. 2. 58.90							
	19	α^2 Capricorni ...	E	56.9	59.8	2.5	5.5	..	16.5	19.4	22.2	25.3	20. 10. 10.98							
	20	Groombridge 3150	E	..	..	7.2	14.0	27.7	41.6	49.0	..	..	20. 15. 27.85							
	21	Elpis	E	57.6	0.5	3.5	6.0	11.6	17.5	20.1	23.0	25.7	20. 47. 11.70							
	22	Ausonia	E	23.7	26.7	29.7	32.5	38.6	44.5	47.6	50.6	53.6	21. 3. 38.58							
	23	Pales	E	25.2	28.4	31.1	34.0	39.6	45.6	48.2	51.1	54.0	21. 10. 39.66							
	24	β Aquarii.....	E	48.9	51.6	54.4	57.3	2.8	8.4	11.3	14.0	16.8	21. 24. 2.82							
July 31	25	Polaris S.P. (E&E)	AD	..	..	54.0	53.5	45.0	35.5	..	..	..	13. 11. 19.50	(-1.94) [+6.32]	34.91	26.30	51.39	51.44		}
	26	Spica	AD	..	..	..	..	..	47.6	50.4	53.3	13. 17. 39.15								
	27	δ 1 L.....	AD	15.8	18.7	21.5	24.4	30.3	35.9	38.8	41.6	44.6	13. 46. 30.16							
	28	α Draconis.....	AD	34.4	41.4	47.6	54.3	7.2	20.2	27.0	33.4	40.2	14. 0. 7.24							
	29	Arcturus	AD	46.8	49.9	52.8	55.7	1.5	7.4	..	..	..	14. 9. 1.54							
	30	γ Herculis (E&E)	C	9.8	24.5	39.3	54.0	8.6	23.4	38.0	..	..	16. 15. 53.95							
	31	ϵ Ursæ Min. (E&E)	AD	1.0	21.5	41.6	2.3	43.0	24.7	44.9	5.0	25.8	16. 58. 18.33							
	32	Capella S.P.....	AD	..	..	..	..	..	34.7	38.7	42.7	46.6	17. 6. 26.82							
	33	θ Ophiuchi	AD	7.8	11.0	13.8	17.0	23.0	29.2	32.2	35.1	38.3	17. 13. 23.02							
	34	α Ophiuchi (E&E)	C	54.9	9.0	23.4	37.5	51.6	5.7	19.7	..	..	17. 28. 37.41							
	35	31 Camelop. S.P.	AD	..	21.0	26.3	32.0	43.0	..	..	4.8	10.6	17. 42. 43.00							
	36	μ Sagittarii	AD	5.8	8.8	11.8	14.8	20.8	26.6	29.6	32.5	35.6	18. 5. 20.67							
	37	α Lyrae	AD	31.2	35.0	38.4	41.7	49.2	56.0	59.6	3.1	6.8	18. 31. 48.97							
	38	ω Aquilæ	AD	47.9	50.7	53.4	56.3	2.0	7.5	10.4	13.3	16.0	19. 11. 1.93							
	39	B. A. C. 6702 ...	AD	17.0	29.5	41.4	52.7	16.0	39.4	51.4	2.9	14.7	19. 25. 16.01							
	40	Vesta	AD	53.7	56.8	59.7	2.9	9.0	15.1	18.2	21.2	24.2	19. 48. 8.94							
	41	ϵ Sagittarii	AD	46.3	49.5	52.6	55.6	2.0	8.2	11.3	14.5	17.7	19. 54. 1.94							
	42	Saturn 1 L.....	AD	24.9	28.0	31.0	33.8	39.5	45.4	48.4	51.4	54.4	20. 2. 39.61							
	43	Saturn 2 L.....	AD	26.3	29.4	32.2	35.2	41.0	46.9	49.7	52.9	55.7	20. 2. 41.01							
	44	57 Camelop. S.P.	AD	..	..	1.3	7.5	19.6	31.7	37.9	43.7	50.3	20. 7. 19.68							
	45	κ^1 Cephei	AD	18.8	31.5	44.2	56.6	21.6	46.8	59.6	12.3	24.6	20. 12. 21.67							

The observations of transits are usually made by the galvanic or chronographic method, the wires employed being generally P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P. Occasionally the observations are made by eye and ear (E & E); the wires then employed are N, O, P, T, X, Y, Z; in reversed order for stars S.P.

Reading of Transit-Micrometer, 32".400.

Corrections to the times by Hardy for reduction to Sidereal Standard, applied to form Concluded Transit, Nos. 8, 25, and 31, -26".50: -25".00: and -24".80.

Corrections for passage of Semidiameter, Nos. 1, 3, 7, and 27, -0".76: -0".75: +61".50: and +62".82.

† These clock-errors have been used in the reduction of the observations made with the Altazimuth.

July 29 and 30. The azimuthal error by tabular places of Regulus and Polaris S.P.

July 31. The azimuthal error by tabular places of Polaris S.P. and Spica.

7. Correction to R.A. on true meridian, +0".01.

15, 29, 32. Cloudy.

25. Extremely tremulous.

26. Tremulous; cloudy.

27. Faint and tremulous. Correction to R.A. on true meridian, +0".01.

28. Faint.

30, 34. The transits were observed by eye and ear, using the clock Hardy.

42, 43. Very tremulous.

Polaris and other stars very near the pole are observed by eye and ear over the wires P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P.; using the Clock Hardy. The Intervals of the Wires of both systems are given in the Introduction.

Reading of Transit-Micrometer, $32^{\circ} 400$.
Corrections to the times by Hardy for reduction to Sidereal Standard, applied to form Concluded Transit, Nos. 21, 22, 39, and 40, $-53^{\circ} 50'$ $-53^{\circ} 50'$ $-52^{\circ} 90'$ and $-52^{\circ} 90'$.
Corrections for passage of Semidiameter, Nos. 12 and 31, $-64^{\circ} 92'$ and $-0^{\circ} 74'$.
† These clock-errors have been used in the reduction of the observations made with the Altazimuth.
August 1 and 2. The azimuthal error used is the mean of two determinations ($+3'' 97$ and $+4'' 64$) by tabular places of δ Ursæ Minoris and Cephei 51 S.P., on both days.

11, 12. Cloudy.

TRANSITS OBSERVED WITH THE TRANSIT-CIRCLE, AND COMPUTATIONS OF APPARENT RIGHT ASCENSION,

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of Collimation. (Level). [Azimuth].	Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at 0 ^h Sidereal and [Losing Rate].	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873, Jan. 1.		
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.										
				s	s	s	s	s	s	s	s	s										
				s	s	s	s	s	s	s	h	m	s		s	s	s	s	h	m	s	s
Aug. 3	1	δ Aquilæ.....	L	2'7	5'7	8'4	11'0	16'7	22'1	24'8	27'6	30'5	19. 18. 16'59	+0'03	16'77	7'95	51'18	51'24†	....			
	2	α Vulpeculæ.....	L	20'9	23'9	27'0	30'0	36'0	42'1	45'4	48'2	51'4	19. 22. 36'07	(-0'86) [+4'31]	36'15	27'45	51'30	[0'00]	....			
Aug. 4	3	⊙ 1 L.....	AD	6'0	9'0	11'7	14'6	20'4	26'2	29'0	31'7	34'6	8. 56. 20'33	+0'05	26'76	29'98	51'48	51'54	8. 58. 18'28			
	4	⊙ 2 L.....	AD	18'4	21'4	24'3	27'1	32'8	38'6	41'5	44'4	47'4	8. 58. 32'85	(-0'60)								
	5	Polaris S.P. (E&E)	AD	..	38'0	29'5	..	18'5	..	..	..	..	13. 11. 27'56	[+5'46]	38'50	29'98	51'48	[0'06]	....			
	6	32 Vulpeculæ....	AD	..	7'2	10'0	13'2	19'5	25'8	28'9	32'0	..	20. 48. 19'48		19'61	11'09	51'48	51'48	....			
	7	ζ Cygni.....	AD	26'6	29'9	33'0	36'3	42'5	49'0	52'0	55'2	58'5	21. 6. 42'53		42'64	34'12	51'48	51'48	....			
	8	α Equulei.....	AD	25'2	28'1	30'7	33'5	39'0	44'7	47'5	50'1	53'0	21. 8. 39'06		39'29	30'83	51'54	51'54	....			
	9	α Cephei.....	AD	14'6	20'6	26'6	32'4	44'0	56'0	1'8	7'7	13'7	21. 14. 44'11		43'89	..	..	..	21. 15. 35'38	- 2'73		
	10	β Aquarii.....	AD	48'8	51'9	54'6	57'4	3'0	8'6	11'5	14'1	16'9	21. 24. 2'96		3'25	54'72	51'47	51'47	....			
	Aug. 5	11	γ Herculis.....	L	14'6	17'6	20'6	23'5	29'4	35'3	38'0	41'0	44'0	16. 15. 29'30	(-0'69)	29'49	20'63	51'14	51'09	16. 16. 20'59	- 1'56	
		12	λ Ophiuchi.....	L	26'8	29'9	32'4	35'4	40'7	46'4	49'1	51'8	54'7	16. 23. 40'78	[+6'28]	41'07	32'19	51'12	[0'02]	16. 24. 32'17	- 1'66	
13		ζ Ophiuchi.....	L	6'3	9'2	11'9	14'6	20'4	25'8	28'8	31'6	34'4	16. 29. 20'32		20'67	11'76	51'09	51'09	16. 30. 11'77	- 1'76		
14		γ Herculis.....	L	24'0	27'5	30'6	33'7	40'5	46'8	50'0	53'3	56'6	16. 35. 40'31		40'42	31'60	51'18	51'18	16. 36. 31'52	- 1'62		
15		β Ophiuchi.....	L	8'6	11'5	14'1	17'0	22'4	28'0	30'9	33'5	36'4	17. 36. 22'47		22'75	13'88	51'13	51'13	17. 37. 13'85	- 1'98		
16		72 Ophiuchi....	E	16'0	18'8	21'5	24'3	30'0	35'6	38'4	41'2	44'0	18. 0. 29'96		30'20	21'74	51'54	51'48†	....			
17		μ Sagittarii.....	E	5'8	9'0	11'8	14'7	20'5	26'4	29'5	32'3	35'4	18. 5. 20'57		20'98	12'43	51'45	51'45	....			
18		δ Ursæ Min.(E&E)	L	38'8	26'0	12'0	..	..	..	53'0	38'8	26'8	18. 12. 40'66		36'02	28'39	52'37	51'09	....			
19		⊙ 1 L.....	L	46'5	50'0	52'9	56'1	2'6	9'2	12'6	15'6	18'9	18. 26. 2'68		3'13	..	..	..	18. 28. 10'39			
20		Ceph. 51 S.P.(E&E)	L	..	..	3'0	2'0	57'0	51'0	47'2	44'0	43'0	18. 39. 4'99		11'35	3'72	52'37	52'37	....			
21		τ Sagittarii.....	L	56'2	59'5	2'5	5'6	11'8	18'1	21'3	24'2	27'5	18. 58. 11'83		12'28	..	..	..	18. 59. 3'39	- 2'74		
22		α² Capricorni....	L	..	..	..	6'0	11'6	17'3	..	..	..	20. 10. 11'62		11'99	2'94	50'95	50'95	20. 11. 3'10	- 2'58		
23	ε Delphini.....	L	5'7	8'5	11'4	14'1	19'7	25'4	28'2	31'0	33'7	20. 26. 19'72		19'96	11'02	51'06	51'06	20. 27. 11'07	- 2'33			
24	Pollux.....	C	..	..	..	..	41'1	47'3	50'5	53'5	56'7	7. 36. 41'00	(-2'18) [+4'50]	40'98	32'50	51'52	51'39	7. 37. 32'38	0'00			
Aug. 6	25	⊙ 1 L.....	C	47'1	50'0	52'7	55'6	1'5	7'4	10'2	13'1	16'0	9. 4. 1'48		7'72	13'87	51'57	51'54†	9. 5. 59'12			
	26	⊙ 2 L.....	C	59'5	2'2	5'2	8'0	13'8	19'7	22'6	25'4	28'4	9. 6. 13'83									
	27	β Ophiuchi.....	AD	8'3	11'3	14'0	16'6	22'1	27'7	30'5	33'3	36'0	17. 36. 22'18		22'30	13'87	51'57	51'54†	....			
	28	μ Herculis.....	AD	24'3	27'3	30'3	33'5	39'6	46'0	49'0	52'2	55'3	17. 40. 39'68		39'67	31'21	51'54	51'54	....			
	29	72 Ophiuchi....	C	16'2	19'1	21'7	24'7	30'2	35'8	38'8	41'4	44'3	18. 0. 30'23		30'32	21'73	51'41	51'39	18. 1. 21'73	- 2'03		
	30	δ Ursæ Min.(E&E)	C	38'5	26'5	12'0	..	..	..	..	39'0	26'0	18. 12. 41'17		36'32	28'04	51'72	51'72	....			
	31	Ceph. 51 S.P.(E&E)	C	10'0	8'5	4'0	2'0	56'5	..	..	..	..	18. 39. 6'39		12'69	4'15	51'46	51'46	....			
	32	σ Sagittarii.....	C	19'0	22'1	25'0	28'0	34'3	40'6	43'7	46'6	49'8	18. 46. 34'32		34'62	..	..	..	18. 47. 26'03	- 2'67		
	33	τ Sagittarii.....	C	55'8	59'2	2'5	5'4	11'7	17'9	21'0	24'2	27'3	18. 58. 11'64		11'94	..	..	..	18. 59. 3'35	- 2'74		
	34	δ Aquilæ.....	C	2'7	5'4	8'1	11'0	16'4	22'0	24'8	27'4	30'2	19. 18. 16'42		16'55	7'95	51'40	51'40	19. 19. 7'96	- 2'32		
	35	ξ Aquarii.....	C	56'4	59'3	2'0	4'7	10'3	15'9	18'7	21'5	24'3	21. 30. 10'33		10'52	1'84	51'32	51'32	21. 31. 1'94	- 2'52		
	36	Pallas.....	C	5'4	8'2	11'1	13'9	19'5	25'2	28'0	30'8	33'6	21. 34. 19'50		19'59	..	..	..	21. 35. 11'01			
Aug. 7	37	⊙ 1 L.....	E	36'7	39'5	42'5	45'2	51'0	56'8	59'6	2'5	5'4	9. 7. 51'00		51'06	..	..	51'65	9. 9. 48'76			
	38	ε Herculis.....	HC	20'0	23'4	26'6	29'7	36'3	..	45'8	49'0	..	16. 54. 36'18		36'14	27'57	51'43	51'44†	....			
	39	α Ophiuchi.....	HC	58'6	1'4	4'2	7'0	12'7	18'4	21'4	24'0	27'0	17. 28. 12'73		12'80	4'22	51'42	[0'02]	....			
	40	β Ophiuchi.....	HC	8'4	11'4	14'0	16'7	22'3	27'8	30'6	33'5	36'2	17. 36. 22'30		22'42	13'86	51'44	51'44	....			
	41	72 Ophiuchi.....	E	16'0	18'9	21'6	24'4	30'0	35'7	38'5	41'3	44'1	18. 0. 30'04		30'13	21'72	51'59	51'65	18. 1. 21'76	- 2'02		
	42	δ Ursæ Min.(E&E)	E	..	..	12'0	58'5	32'0	5'0	53'5	..	..	18. 12. 40'89		36'04	27'70	51'66	51'66	....			
	43	Ceph. 51 S.P.(E&E)	E	..	..	..	..	..	..	44'5	43'5	18. 39. 5'85		12'15	4'55	52'40	52'40	....				
	44	ε Aquilæ.....	E	47'5	50'6	53'4	56'2	2'0	7'8	10'7	13'5	16'4	18. 53. 1'99		2'06	53'61	51'55	51'55	18. 53. 53'69	- 2'16		
	45	Vesta.....	E	7'7	11'0	14'0	17'0	23'2	29'4	32'4	35'6	38'6	19. 42. 23'18		23'47	..	..	..	19. 43. 15'10			

The observations of transits are usually made by the galvanic or chronographic method, the wires employed being generally P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P. Occasionally the observations are made by eye and ear (E & E); the wires then employed are N, O, P, T, X, Y, Z; in reversed order for stars S.P.

Reading of Transit-Micrometer, 32".400.

Corrections to the times by Hardy for reduction to Sidereal Standard, applied to form Concluded Transit, Nos. 5, 18, 20, 30, 31, 42, and 43, -51'50": -51'40": -51'40": -50'80": -50'80": -51'00": and -51'00".

Corrections for passage of Semidiameter, Nos. 19 and 37, +76'13": and +66'06".

† These clock-errors have been used in the reduction of the observations made with the Altazimuth.

August 4. The azimuthal error by tabular places of Polaris S.P. and 32 Vulpeculæ.

August 5 to ε Delphini. The azimuthal error by tabular places of δ Ursæ Minoris and Cephei 51 S.P.

August 5, Pollux, to August 8, δ Ursæ Minoris. The azimuthal error used is the mean of three determinations (+4'33", +4'97", and +4'19") by tabular places of δ Ursæ Minoris and Cephei 51 S.P. on August 6 and 7, and of Polaris S.P. and δ Ursæ Minoris on August 8.

5, 6, 24, 37, 38. Cloudy.

19. Correction to R.A. on true meridian, +0'02.

36. Very faint; cloudy.

1875

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of Collimation. (Level). [Azimuth].	Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at oh Sidercal and [Losing Rate].	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873. Jan. 1.
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.								
				s	s	s	s	s	s	s	s	s								
Aug. 7	1	ω Sagittarii	E	59°0	2'1	5'2	8'1	14'2	20'4	23'6	26'6	29'8	19. 47. 14'30	+0°05	14'60			51'65	19. 48. 6'23	- 2'86
	2	15 Vulpeculæ	E	47'4	50'5	53'5	56'7	3'0	9'2	12'2	15'4	18'4	19. 55. 2'89	(-2'18)	2'88			[-0'02]	19. 55. 54'51	- 2'24
	3	Saturn 1 L.	E	20'7	23'8	26'7	29'7	35'6	41'6	44'4	47'4	50'4	20. 0. 35'56	[+4'50]	36'50				20. 1. 28'13	
	4	Saturn 2 L.	E	22'1	25'2	28'0	31'1	37'0	42'9	45'8	48'7	51'8	20. 0. 36'92							
	5	Lacaille 8442	E	..	43'4	46'5	49'6	56'2	2'6	5'6	8'8	..	20. 17. 56'07		56'38				20. 18. 48'01	- 2'98
	6	Piazzi XX. 170 . . .	E	14'0	17'2	20'2	23'3	29'4	35'5	38'6	41'5	44'6	20. 24. 29'33		29'61				20. 25. 21'24	- 2'87
	7	♃ 1 L.	E	39'7	43'0	46'0	49'0	55'4	1'6	4'7	7'8	11'3	20. 40. 55'36		55'64				20. 43. 2'94	
	8	32 Vulpeculæ	E	..	..	..	13'3	19'6	25'8	29'1	32'0	35'1	20. 48. 19'56		19'55	11'11	51'56		20. 49. 11'18	- 2'27
	9	Ausonia	E	0'8	3'7	6'8	9'8	15'7	21'6	24'7	27'5	30'7	20. 55. 15'67		15'93				20. 56. 7'56	
	10	Pales	E	..	50'7	53'7	56'8	2'1	7'8	10'7	13'6	..	21. 4. 2'18		2'40				21. 4. 54'03	
	11	♄ Capricorni	E	..	..	..	..	..	..	43'6	46'6	49'6	21. 7. 34'71		34'97				21. 8. 26'60	- 2'78
	12	♄ Capricorni	E	6'5	9'6	12'4	15'3	21'1	27'0	29'9	32'8	35'7	21. 14. 21'12		21'35	13'04	51'69		21. 15. 12'98	- 2'70
	13	♄ Capricorni	E	20'7	23'5	26'6	29'7	35'6	41'6	44'7	47'6	50'7	21. 18. 35'60		35'87				21. 19. 27'50	- 2'81
	14	♊ Aquarii	E	49'0	51'8	54'6	57'4	2'9	8'4	11'3	14'0	16'8	21. 24. 2'89		3'07	54'76	51'69		21. 24. 54'70	- 2'50
	15	♊ Aquarii	E	56'0	58'8	1'6	4'4	10'0	15'5	18'4	21'3	24'0	21. 30. 9'98		10'17	1'85	51'68		21. 31. 1'80	- 2'53
	16	Pallas	E	20'0	22'9	25'5	28'5	34'1	39'8	42'7	45'5	48'3	21. 33. 34'13		34'21				21. 34. 25'84	
	17	Venus 2 L.	AD	39'6	42'6	45'6	48'6	54'7	0'4	3'5	6'4	9'4	6. 6. 54'50	(-2'52)	54'50			51'58	6. 7. 45'36	
	18	♊ Geminorum	AD	10'3	13'4	16'3	19'3	25'3	31'4	34'4	37'3	40'4	6. 14. 25'31		25'31	16'89	51'58	[-0'04]	6. 15. 16'88	- 0'27
	19	Sirius	AD	26'5	29'6	32'4	35'4	41'0	46'8	49'8	52'5	55'5	6. 38. 41'04		41'26				6. 39. 32'83	+ 0'18
	20	Castor	AD	21'7	25'3	28'4	31'6	38'1	44'8	48'0	51'2	54'4	7. 25. 38'13		38'06	29'73	51'67		7. 26. 29'63	- 0'09
	21	Procyon	AD	33'6	36'5	..	41'7	47'3	52'9	..	58'5	1'3	7. 31. 47'40		47'50	39'11	51'61		7. 32. 39'07	+ 0'06
	22	Pollux	AD	25'4	28'5	31'7	34'7	41'2	47'4	50'5	53'6	56'8	7. 36. 41'06		41'01	32'54	51'53		7. 37. 32'58	- 0'04
Aug. 8	23	♃ 1 L.	AD	25'6	28'5	31'4	34'2	40'0	45'6	48'6	51'5	54'4	9. 11. 39'95		45'92				9. 13. 37'48	
	24	♃ 2 L.	AD	37'4	..	43'3	46'1	51'7	57'6	0'4	..	6'3	9. 11. 51'81							
	25	Polaris S.P. (E&E)	AD	..	..	..	..	..	..	7'0	..	..	13. 11. 25'20		38'52	33'05	54'53		..	
	26	Spica	AD	25'0	28'0	30'5	33'4	39'3	44'8	47'5	50'4	53'3	13. 17. 39'12		39'31	30'78	51'47		13. 18. 30'87	- 0'56
	27	♄ Ursæ Min. (E&E)	AD	..	..	..	..	..	2'0	49'0	..	..	18. 12. 37'26		32'09	27'37	55'28		..	
	28	Procyon	G	33'7	36'6	39'2	42'0	47'6	52'9	55'9	58'6	1'5	7. 31. 47'53	(-2'28) [+6'24]	47'72	39'13	51'41	51'38 [-0'10]	7. 32. 39'07	+ 0'04
Aug. 9	29	Polaris S.P. (E&E)	G	38'5	34'0	32'0	..	18'5	9'0	..	..	..	13. 11. 28'25	(-1'50)	42'50	33'71	51'21		..	
	30	Spica	G	25'3	..	30'7	33'7	39'3	44'8	47'7	..	53'3	13. 17. 39'24		39'56	30'77	51'21		13. 18. 30'88	- 0'55
	31	♄ Ursæ Majoris . .	G	20'0	24'4	28'7	33'0	41'5	50'1	54'4	58'7	3'1	13. 41. 41'51		41'38				13. 42. 32'70	- 0'65
	32	Arcturus	G	..	49'8	52'7	55'6	1'4	7'6	10'6	13'4	..	14. 9. 1'56		1'70	52'97	51'27		14. 9. 53'02	- 0'84
	33	♄ Herculis	G	23'8	27'2	30'4	33'7	40'1	46'6	50'0	53'0	56'4	16. 35. 40'11		40'16	31'54	51'38		16. 36. 31'47	- 1'56
	34	50 Herculis	G	..	..	..	..	..	58'3	1'5	4'6	7'9	16. 44. 51'87		51'94				16. 45. 43'25	- 1'62
	35	♄ Camelop. S.P. . .	G	48'3	53'8	59'5	5'2	16'2	27'4	33'0	38'4	44'0	16. 51. 16'25		17'10				4. 52. 8'41	- 0'56
	36	♄ Ursæ Minoris . .	G	..	..	..	..	..	58'5	18'6	38'2	0'2	16. 58. 16'89		14'69				16. 59. 6'00	- 3'22
	37	♄ Draconis	G	2'7	9'8	16'4	23'2	36'7	50'3	57'0	3'5	10'4	17. 7. 36'60		36'12				17. 8. 27'43	- 1'96
	38	Piazzi XVII. 117 . .	G	46'5	49'7	52'7	55'8	1'9	8'0	11'1	14'2	17'4	17. 23. 1'90		2'33				17. 23. 53'64	- 2'22
	39	♄ Herculis	G	24'3	27'4	30'5	33'5	39'6	46'0	49'3	52'3	55'5	17. 40. 39'77		39'86	31'18	51'32		17. 41. 31'17	- 1'85
	40	♄ Sagittarii	E	23'1	26'1	29'0	31'8	37'6	43'4	46'3	49'3	52'0	19. 32. 37'39	(-0'78)	37'97	29'35	51'38	51'56†	..	
	41	♄ Aquilæ	E	9'6	12'6	15'4	18'0	23'7	29'4	32'3	35'0	37'9	19. 39. 23'75		23'99	15'56	51'57		..	
	42	♄ Aquilæ	G	32'0	34'8	37'4	40'3	45'8	51'5	54'3	57'0	59'8	19. 43. 45'86		46'11	37'49	51'38	51'38	19. 44. 37'41	- 2'33
	43	16 Pegasi	G	12'6	15'8	18'7	21'9	28'0	34'0	37'2	40'3	43'4	21. 46. 27'96		28'11	19'32	51'21		21. 47. 19'40	- 2'27
	44	♄ Aquarii	G	31'5	34'4	37'2	40'0	..	51'4	54'0	57'0	59'9	21. 58. 45'65		46'02				21. 59. 37'31	- 2'61
	45	56 Aquarii	G	25'6	28'5	31'2	34'1	39'8	45'6	48'5	51'4	54'3	22. 22. 39'89		40'27				22. 23. 31'56	- 2'58
	46	♄ 2 L.	G	28'7	31'5	34'5	37'4	43'3	49'3	52'1	55'0	57'8	22. 48. 43'27		43'64				22. 48. 23'69	
	47	Piazzi XXIII. 126 .	G	55'6	58'6	1'2	4'1	9'8	15'4	17'8	20'8	23'7	23. 28. 9'64		9'97				23. 29. 1'25	- 2'26

Polaris and other stars very near the pole are observed by eye and ear over the wires P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P.; using the Clock Hardy. The Intervals of the Wires of both systems are given in the Introduction.

Reading of Transit-Micrometer, 32".400.

Corrections to the times by Hardy for reduction to Sidercal Standard, applied to form Concluded Transit, Nos. 25, 27, and 29, -50".90: -50".80: and -50".30.

Corrections for passage of Semidiameter, Nos. 7, 17, and 46, +75".66: -0".71: and -71".25.

† This clock-error has been used in the reduction of the observations made with the Altazimuth.

August 8, Procyon, to August 9. The azimuthal error by tabular places of Polaris S.P. and Spica on August 9.

7, 46. Correction to R.A. on true meridian, +0".01.

25. Cloudy. Very tremulous.

19. Extremely tremulous.

27. Very faint; cloudy.

23, 24, 29. Tremulous.

TRANSITS OBSERVED WITH THE TRANSIT-CIRCLE, AND COMPUTATIONS OF APPARENT RIGHT ASCENSION,

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of Collimation. (Level). [Azimuth].	Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at oh Sidereal and (Losing Rate).	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873, Jan. 1.			
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.											
				s	s	s	s	s	s	s	s	s											
											h	m	s			s	s	s	s	h	m	s	s
Aug. 11	1	ε Aquilæ	L	48.0	51.0	53.8	56.7	2.5	8.1	11.0	14.0	16.7	18.53.	2.40	+0.12	2.62	53.58	50.96	50.95	18.53.53.59	-2.13		
	2	ζ Aquilæ	L	31.1	34.0	36.6	39.6	45.2	51.0	53.8	56.6	59.6	18.58.	45.26	(+0.38)	45.49	36.47	50.98	[0.02]	18.59.36.46	-2.16		
	3	ω Aquilæ	L	48.3	51.1	53.7	56.7	2.4	7.9	10.7	13.5	16.4	19.11.	2.28	[+4.63]	2.51	53.47	50.96		19.11.53.48	-2.20		
	4	λ Ursæ Min. (E&E)	L	..	..	34.0	1.0	57.0	51.0	..	..	..	19.51.	6.69		58.19	49.94	51.75		19.51.49.16	-32.54		
	5	Saturn 1 L.	L	13.5	16.6	19.4	22.3	28.2	34.1	37.2	40.0	43.0	19.59.	28.23		29.27				20.0.20.24			
	6	Saturn 2 L.	L	15.1	17.8	20.7	23.7	29.6	35.6	38.7	41.5	44.4	19.59.	29.65									
	7	α ² Capricorni.	L	57.8	0.5	3.4	6.2	11.7	17.4	20.4	23.1	26.0	20.10.	11.82		12.12	2.96	50.84		20.11.3.09	-2.60		
	8	ζ Cygni	L	27.1	30.3	33.5	36.6	43.0	49.4	52.5	55.7	59.0	21.6.	42.98		43.15	34.17	51.02		21.7.34.12	-2.30		
	9	α Equulei	L	25.7	28.6	31.4	34.0	39.5	45.2	48.0	51.0	53.6	21.8.	39.64		39.90	30.88	50.98		21.9.30.87	-2.42		
	10	ε Pegasi	P	53.7	56.6	59.4	2.0	7.7	13.4	16.0	18.8	21.7	21.37.	7.58		7.82	59.26	51.44	51.32†	....			
	11	δ Capricorni.	P	58.4	1.3	4.2	7.0	12.9	18.7	21.5	24.5	27.4	21.39.	12.85		13.17	4.41	51.24		....			
	12	16 Pegasi.	L	12.7	15.9	18.8	21.9	28.4	34.3	37.4	40.3	43.4	21.46.	28.09		28.28	19.34	51.06	50.95	21.47.19.25	-2.29		
	13	ε Andromedæ.	AD	45.4	48.7	51.7	54.8	1.2	7.5	10.6	13.7	17.0	0.31.	1.15		1.33	52.79	51.46	51.42	....			
	14	δ 2 L.	AD	30.0	33.0	35.6	38.5	44.2	49.7	52.8	55.5	58.4	0.40.	44.17		44.44			[0.02]	0.40.27.70			
	15	μ Andromedæ.	AD	35.5	39.0	42.4	46.0	52.8	59.8	3.5	7.0	10.4	0.48.	52.91		53.04	44.41	51.37		....			
	16	δ Andromedæ.	AD	30.8	34.4	37.6	41.2	48.0	54.7	58.1	1.4	4.8	1.1.	47.86		48.01	39.42	51.41		....			
	17	ζ ¹ Piscium	AD	2.0	5.0	7.6	10.4	16.0	21.5	24.2	27.0	30.0	1.6.	15.94		16.19	7.62	51.43		....			
	18	f Piscium.	AD	11.4	14.0	16.6	19.5	25.0	30.6	33.4	36.1	38.9	1.10.	25.04		25.30				1.11.16.72	-1.79		
	19	Polaris (E&E)	AD	..	..	..	..	..	31.0	28.0	21.5	..	1.11.	49.67		43.05	35.43	52.38		1.12.34.47	-17.74		
	20	μ Piscium.	AD	28.0	31.0	33.7	36.5	42.0	47.5	50.4	53.1	55.7	1.22.	41.97		42.22				1.23.33.64	-1.74		
Aug. 12	21	Polaris S.P. (E&E)	HC	..	..	..	36.0	23.5	17.5	..	4.0	5.0	13.11.	37.09	(+0.74)	43.45	35.82	52.37		1.12.34.88	-18.13		
	22	γ Geminorum	HC	16.9	19.8	22.6	25.6	31.3	37.2	40.0	42.8	45.8	6.29.	31.32	(-0.90)	31.46	22.76	51.30	51.33	6.30.22.77	-0.33		
	23	Venus 2 L.	HC	..	2.2	..	8.1	14.0	20.0	23.0	25.9	28.8	6.30.	14.00		14.12			[-0.09]	6.31.4.75			
	24	Sirius	HC	27.0	29.8	32.6	35.5	41.4	47.2	50.0	53.0	55.8	6.38.	41.35		41.64				6.39.32.95	+0.07		
Aug. 13	25	⊙ 2 L.	HC	..	..	..	41.9	..	..	..	59.1	1.9	9.32.	47.60		47.75				9.32.33.49			
	26	δ Ophiuchi	HC	37.5	40.4	43.2	45.9	51.5	57.0	59.8	2.6	5.4	16.6.	51.46		51.68	42.92	51.24		16.7.42.95	-1.49		
	27	σ Coronæ (2d Star)	HC	..	..	..	..	5.5	12.1	15.5	18.8	22.2	16.9.	5.43		5.48				16.9.56.75	-1.36		
	28	γ Herculis	HC	14.4	17.5	20.4	23.3	29.2	35.0	38.0	40.9	43.8	16.15.	29.13		29.26	20.52	51.26		16.16.20.53	-1.45		
	29	ω Herculis	HC	29.0	32.0	34.9	37.6	43.4	49.2	51.9	54.8	57.7	16.18.	43.37		43.52				16.19.34.79	-1.47		
	30	λ Ophiuchi	HC	26.7	29.5	32.2	35.0	40.5	46.1	48.9	51.6	54.4	16.23.	40.53		40.73	32.09	51.36		16.24.32.00	-1.56		
	31	μ Draconis (S. Star)	HC	..	..	..	..	..	2.3	7.2	11.8	16.7	17.1.	52.73		52.61				17.2.43.88	-1.63		
	32	μ Draconis (N. Star)	HC	28.9	33.8	38.5	43.3	52.8	..	..	..	..	17.1.	52.80		52.68				17.2.43.95	-1.63		
	33	δ Herculis	HC	43.9	47.1	50.0	53.2	59.3	..	8.4	11.5	14.5	17.8.	59.22		59.32				17.9.50.59	-1.68		
	34	σ Ophiuchi	HC	9.4	12.3	14.9	17.6	23.2	28.7	31.6	34.2	37.1	17.19.	23.20		23.40	14.64	51.24		17.20.14.67	-1.83		
	35	⊙ 2 L.	C	33.4	36.4	39.3	42.2	48.0	53.8	56.7	59.6	2.5	2.27.	47.97	(-0.66)	48.15			51.34	2.27.31.29			
	36	δ Ceti	C	26.7	40.6	..	..	..	..	..	..	..	2.32.	8.29	[+4.93]	8.53	59.88	51.35	[-0.14]	....			
	37	γ ² Ceti	C	..	..	..	..	53.2	58.8	1.4	4.2	6.9	2.35.	53.13		53.36	44.65	51.29		....			
	38	μ Geminorum	G	10.6	13.7	16.8	..	25.6	..	34.8	37.6	40.7	6.14.	25.66		25.80	17.05	51.25	51.31	6.15.17.08	-0.43		
	39	Castor.	G	22.1	25.5	28.6	32.0	38.4	45.0	48.4	51.5	55.0	7.25.	38.47		38.56	29.87	51.31	[-0.11]	7.26.29.84	-0.23		
	40	Pollux	G	25.6	29.0	32.0	35.1	41.4	47.5	50.8	53.8	57.0	7.36.	41.33		41.42	32.67	51.25		7.37.32.70	-0.17		
Aug. 14	41	⊙ 1 L.	G	7.7	10.5	..	16.4	..	27.6	30.8	33.6	36.6	9.34.	22.09		27.80				9.36.19.07			
	42	⊙ 2 L.	G	18.7	21.8	24.6	27.4	33.3	39.0	41.6	44.8	47.5	9.36.	33.17									
	43	σ Ophiuchi	G	9.3	12.1	..	17.5	23.2	..	31.5	34.2	37.0	17.19.	23.12		23.34	14.63	51.29		17.20.14.57	-1.82		
	44	Piazzi XVII. 117.	G	46.4	49.7	52.6	55.7	2.0	8.0	11.1	14.2	17.3	17.23.	1.86		2.22				17.23.53.45	-2.16		
	45	Piazzi XVII. 196.	G	4.1	7.6	..	13.8	20.3	26.6	..	33.2	36.4	17.34.	20.26		20.35				17.35.11.58	-1.76		
	46	μ Herculis	G	24.0	27.3	30.2	33.5	39.8	46.0	49.2	52.3	55.5	17.40.	39.72		39.83	31.10	51.27		17.41.31.06	-1.77		

The observations of transits are usually made by the galvanic or chronographic method, the wires employed being generally P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P. Occasionally the observations are made by eye and ear (E & E); the wires then employed are N, O, P, T, X, Y, Z; in reversed order for stars S.P.

Reading of Transit-Micrometer, 32".400.

Corrections to the times by Hardy for reduction to Sidereal Standard, applied to form Concluded Transit, Nos. 4, 19, and 21, -49".20: -49".20: and -48".80.

Corrections for passage of Semidiameter, Nos. 14, 23, 25, and 35, -68".17: -0".68: -65".56: and -68".20.

† This clock-error has been used in the reduction of the observations made with the Altazimuth.

August 11 to August 13, σ Ophiuchi. The azimuthal error from Polaris and Polaris S.P. on August 11 and 12, allowing -0".39 for change of R.A. August 13, δ 2 L., to August 14. The azimuthal error by tabular places of δ Ursæ Minoris and Cephei 51 S.P.

14, 35. Correction to R.A. on true meridian, +0".01.
34, 37. Very faint; cloudy.

21. Faint; cloudy.
36. Very cloudy. Observed over the wires N and O.

25. Cloudy.

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of Collimation. (Level). [Azimuth].	Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at a Sidereal and [Losing Rate].	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873, Jan. 1.
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.								
				s	s	s	s	s	s	s	s	s								
Aug. 14	1	δ Ursæ Min. (E&E)	G	..	..	4.8	51.3	23.5	57.5	45.0	..	..	18. 12. 37.52	+0.12	33.85	25.53	51.68	51.31	....	
	2	41 Camelop. S.P.	G	25.4	31.4	37.0	43.3	54.8	..	..	..	..	18. 27. 54.94	(-0.66)	55.60	..	..	[-0.11]	6. 28. 46.83	- 0.23
	3	Ceph. 51 S.P. (E&E)	G	..	..	4.0	3.0	56.5	51.0	48.5	..	..	18. 39. 10.37	[+4.93]	15.38	7.06	51.68	..	..	
	4	γ Aquilæ	G	..	13.0	15.7	18.6	24.0	29.8	32.6	35.5	..	19. 39. 24.14		24.34	15.54	51.20	..	19. 40. 15.56	- 2.27
	5	α Aquilæ	G	32.0	35.0	37.8	40.5	46.0	51.8	54.6	57.3	0.1	19. 43. 46.10		46.31	37.47	51.16	..	19. 44. 37.53	- 2.31
	6	13 Vulpeculæ ...	G	59.6	2.7	5.5	8.7	14.7	20.7	23.7	26.8	29.6	19. 47. 14.64		14.78	..	..	..	19. 48. 6.00	- 2.21
Aug. 15	7	ε Virginis	H	46.4	49.4	52.0	54.9	0.4	6.1	9.0	11.6	14.6	12. 55. 0.47	(-0.90)	0.60	51.75	51.15	51.21	12. 55. 51.77	- 0.46
	8	Polaris S.P. (E&E)	H	..	43.5	..	32.5	24.5	..	..	..	..	13. 11. 39.41	[+3.92]	48.02	38.35	50.33	[-0.08]	..	
	9	Spica	H	25.4	28.0	31.0	33.7	39.3	45.0	47.7	50.5	53.4	13. 17. 39.31		39.52	30.70	51.18	..	13. 18. 30.69	- 0.48
	10	α Lyræ	H	..	34.9	38.2	41.7	49.2	56.2	59.7	3.2	..	18. 31. 48.98		48.98	40.26	51.28	..	18. 32. 40.13	- 1.97
	11	Ceph. 51 S.P. (E&E)	H	9.2	7.0	4.0	2.5	56.2	..	..	..	..	18. 39. 10.99		15.34	7.49	52.15	..	..	
	12	113 Herculis	H	..	..	..	..	..	40.1	43.1	46.0	49.2	18. 48. 34.10		34.19	..	..	..	18. 49. 25.34	- 2.05
	13	ν Draconis	H	26.0	35.2	43.4	51.7	..	25.8	34.5	43.2	51.7	18. 55. 8.86		8.43	..	..	..	18. 55. 59.58	- 2.63
	14	ζ Aquilæ	H	31.0	34.1	36.6	39.5	45.3	51.0	53.7	56.6	59.5	18. 58. 45.24		45.36	36.44	51.08	..	18. 59. 36.51	- 2.13
	15	Piazzi VI. 285 S.P.	H	..	..	..	..	15.4	52.0	11.0	29.5	48.4	19. 0. 15.12		16.63	..	..	..	7. 1. 7.78	+ 1.84
	16	Piazzi VI. 292 S.P.	H	..	..	..	..	..	0.5	22.2	43.5	5.7	19. 3. 17.53		19.27	..	..	..	7. 4. 10.42	+ 2.28
	17	ω Aquilæ	H	..	51.2	53.9	56.6	2.1	7.9	10.7	13.4	..	19. 11. 2.23		2.36	53.44	51.08	..	19. 11. 53.51	- 2.17
	18	A Aquilæ	H	40.6	43.4	46.0	49.0	54.6	0.2	3.2	6.0	8.9	19. 12. 54.64		54.77	..	..	..	19. 13. 45.92	- 2.18
	19	3 Vulpeculæ	H	34.6	37.4	40.6	43.6	49.6	55.9	58.9	2.0	5.2	19. 16. 49.72		49.79	..	..	..	19. 17. 40.94	- 2.12
	20	8 Cygni	H	57.4	0.8	4.1	7.5	14.0	20.9	24.0	27.3	30.8	19. 26. 14.06		14.09	..	..	..	19. 27. 5.24	- 2.14
	21	11 Cygni	H	..	11.8	15.2	18.6	25.3	32.5	35.9	39.3	..	19. 30. 25.48		25.50	..	..	..	19. 31. 16.65	- 2.15
	22	Groombridge 2917	H	10.0	18.9	27.3	36.0	53.0	..	..	..	..	19. 34. 53.15		52.71	..	..	..	19. 35. 4.85	- 2.89
	23	Saturn 1 L.	H	8.7	11.7	14.6	17.5	23.5	29.4	32.3	35.4	38.2	19. 58. 25.46		..	..	..	..	..	
	24	Saturn 2 L.	H	10.0	13.1	15.8	18.7	24.8	30.8	33.6	36.6	39.6	19. 58. 24.76		24.37	..	..	..	19. 59. 15.51	
	25	β Aquarii	J	49.6	52.6	55.4	58.0	3.6	9.4	12.0	14.7	17.5	21. 24. 3.63		3.83	54.82	50.99	[51.00† -0.08]	..	
	26	Sirius	AD	27.3	30.2	32.8	35.9	41.6	47.2	50.3	53.0	56.2	6. 38. 41.59	(-2.35)	41.92	..	..	51.13	6. 39. 33.03	0.00
	27	Venus 2 L.	AD	10.0	13.4	16.2	19.2	25.1	31.2	34.2	37.0	40.0	6. 44. 25.12	[+5.85]	25.19	..	..	[-0.08]	6. 45. 15.63	
	28	Castor	AD	22.3	25.7	29.0	32.2	38.8	45.2	48.5	51.7	55.2	7. 25. 38.70		38.68	29.92	51.24	..	7. 26. 29.79	- 0.28
	29	Procyon	AD	34.0	36.8	39.5	42.4	47.8	53.5	56.4	59.0	1.9	7. 31. 47.90		48.08	39.27	51.19	..	7. 32. 39.18	- 0.10
	30	Pollux	AD	..	..	..	..	..	..	51.0	53.9	57.3	7. 36. 41.47		41.48	32.72	51.24	..	7. 37. 32.58	- 0.22
Aug. 16	31	⊙ 1 L.	AD	38.0	40.9	43.6	46.5	52.3	58.0	0.7	3.6	6.6	9. 41. 52.23		..	..	..	..	9. 43. 48.74	
	32	⊙ 2 L.	AD	48.4	51.5	54.4	57.2	2.6	8.5	11.3	14.2	17.1	9. 44. 2.78		..	..	..	..	..	
	33	Polaris S.P. (E&E)	AD	..	..	31.5	25.0	18.0	9.0	..	..	..	13. 12. 32.99		48.17	39.19	51.02	..	..	
	34	Spica	AD	25.3	28.2	31.0	33.8	39.4	45.0	47.8	50.7	53.4	13. 17. 39.38		39.66	30.69	51.03	..	13. 18. 30.75	- 0.47
	35	η Ursæ Majoris ..	AD	20.2	24.7	29.0	33.0	41.7	50.2	54.5	58.9	3.2	13. 41. 41.67		41.45	..	..	..	13. 42. 32.53	- 0.50
	36	Piazzi V. 337 S.P.	AD	58.7	7.3	15.0	23.2	39.2	54.8	2.5	10.1	18.0	18. 4. 38.82	(-0.87)	39.86	..	..	..	6. 5. 30.93	+ 0.12
	37	37 Draconis	AD	35.0	42.5	50.2	58.0	12.9	28.5	35.7	43.4	51.1	18. 15. 12.97		12.51	..	..	..	18. 16. 3.58	- 2.18
	38	ε Aquilæ	AD	48.0	51.2	53.7	56.7	2.3	8.0	11.0	14.0	16.8	18. 53. 2.39		2.59	53.55	50.96	..	18. 53. 53.66	- 2.10
	39	17 Lynceis S.P.	AD	54.4	59.9	5.8	11.4	22.8	34.1	40.0	45.7	51.1	18. 57. 22.85		23.63	..	..	..	6. 58. 14.70	- 0.21
	40	55 Draconis	AD	55.2	2.1	8.8	15.5	28.7	42.2	49.1	55.6	2.6	19. 8. 28.81		28.46	..	..	..	19. 9. 19.33	- 2.41
	41	α Vulpeculæ	AD	21.1	24.1	27.1	30.2	36.2	42.4	45.4	48.4	51.4	19. 22. 36.22		36.37	27.38	51.01	..	19. 23. 27.44	- 2.13
	42	c Sagittarii	AD	46.6	49.7	53.0	56.0	2.1	8.6	11.6	14.7	17.8	19. 54. 2.21		2.65	53.64	50.99	..	19. 54. 53.71	- 2.91
	43	Saturn 1 L.	AD	53.0	56.0	59.1	2.1	8.0	13.7	16.8	19.7	22.8	19. 58. 7.89		..	..	..	..	..	
	44	Saturn 2 L.	AD	54.4	57.6	0.4	3.4	9.4	15.4	18.2	21.2	24.0	19. 58. 9.31		..	..	..	..	19. 59. 0.05	
	45	16 Pegasi	C	13.0	16.2	19.2	22.2	28.1	34.6	37.6	40.7	43.7	21. 46. 28.33		28.47	19.38	50.91	50.90†	..	
	46	θ Aquarii	C	5.4	8.0	11.2	13.8	19.3	25.0	27.7	30.4	33.4	22. 9. 19.32		19.64	10.38	50.74	[-0.08]	..	

Polaris and other stars very near the pole are observed by eye and ear over the wires P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P.; using the Clock Hardy. The Intervals of the Wires of both systems are given in the Introduction.

Reading of Transit-Micrometer, 32".400.

Corrections to the times by Hardy for reduction to Sidereal Standard, applied to form Concluded Transit, Nos. 1, 3, 8, 11, and 33, -46".60: -46".60: -45".90: -45".70: and -45".40.

Correction for passage of Semidiameter, No. 27, -0".67.

† These clock-errors have been used in the reduction of the observations made with the Altazimuth.

August 15 to β Aquarii. The azimuthal error used is the mean of two determinations (+3".43 and +4".90) by tabular places of Polaris S.P. and Spica, and of α Lyræ and Cephei 51 S.P., giving double weight to the former.

August 15, Sirius, to August 16. The azimuthal error by tabular places of Polaris S.P. and Spica.

8. Very faint; cloudy.
39. Faint and tremulous.

26. Very tremulous.
43, 44. Ill-defined.

36. Very faint and tremulous.

TRANSITS OBSERVED WITH THE TRANSIT-CIRCLE, AND COMPUTATIONS OF APPARENT RIGHT ASCENSION,

MONTH and DAY.	No. of Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of Collimation. (Level). [Azimuth].	Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at α Sidereal and [Losing Rate].	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873, Jan. 1.
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.								
				s	s	s	s	s	s	s	s	s	h m s	//	s	s	s	s	h m s	s
Aug. 19	1	σ Ophiuchi.....	L	9.7	12.8	15.4	18.3	23.7	29.4	32.4	35.0	37.7	17. 19. 23.80	+0.09	24.01	14.56	50.55	50.59	17. 20. 14.49	- 1.75
	2	α Ophiuchi.....	L	59.3	2.2	5.0	7.7	13.5	19.3	21.9	24.7	27.5	17. 28. 13.44	(+0.20)	13.62	4.08	50.46	[-0.15]	17. 29. 4.10	- 1.75
	3	β Ophiuchi.....	L	9.2	12.0	14.7	17.4	23.0	28.6	31.4	34.1	36.9	17. 36. 23.02	[+3.84]	23.23	13.73	50.50		17. 37. 13.71	- 1.83
	4	δ Ursæ Min.(E&E)	L	22.8	12.0	57.8	44.0	18.0	50.5	38.2	..	..	18. 12. 34.83		32.62	23.63	51.01		....	
	5	Ceph. 51 S.P.(E&E)	L	10.5	9.0	5.0	..	58.0	..	49.0	..	44.8	18. 39. 15.40		18.58	9.37	50.79		....	
	6	ϵ Aquilæ.....	L	48.6	51.6	54.4	57.0	2.8	8.8	11.5	14.4	17.2	18. 53. 2.90		3.08	53.52	50.44		18. 53. 53.55	- 2.07
	7	γ Aquilæ.....	L	10.7	13.7	16.5	19.2	24.8	30.5	33.4	36.2	39.0	19. 39. 24.87		25.06	15.52	50.46		19. 40. 15.53	- 2.25
	8	λ Ursæ Min.(E&E)	L	..	55.5	21.5	49.0	44.0	..	..	..	..	19. 51. 1.22		53.79	43.95	50.16		....	
	9	α^2 Capricorni....	L	58.2	1.0	3.8	6.6	12.3	17.9	20.9	23.6	26.6	20. 10. 12.30		12.56	2.97	50.41	50.65†	20. 11. 3.02	- 2.61
	10	γ Pegasi.....	HC	38.8	41.9	44.7	47.6	53.2	58.9	1.7	4.6	7.5	0. 5. 53.19		53.37	44.02	50.65	[-0.20]	....	
	11	Venus 2 L.....	AD	14.8	17.7	20.9	23.7	29.7	35.6	38.7	41.6	44.6	7. 3. 29.68	(+0.71)	29.87			50.86	7. 4. 20.02	
	12	Procyon.....	AD	..	37.4	40.0	42.8	..	..	..	59.4	2.2	7. 31. 48.33		48.55	39.35	50.80	[-0.20]	....	
Aug. 20	13	$\odot$ 1 L.....	AD	32.0	34.7	37.6	40.4	46.1	51.8	54.6	57.5	0.4	9. 56. 46.10		51.34				9. 58. 42.12	
	14	$\odot$ 2 L.....	AD	42.0	45.0	47.6	50.4	56.2	1.8	4.6	7.4	10.4	9. 58. 56.13						....	
	15	67 Ceti.....	C	..	..	..	..	55.5	58.3	0.9	3.8	2.9	2. 49. 85	(+0.90)	50.26	40.69	50.43	50.47†	....	
	16	ξ^2 Ceti.....	C	21.5	24.3	27.0	29.7	35.4	41.1	43.6	46.5	49.4	2. 20. 35.37	[+6.49]	35.72	26.18	50.46	[-0.25]	....	
Aug. 21	17	$\odot$ 1 L.....	G	14.3	17.5	20.0	22.8	28.6	34.3	..	..	..	10. 0. 28.57		28.91			50.48	10. 2. 24.29	
	18	β Leonis.....	G	..	..	..	38.5	44.3	50.2	53.0	55.8	58.8	11. 41. 44.35		44.67	35.01	50.34	[-0.16]	11. 42. 35.07	- 0.20
	19	ϵ Ursæ Majoris..	G	10.6	..	20.9	25.8	36.0	46.0	50.9	..	0.8	12. 47. 35.83		35.86				12. 48. 26.25	- 0.08
	20	ϵ Virginis.....	G	46.8	49.7	52.6	55.4	0.8	6.6	9.4	12.1	15.2	12. 55. 0.94		1.28	51.70	50.42		12. 55. 51.65	- 0.41
	21	Polaris S.P.(E&E)	G	45.5	41.5	36.0	..	..	14.5	..	1.0	..	13. 11. 42.88		52.33	42.65	50.32		....	
	22	Spica.....	G	25.8	28.6	31.5	34.3	39.9	45.5	48.3	51.2	54.0	13. 17. 39.88		40.31	30.64	50.33		13. 18. 30.70	- 0.42
	23	ζ Herculis.....	G	24.4	27.7	30.9	34.1	40.6	47.1	50.3	53.7	57.0	16. 35. 40.62		40.87	31.32	50.45		16. 36. 31.24	- 1.34
	24	γ Draconis.....	G	40.9	47.7	54.0	0.4	13.5	26.4	33.1	39.5	46.0	16. 39. 13.45		13.36				16. 40. 3.73	- 1.16
	25	ϵ Herculis.....	G	20.4	23.8	27.0	30.3	36.7	43.2	46.4	49.5	52.9	16. 54. 36.66		36.91	27.31	50.40		16. 55. 27.28	- 1.44
	26	δ Herculis.....	G	44.4	47.7	50.8	53.8	59.7	5.9	9.0	12.0	15.2	17. 8. 59.81		0.09				17. 9. 50.46	- 1.55
	27	Piazzi XVII. 109	G	16.5	19.4	22.3	25.4	31.2	37.2	40.0	42.9	46.0	17. 20. 31.19		31.50				17. 21. 21.86	- 1.63
	28	β Draconis.....	G	22.2	27.1	31.5	35.9	45.0	54.0	58.9	3.2	7.6	17. 26. 45.00		45.10				17. 27. 35.46	- 1.52
	29	γ Aquilæ.....	G	10.8	13.7	16.3	19.3	25.0	30.4	33.2	36.0	39.0	19. 39. 24.84		25.19	15.51	50.32		19. 40. 15.54	- 2.24
	30	Groombridge 2952	G	2.4	10.7	18.0	25.8	41.2	56.4	4.2	12.0	19.8	19. 43. 41.11		40.93				19. 44. 31.28	- 2.57
	31	Saturn 1 L.....	G	38.7	41.7	44.9	47.6	53.6	59.5	2.3	5.4	8.4	19. 56. 53.55		54.63				19. 57. 44.98	
	32	Saturn 2 L.....	G	40.0	43.0	45.8	48.8	54.8	0.6	3.7	6.7	9.6	19. 56. 54.76						....	
Aug. 22	33	$\odot$ 1 L.....	J	56.3	59.3	2.0	4.8	10.5	16.1	18.9	21.7	24.6	10. 4. 10.45	(+0.28)	15.54			50.39	10. 6. 5.90	
	34	$\odot$ 2 L.....	J	6.2	8.9	11.6	14.4	20.3	25.8	28.7	31.4	34.3	10. 6. 20.16	[+4.93]				[-0.08]	....	
	35	Polaris S.P.(E&E)	J	..	..	37.5	33.5	27.0	17.0	..	..	5.0	13. 11. 45.00		52.97	43.32	50.35		....	
	36	Spica.....	J	25.9	28.9	31.5	34.4	40.0	45.6	48.4	51.3	54.0	13. 17. 39.98		40.29	30.63	50.34		13. 18. 30.64	- 0.41
	37	Piazzi XVII. 167	J	36.7	40.4	43.6	46.9	..	59.7	3.4	6.4	9.7	17. 31. 53.32		53.72				17. 32. 44.05	- 2.20
	38	β Ophiuchi.....	J	9.4	12.2	15.0	17.6	23.0	28.6	31.4	34.1	37.0	17. 36. 23.13		23.39	13.69	50.30		17. 37. 13.72	- 1.79
	39	μ Herculis.....	J	24.8	28.0	31.0	34.2	40.3	46.7	49.9	53.0	56.0	17. 40. 40.41		40.59	30.97	50.38		17. 41. 30.92	- 1.64
	40	γ^2 Ophiuchi....	J	17.0	19.8	22.7	25.3	31.0	36.4	39.4	42.2	45.1	18. 0. 30.98		31.22	21.56	50.34		18. 1. 21.55	- 1.86
	41	ϵ Aquilæ.....	J	48.6	51.5	54.4	57.3	2.9	8.6	11.6	14.3	17.3	18. 53. 2.93		3.15	53.49	50.34		18. 53. 53.48	- 2.04
	42	Groombridge 2742	J	42.6	48.7	54.8	0.4	12.3	24.0	30.3	36.1	42.0	18. 55. 12.31		12.23				18. 56. 2.56	- 2.04
	43	Groombridge 2771	J	47.6	53.9	59.6	5.4	17.4	29.2	34.8	40.6	46.8	19. 1. 17.20		17.12				19. 2. 7.45	- 2.07
	44	ψ Sagittarii.....	J	41.6	44.9	47.8	50.9	57.0	3.1	6.3	9.2	12.4	19. 6. 57.00		57.36	47.68	50.32		19. 7. 47.69	- 2.64
	45	47 Camelop. S.P..	J	51.2	56.7	1.8	7.7	19.0	29.7	35.4	40.9	46.4	19. 10. 18.80		19.40				7. 11. 9.73	- 0.42
	46	δ Aquilæ.....	J	52.2	55.2	58.0	0.4	6.4	12.0	15.0	17.8	20.6	19. 18. 6.38		6.61				19. 18. 56.94	- 2.18

The observations of transits are usually made by the galvanic or chronographic method, the wires employed being generally P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P. Occasionally the observations are made by eye and ear (E & E); the wires then employed are N, O, P, T, X, Y, Z; in reversed order for stars S.P.

Reading of Transit-Micrometer, $32^{\circ}.400$.

Corrections to the times by Hardy for reduction to Sidereal Standard, applied to form Concluded Transit, Nos. 4, 5, 8, 21, and 35, $-42^{\circ}.50$: $-42^{\circ}.50$: $-42^{\circ}.40$: $-41^{\circ}.20$: and $-41^{\circ}.20$.

Corrections for passage of Semidiameter, Nos. 11 and 17, $-0^{\circ}.65$: and $+64^{\circ}.97$.

† These clock-errors have been used in the reduction of the observations made with the Altazimuth.

August 19 to August 20, $\odot$ 2 L. The azimuthal error used is the mean of two determinations ($+3^{\circ}.71$ and $+3^{\circ}.96$) by tabular places of δ Ursæ Minoris and Cephei 51 S.P., and of λ Ursæ Minoris and α^2 Capricorni, on August 19.

August 20, 67 Ceti. The azimuthal error by tabular places of Polaris S.P. and Spica on August 21.

August 22 and 23. The azimuthal error by tabular places of Polaris S.P. and Spica on August 22.

11. Faint; cloudy.

12, 17, 18. Cloudy.

21. Cloudy; very tremulous.

37. Only just visible.

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of Collimation. (Level). [Azimuth].	Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at oh Sidereal and [Losing Rate].	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873, Jan. 1.
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.								
				s	s	s	s	s	s	s	s	s								
Aug. 22	1	ε Sagittæ (1st Star)	J	29.7	32.5	35.3	38.4	44.0	49.6	52.7	55.5	58.6	19. 30. 44.02	+0.09	44.25			50.39	19. 31. 34.57	- 2.16
	2	ε Sagittæ (2d Star)	J	35.8	38.9	41.6	44.4	50.2	55.8	59.0	1.7	4.8	19. 30. 50.23	(+0.28)	50.46			[-0.08]	19. 31. 40.78	- 2.16
	3	γ Aquilæ	J	11.0	13.6	16.4	19.3	25.0	30.5	33.4	36.1	39.0	19. 39. 24.90	[+4.93]	25.14	15.50	50.36		19. 40. 15.46	- 2.23
	4	Saturn 1 L.	J	24.7	27.6	30.6	33.4	39.6	45.4	48.4	51.5	54.4	19. 56. 39.49						19. 57. 30.81	
	5	Saturn 2 L.	J	25.9	29.1	32.0	34.8	40.8	46.7	49.6	52.6	55.5	19. 56. 40.76							
	6	α ² Capricorni	J	58.2	1.0	3.8	6.7	12.4	18.1	20.9	23.7	26.7	20. 10. 12.37		12.69	2.96	50.27		20. 11. 3.01	- 2.60
Aug. 23	7	α Equulei	C	..	..	..	35.0	40.6	46.2	49.0	51.6	54.5	21. 8. 40.58		40.84	30.93	50.09	50.24	..	
	8	34 Vulpeculæ	C	17.0	20.0	23.0	25.8	32.0	38.0	41.0	44.0	47.2	21. 14. 31.98		32.18			[-0.13]	21. 15. 22.30	- 2.35
	9	Pallas	C	..	14.0	16.7	19.5	25.2	30.8	33.6	36.4	..	21. 21. 25.14		25.38				21. 22. 15.50	
	10	ξ Aquarii	C	57.7	0.4	3.0	6.0	11.5	17.2	20.0	22.8	25.6	21. 30. 11.56		11.87	1.98	50.11		..	
	11	9 Pegasi	C	27.4	30.4	33.4	36.1	42.0	47.8	50.6	53.5	56.4	21. 37. 41.94		42.17				21. 38. 32.29	- 2.40
	12	Astræa	C	35.0	38.1	40.5	43.5	49.3	54.8	57.7	0.2	3.4	22. 18. 49.14		49.46				22. 19. 39.58	
	13	Iris	C	3.2	6.0	8.7	11.4	17.0	22.6	25.3	28.0	30.6	22. 22. 16.06		17.23				22. 23. 7.35	
	14	μ Pegasi	C	49.4	52.6	55.5	58.5	4.5	10.7	13.6	16.6	19.7	22. 23. 4.55		4.75	54.87	50.12		..	
	15	Hygeia	C	..	0.4	3.4	6.1	11.6	17.0	19.6	22.3	..	22. 48. 11.46		11.75				22. 49. 1.87	
	16	W. B. XXII 1075	C	32.3	35.3	37.8	40.7	46.4	51.9	54.6	57.5	0.2	22. 51. 46.28		46.52				22. 52. 36.64	- 2.43
	17	α Pegasi	C	24.0	26.7	29.6	32.4	38.2	43.8	46.7	49.4	52.4	22. 57. 38.11		38.34	28.50	50.16		..	
Aug. 25	18	Ceph. 51 S.P. (E&E)	E	..	..	..	1.5	56.5	51.0	48.0	..	42.0	18. 39. 16.80	-0.13	21.67	11.99	50.32	50.30	..	
	19	γ Aquilæ	E	11.1	14.0	16.9	19.6	25.3	30.8	33.7	36.4	39.4	19. 39. 25.22	(-1.13)	25.32	15.48	58.16	[-0.20]	..	
	20	λ Ursæ Min. (E&E)	E	..	..	..	43.0	41.0	..	..	..	..	19. 51. 0.37	[+3.85]	48.39	38.71	50.32		..	
	21	Saturn 1 L.	E	44.1	47.2	50.0	53.0	59.0	5.0	..	..	13.7	19. 55. 58.94						19. 56. 50.02	
	22	Saturn 2 L.	E	45.6	48.5	..	54.5	0.2	6.3	..	12.2	15.4	19. 56. 0.37							
	23	α Cephei	E	16.1	22.1	27.8	33.8	45.5	57.4	3.3	9.3	15.4	21. 14. 45.58		45.30				21. 15. 35.42	- 2.64
	24	θ Ursæ Majoris S.P.	E	..	..	16.8	21.3	30.6	39.4	44.3	..	..	21. 23. 30.51		30.95				9. 24. 21.07	- 0.04
	25	ε Pegasi	E	55.0	57.9	0.6	3.5	9.2	14.8	17.5	20.3	23.2	21. 37. 9.09		9.19	59.34	50.15		..	
	26	Piazzi IX. 187 S.P.	E	..	..	36.6	46.8	5.7	25.3	35.5	..	..	21. 46. 6.04		6.96				9. 46. 57.08	+ 0.97
	27	η Piscis Australis	E	29.1	32.3	35.4	38.6	45.2	51.5	54.8	57.6	0.8	21. 52. 45.00		45.27				21. 53. 35.39	- 3.11
	28	ι Pegasi	E	2.9	6.2	9.2	12.2	18.3	24.4	27.4	30.4	33.6	22. 0. 18.27		18.31	8.37	50.06		..	
	29	Groombridge 3719	E	..	..	35.0	43.0	58.3	13.8	22.5	..	..	22. 6. 58.47		58.01				22. 7. 48.13	- 3.24
	30	Iris	E	13.0	15.8	18.4	21.0	26.8	32.3	35.0	37.6	40.4	22. 20. 26.68		26.82				22. 21. 16.93	
	31	Bradley 1458 S.P.	E	..	..	1.0	18.5	54.7	29.7	48.4	..	..	22. 29. 54.57		56.19				10. 30. 46.30	+ 3.00
	32	μ Pegasi	E	49.5	52.8	55.6	58.6	4.7	11.0	13.8	16.9	19.9	22. 43. 4.74		4.79	54.88	50.09		..	
	33	Hygeia	E	..	..	35.5	38.2	43.7	49.4	52.0	..	..	22. 46. 43.74		43.90				22. 47. 34.01	
	34	Eunomia	E	..	..	..	..	..	11.6	14.4	17.1	39.8	22. 50. 5.90		6.00				22. 50. 56.11	
	35	α ¹ Geminorum	AD	..	..	..	..	..	46.3	49.7	53.0	56.3	7. 25. 39.86	(-0.91)	39.90			49.95	7. 26. 29.76	- 0.55
	36	Castor	AD	23.8	27.2	30.5	33.8	40.1	..	..	..	..	7. 25. 40.20	[+4.75]	40.24	30.19	49.95	[-0.29]	7. 26. 30.10	- 0.55
	37	Venus 2 L.	AD	6.8	9.9	12.9	15.8	21.7	27.7	30.5	33.5	36.4	7. 32. 21.67		21.77				7. 33. 11.02	
	38	Pollux	AD	27.2	30.7	33.6	36.9	43.0	49.3	52.5	55.7	58.9	7. 36. 43.06		43.13	32.97	49.84		7. 37. 32.99	- 0.47
	39	α Hydræ	AD	16.8	19.8	22.3	25.1	30.8	36.2	38.9	41.9	44.8	9. 20. 30.74		30.98	20.66	49.68		9. 21. 20.82	+ 0.08
Aug. 26	40	⊙ 1 L.	AD	..	..	..	..	53.8	59.3	2.1	4.9	7.8	10. 18. 53.67						10. 20. 48.32	
	41	⊙ 2 L.	AD	49.0	51.8	54.4	57.4	3.0	8.7	11.5	14.2	17.2	10. 21. 3.00							
	42	α Ursæ Majoris	AD	..	..	..	50.2	2.6	14.8	20.5	26.6	..	10. 55. 2.54		2.26				10. 55. 52.08	+ 0.32
	43	Polaris S.P. (E&E)	G	43.0	41.5	34.5	31.0	24.0	..	..	..	..	13. 11. 45.15		55.96	45.63	49.67		..	
	44	α Herculis	L	49.1	52.2	54.9	57.8	3.4	9.2	11.9	14.9	17.8	17. 8. 3.45		3.59	52.93	49.34		..	
	45	α Ophiuchi	L	0.2	3.2	6.0	8.9	14.4	20.1	23.0	25.7	28.8	17. 28. 14.46		14.60	3.97	49.37		..	
	46	Piazzi V. 337 S.P.	AD	1.5	9.6	17.4	25.3	41.1	57.0	5.1	12.9	20.9	18. 4. 41.27		42.17				6. 5. 31.90	- 1.02

Polaris and other stars very near the pole are observed by eye and ear over the wires P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P.; using the Clock Hardy.
The Intervals of the Wires of both systems are given in the Introduction.

Reading of Transit-Micrometer, 32^r. 400.

Corrections to the times by Hardy for reduction to Sidereal Standard, applied to form Concluded Transit, Nos. 18, 20, and 43, -39^m. 50: -39^m. 30: and -38^m. 70.

Correction for passage of Semidiameter, No. 37, -0^s. 61.

August 25 to Eunomia. The azimuthal error by tabular places of Cephei 51 S.P. and λ Ursæ Minoris, allowing -0^s. 01 for clock-rate.

August 25, α¹ Geminorum, to August 26, α Ursæ Majoris S.P. The azimuthal error by tabular places of α Hydræ and Polaris S.P., allowing -0^s. 02 for clock-rate.

[60]

TRANSITS OBSERVED WITH THE TRANSIT-CIRCLE, AND COMPUTATIONS OF APPARENT RIGHT ASCENSION,

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire. h m s	Error of Collimation. (Level). [Azimuth]. "	Seconds of Transit Cor- rected. s	Tabular R.A. of Known Stars. s	Clock appa- rently Slow. s	Adopted Clock Slow at oh Sidereal and [Lossing Rate]. s	Apparent R.A. of Center from the Observation. h m s	Correction for Reduction to Mean R.A. 1873, Jan. 1. s
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.								
				s	s	s	s	s	s	s	s	s								
Aug. 26	1	37 Draconis.....	AD	35.5	43.5	51.0	58.8	14.0	28.9	36.5	44.0	51.9	18.15.13.73	-0.13	13.29			49.95	18.16.3.02	-1.64
	2	α Lyrae.....	AD	32.8	36.3	39.9	43.2	50.4	57.5	1.0	4.5	8.0	18.31.50.37	(-0.91)	50.37	40.07	49.70	[-0.29]	18.32.40.10	-1.78
	3	λ^2 Sagittarii.....	AD	56.0	59.2	2.0	5.2	11.2	17.3	20.4	23.5	26.7	19.28.11.25	[+4.75]	11.56	1.31	49.75		19.29.1.28	-2.70
	4	δ Cygni.....	AD	53.2	57.2	1.0	5.0	12.8	20.5	24.4	28.2	32.2	19.40.12.69		12.64				19.41.2.35	-2.05
	5	α Aquilæ.....	AD	33.5	..	39.2	42.0	47.6	53.1	56.0	..	1.6	19.43.47.55		47.71	37.41	49.70		19.44.37.42	-2.25
	6	ϵ Draconis.....	AD	8.6	16.8	24.8	32.8	48.9	5.0	13.0	21.0	29.1	19.47.48.82		48.33				19.48.38.04	-2.45
	7	Saturn 1 L.....	AD	31.1	..	37.3	40.2	..	..	..	58.0	0.9	19.55.46.08							
	8	Saturn 2 L.....	AD	32.7	..	38.7	41.6	47.5	53.4	56.4	..	2.2	19.55.47.48		47.07				19.56.36.78	
	9	σ Cygni.....	AD	..	..	..	..	..	45.3	49.0	52.6	56.2	21.11.38.32		38.32				21.12.28.01	-2.32
	10	Armagh 4618.....	AD	4.4	8.0	11.5	15.0	22.0	29.2	..	..	40.0	21.12.22.11		22.11				21.13.11.80	-2.32
	11	Pallas.....	AD	0.4	3.4	5.9	8.5	14.3	19.8	22.8	25.4	28.4	21.19.14.30		14.46				21.20.4.15	
	12	Groombridge 3511.....	AD	26.4	42.8	58.0	13.9	45.2	17.7	33.4	49.0	5.0	21.27.45.58		44.35				21.28.34.04	-4.66
	13	28 Ursæ Maj. S.P.	AD	45.3	51.4	57.9	4.1	17.0	29.9	36.1	42.1	49.0	21.35.17.03		17.77				9.36.7.46	+0.21
	14	Piazzi IX.187 S.P.	AD	18.3	28.4	37.9	47.5	7.3	26.3	36.1	45.8	55.8	21.46.7.12		8.18				9.46.57.47	+0.94
	15	η Piscis Australis	AD	29.5	32.8	35.9	39.0	45.3	51.8	54.9	57.9	1.0	21.52.45.31		45.65				21.53.35.34	-3.11
	16	32 Ursæ Maj. S.P.	AD	22.6	29.4	36.1	43.0	56.3	9.9	16.5	23.2	30.0	22.7.56.37		57.22				10.8.46.90	+0.40
	17	Astræa.....	AD	3.5	6.3	9.3	..	17.9	23.0	26.3	..	..	22.16.17.66		17.91				22.17.7.59	
	18	Iris.....	AD	17.6	20.2	23.0	25.9	31.1	36.6	39.5	42.4	45.1	22.19.51.25		31.45				20.20.21.13	
	19	μ Pegasi.....	AD	50.0	53.1	56.0	59.0	5.0	11.1	14.2	17.2	20.2	22.43.5.06		5.15	54.89	49.74		22.43.54.83	-2.41
	20	Hygeia.....	AD	45.8	48.8	51.3	54.1	59.9	5.2	8.0	10.8	13.8	22.45.59.72		59.93				22.46.49.61	
	21	Eunomia.....	AD	..	..	..	..	..	..	..	23.0	25.9	22.40.11.82		11.98				22.50.1.65	
	22	α Ursæ Maj. S.P.	AD	31.8	37.9	43.8	49.8	1.8	13.8	19.6	25.4	31.8	22.55.1.80		2.50				10.55.52.17	+0.32
	23	Procyon.....	H	..	..	..	44.0	49.6	55.1	58.0	0.8	3.5	7.31.49.59	[+5.48]	49.80	39.51	49.71	49.65	7.32.39.38	-0.34
	24	Mercury 2 L.....	H	..	..	14.5	17.2	23.1	28.9	31.7	34.7	37.4	9.14.23.09		23.25			[-0.23]	9.15.12.54	
Aug. 27	25	$\odot$ 1 L.....	H	19.6	22.5	25.2	28.0	33.8	39.2	42.1	45.0	47.7	10.22.33.66							
	26	$\odot$ 2 L.....	H	28.8	31.5	34.3	37.1	42.8	48.0	51.2	53.8	56.8	10.24.42.68						10.24.27.91	
	27	β Ursæ Majoris..	H	..	..	..	..	..	30.7	35.8	40.9	45.9	10.53.20.48		20.29				10.54.9.84	+0.11
	28	α Ursæ Majoris..	H	32.8	38.8	44.9	50.9	2.7	14.3	20.7	26.8	32.9	10.55.2.71		2.41				10.55.51.96	+0.32
	29	δ Leonis.....	H	..	19.9	22.9	25.8	31.8	37.7	40.5	43.4	..	11.6.31.68		31.81	21.28	49.47		11.7.21.35	-0.19
	30	λ Ursæ Min. (E&E)	H	..	..	15.0	46.0	..	..	..	..	..	19.51.2.52		47.64	37.09	49.45		....	
	31	θ Aquilæ.....	H	43.8	46.6	49.4	52.2	57.9	3.2	6.0	8.9	11.8	20.3.57.73		57.97	47.44	49.47		20.4.47.43	-2.40
	32	ρ Aquilæ.....	H	22.3	25.2	28.0	31.0	36.6	42.4	45.2	48.0	51.0	20.7.36.61		36.78				20.8.26.24	-2.25
	33	ϵ Delphini.....	H	..	..	..	..	..	27.0	29.9	32.8	35.6	20.26.21.45		21.63	11.02	49.39		20.27.11.08	-2.33
	34	Venus 2 L.....	L	46.7	49.7	52.6	55.6	1.3	7.2	10.2	13.2	16.1	7.42.1.38	[+4.38]	1.47			49.16	7.42.49.93	
Aug. 28	35	Polaris S.P. (E&E)	G	43.5	41.5	35.0	31.0	..	..	..	..	..	13.11.47.82		57.97	46.99	49.02		....	
	36	α Lyrae.....	L	33.5	37.0	40.5	44.0	51.1	58.2	1.6	5.2	8.8	18.31.51.07		51.06	40.03	48.97		....	
	37	β Lyrae.....	L	19.9	23.2	26.4	29.8	36.3	43.0	46.2	49.5	52.9	18.44.36.33		36.36	25.27	48.91		....	
	38	α Vulpeculæ.....	AD	22.8	25.9	29.0	31.9	38.0	44.1	47.2	50.1	53.2	19.22.38.00		38.08	27.26	49.18	49.42†	....	
	39	μ Aquilæ.....	AD	52.1	54.9	57.5	0.3	5.9	11.5	14.4	17.1	19.9	19.27.5.93		6.09	55.25	49.16		....	
	40	β Aquilæ.....	L	..	..	..	..	17.6	23.3	26.0	28.9	31.6	19.48.17.67		17.83	6.71	48.88	49.16	....	
Aug. 29	41	Polaris S.P. (E&E)	G	46.5	45.0	38.5	35.0	29.0	..	..	7.5	7.0	13.11.53.38	(+0.77)	58.73	47.69	48.96		....	
	42	Spica.....	G	27.3	30.3	33.1	35.7	41.3	47.0	49.8	52.6	55.4	13.17.41.37	[+3.71]	41.61	30.57	48.96		....	
	43	Pollux.....	AD	28.3	31.6	34.7	37.7	43.9	50.3	53.4	56.6	59.7	7.36.44.00	(+0.59)	44.16	33.07	48.91	48.92	7.37.33.02	-0.57
	44	Venus 2 L.....	AD	26.1	29.2	32.1	35.1	41.0	46.9	49.9	52.9	55.8	7.51.40.98	[+4.49]	41.18			[-0.20]	7.52.29.45	

The observations of transits are usually made by the galvanic or chronographic method, the wires employed being generally P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P. Occasionally the observations are made by eye and ear (E & E); the wires then employed are N, O, P, T, X, Y, Z; in reversed order for stars S.P.

Reading of Transit-Micrometer, 32".400.

Corrections to the times by Hardy for reduction to Sidereal Standard, applied to form Concluded Transit, Nos. 30, 35, and 41, -37".10: -36".30: and -34".50.

Corrections for passage of Semidiameter, Nos. 24, 34, and 44, -0".27: -0".60: and -0".59.

† This clock-error has been used in the reduction of the observations made with the Altazimuth.

August 26, Procyon, to August 27, ϵ Delphini. The azimuthal error by tabular places of λ Ursæ Minoris and θ Aquilæ.

August 27, Venus 2 L., to August 28. The azimuthal error by tabular places of Polaris S.P. and α Lyrae, allowing -0".04 for change of R.A.

August 29, Polaris S.P. and Spica. The azimuthal error by tabular places of these two stars.

August 29, Pollux, to August 31, ω Aquilæ. The azimuthal error by tabular places of Polaris S.P. and β Lyrae on August 30, allowing -0".04 for clock-rate.

23. Cloudy.

24. Cloudy; only just visible.

30. Very cloudy.

32, 44. Faint; cloudy.

41. Tremulous.

1875 MOAN

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of		Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at 0 ^h Sidereal and [Loss Rate].	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873. Jan. 1.
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.		Collimation. (level).	[Azimuth].						
s	s	s	s	s	s	s	s	s	h	m	s	"	s	s	s	s	h	m	s	s	
Aug. 30	1	⊙ 1 L.....	AD	16.9	19.9	22.6	25.3	31.0	36.6	39.5	42.2	44.9	10. 33. 30.97	-0.13	35.57	48.92	48.92	48.92	10. 35. 24.40		
2	⊙ 2 L.....	AD	25.8	28.6	31.5	34.1	39.6	45.2	48.1	50.9	53.8	10. 35. 39.71	(+0.59)								
3	Polaris S.P. (E&E)	AD	44.5	42.0	37.0	33.5	25.5	..	..	..	..	13. 11. 52.54	[+4.49]								
4	α Ophiuchi.....	L	1.0	4.0	6.8	9.6	15.2	21.0	23.9	26.7	29.5	17. 28. 15.28		59.68	48.41	48.73	48.61†	....	18. 50. 29.36 - 1.80		
5	2 Aquilæ.....	L	..	..	..	..	32.5	38.0	41.0	43.8	46.6	10. 34. 32.52		15.49	3.91	48.42	48.47	....		18. 54. 13.39 - 1.82	
6	β Lyrae.....	AD	19.8	23.3	26.4	29.8	36.3	43.0	46.3	49.7	53.0	18. 44. 36.37		32.79	21.26	48.47	48.71				7. 1. 10.59 - 0.33
7	50 Draconis.....	AD	46.3	57.8	8.4	19.4	41.0	2.9	13.6	24.5	25.6	18. 49. 40.97		36.52	25.23	48.71	48.92	....	19. 12. 33.06 - 1.92		
8	γ Lyrae.....	AD	8.1	11.4	14.7	18.0	24.5	31.0	34.4	37.5	40.9	18. 53. 24.47		40.60				19. 20. 2.74 - 1.94		- 1.80	
9	Piazzi VI. 285 S.P.	AD	46.9	5.8	24.1	42.9	20.4	57.5	16.0	34.5	53.8	19. 0. 20.48		24.63				18. 54. 13.39 - 1.82			- 1.82
10	δ Draconis.....	AD	8.3	15.9	23.0	30.0	44.5	58.9	6.1	3.1	20.6	19. 11. 44.43		21.83				7. 1. 10.59 - 0.33	- 0.33		
11	π Draconis.....	AD	40.8	47.8	54.1	0.8	14.0	27.4	34.0	40.9	47.5	19. 19. 14.08		44.30				19. 12. 33.06 - 1.92		- 1.92	
12	μ Aquilæ.....	AD	52.3	55.2	57.8	0.8	6.0	11.9	14.8	17.5	20.2	19. 27. 6.26		13.98				19. 20. 2.74 - 1.94			- 1.94
13	51 Camelop. S.P.	AD	8.0	14.9	21.6	28.3	41.9	55.4	2.0	8.7	15.5	19. 33. 41.87		6.49	55.23	48.74	....	....	- 0.60		
14	Saturn 1 L.....	AD	43.1	46.0	49.1	51.9	57.8	3.7	6.7	9.5	12.8	19. 54. 57.82		42.50				7. 34. 31.26 - 0.60		- 0.60	
15	Saturn 2 L.....	AD	44.1	47.2	50.1	53.1	59.0	5.1	8.0	11.0	14.0	19. 54. 59.04		58.74				19. 55. 47.49			
Aug. 31	16	ζ Aquilæ.....	E	33.3	36.1	38.9	41.8	47.3	53.1	55.9	58.8	1.8	18. 58. 47.42		47.63	35.27	48.64	48.74†			
17	ω Aquilæ.....	E	50.2	53.2	56.0	58.8	4.4	10.0	13.0	15.8	18.7	19. 11. 4.44		4.66	53.30	48.64	[-0.13]	....			
Sept. 1	18	Polaris S.P. (E&E)	G	..	..	..	..	12.0	..	..	2.0	13. 11. 51.22	0.00	0.47	49.73	49.26	48.27	....			
19	⊙ 1 L.....	L	38.2	41.7	44.8	48.0	54.3	0.7	4.1	7.2	10.5	17. 55. 54.36	(+0.04)								
20	μ Sagittarii.....	L	8.9	..	14.8	17.8	23.8	29.6	32.5	..	38.5	18. 5. 23.68	[+5.21]								
21	δ Ursæ Min. (E&E)	L	..	58.0	..	30.0	3.8	36.8	24.2	10.0	57.2	18. 12. 33.02		24.03	12.14	48.11	49.02	18. 6. 12.19 - 2.09	- 2.09		
22	α Lyrae.....	L	33.9	37.5	41.0	44.5	51.5	58.6	2.3	5.7	9.2	18. 31. 51.55		29.68	18.70	49.02	49.02	....		- 1.65	
23	Ceph. 51 S.P. (E&E)	L	..	4.0	0.0	58.0	52.0	..	44.8	..	39.0	18. 39. 22.58		51.65	39.94	48.29	48.29	18. 32. 59.81 - 1.65	- 1.65		
24	σ Sagittarii.....	L	21.8	25.1	28.0	31.0	37.2	43.5	46.4	49.8	52.8	18. 46. 37.26		27.29	15.27	47.98	47.98	....		- 2.45	
25	ε Aquilæ.....	AD	50.3	53.4	56.0	59.1	4.9	10.5	13.3	16.0	19.1	18. 53. 4.71		37.64				18. 47. 25.80 - 2.45	- 2.45		
26	ζ Aquilæ.....	AD	33.3	36.4	39.2	41.9	47.6	53.3	56.2	59.0	2.0	18. 58. 47.63		4.92	53.36	48.44	48.54†	....		- 2.54	
27	ψ Sagittarii.....	L	43.9	46.9	50.0	53.1	59.0	5.2	8.2	11.4	14.5	19. 6. 59.10		47.85	36.26	48.41	48.41	....	- 2.54		
28	δ Aquilæ.....	L	5.5	8.4	11.1	13.9	19.3	24.9	27.9	30.5	33.1	19. 18. 19.38		59.47	47.58	48.11	48.27	19. 7. 47.63 - 2.54		- 2.54	
29	Saturn 1 L.....	L	20.5	23.7	26.4	29.5	35.2	41.4	44.1	47.1	50.1	19. 54. 35.31		19.64	7.79	48.15	48.15	19. 19. 7.80 - 2.16	- 2.16		
30	Saturn 2 L.....	L	22.0	25.2	27.9	30.8	37.0	42.9	45.6	48.7	51.7	19. 54. 36.84		36.44	47.40	48.12	48.12	20. 4. 47.43 - 2.36		- 2.36	
31	θ Aquilæ.....	L	45.1	48.0	50.8	53.5	59.0	4.5	7.4	10.0	12.9	20. 3. 59.00									
32	ζ Cygni.....	L	29.9	33.1	36.2	39.3	45.9	52.1	55.5	58.7	1.9	21. 6. 45.81									
33	α Equulei.....	L	28.8	31.5	34.2	37.0	42.6	48.1	51.0	53.6	56.4	21. 8. 42.56		45.96	34.15	48.19	48.19	21. 7. 34.11 - 2.28	- 2.28		
34	Pallas.....	L	53.9	56.9	59.4	2.3	7.9	13.4	16.1	18.9	21.7	21. 15. 7.81		42.81	30.92	48.11	48.11	21. 9. 30.96 - 2.46		- 2.46	
35	Iris.....	L	42.4	45.4	47.9	51.0	56.2	1.7	4.8	7.3	10.0	22. 13. 56.28		8.05				21. 15. 56.20	- 2.60		
36	σ Aquarii.....	L	55.6	58.6	1.3	4.1	9.9	15.5	18.2	21.1	24.0	22. 23. 9.79		56.55				22. 14. 44.69		- 2.75	
37	η Aquarii.....	L	50.0	53.0	55.8	58.2	4.0	9.5	12.2	15.0	17.8	22. 28. 3.93		10.10	58.19	48.09	48.09	22. 23. 58.24 - 2.75	- 2.75		
38	Hygeia.....	L	18.4	21.2	23.9	26.5	32.2	38.0	40.6	43.0	46.1	22. 41. 32.19		4.20	52.34	48.14	48.14	22. 28. 52.34 - 2.60		- 2.60	
39	Pollux.....	G	..	32.0	35.2	38.4	44.6	51.0	54.0	57.0	..	7. 36. 44.57	(+0.89)	32.47				22. 42. 20.61			
40	Mercury 2 L.....	G	19.7	22.6	25.4	28.3	..	39.7	42.9	45.5	48.4	9. 38. 34.03		44.78	33.15	48.37	48.40	....			
														34.29			[-0.16]	9. 39. 22.40			
Sept. 2	41	⊙ 1 L.....	G	..	..	16.4	19.4	24.8	30.4	33.3	..	..	10. 44. 24.84		29.36	30.54	48.31	48.31			10. 46. 17.69
42	⊙ 2 L.....	G	..	..	25.0	27.9	33.2	39.0	41.8	44.4	47.2	10. 46. 33.31									
43	Spica.....	G	27.8	30.7	33.4	36.3	42.0	..	..	..	..	13. 17. 41.89									
44	α Ophiuchi.....	G	..	4.1	6.9	..	..	43.6	57.8	..	..	17. 28. 15.32		15.59	3.88	48.29	48.29	....			

Polaris and other stars very near the pole are observed by eye and ear over the wires P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P.; using the Clock Hardy. The Intervals of the Wires of both systems are given in the Introduction.

Reading of Transit-Micrometer, 32".400.

Corrections to the times by Hardy for reduction to Sidereal Standard, applied to form Concluded Transit, Nos. 3, 18, 21, and 23, -33".10: -30".40: -30".20: and -30".20.

Corrections for passage of Semidiameter, Nos. 19 and 40, +7".35: and -0".23.

† These clock-errors have been used in the reduction of the observations made with the Altazimuth.

September 1 and 2. The azimuthal error used is the mean of two determinations (+5".87 and +4".54) by tabular places of Polaris S.P. and μ Sagittarii, and of δ Ursæ Minoris and Cephei 51 S.P., on September 1, allowing -0".02 for clock-rate in the former case.

1, 2. Cloudy; tremulous.
27. Tremulous.

3. Faint; cloudy.
41, 42. Cloudy.

18. Very cloudy.

19. Correction to R.A. on true meridian, +0".02.
44. Observed over wires Q, R, Y, Z.

TRANSITS OBSERVED WITH THE TRANSIT-CIRCLE, AND COMPUTATIONS OF APPARENT RIGHT ASCENSION,

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire. h m s	Error of Collimation. (Level). [Azimuth]. "	Seconds of Transit Cor- rected.	Tabular R. A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at Sidereal and (Losing Rate).	Apparent R. A. of Center from the Observation. h m s	Correction for Reduction to Mean R. A. 1873, Jan. 1. s	
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.									
				s	s	s	s	s	s	s	s	s									
Sept. 3	1	⊙ 1 L.....	AD	48.0	51.2	53.7	56.6	2.2	7.8	10.5	13.5	16.1	10. 48. 2.16	0.00	6.70	47.39	48.12	48.24	10. 49. 54.92	- 2.35	
	2	⊙ 2 L.....	AD	..	59.6	2.2	5.2	10.6	16.1	19.0	22.0	..	10. 50. 10.64	(+1.50)				[-0.05]	..		
	3	θ Aquilæ	AD	45.2	47.8	50.6	53.5	58.9	4.4	7.3	10.2	12.8	20. 3. 58.95	[+4.93]				59.27	20. 4. 47.47		
	4	δ 1 L.....	AD	45.4	48.7	51.8	54.9	1.0	7.8	10.8	13.8	17.2	20. 7. 1.24	1.62				20. 9. 5.60			
	5	ε Delphini	L	8.7	11.6	14.6	17.3	22.7	28.4	31.3	34.0	37.0	20. 26. 22.83	23.13				..			
	6	α Delphini	AD	43.6	46.6	49.4	52.4	58.1	3.7	6.8	9.5	12.4	20. 32. 58.03	58.32				48.24	20. 33. 46.52		
	7	ε Aquarii	AD	47.9	50.9	53.6	56.4	2.0	7.6	10.5	13.4	15.9	20. 40. 2.00	2.34				..	20. 40. 50.54		
	8	32 Vulpeculæ ...	AD	7.2	10.4	13.2	16.5	22.6	28.7	31.8	35.1	38.3	20. 48. 22.62	22.87				48.19	20. 49. 11.07		
	9	Bradley 2749....	AD	12.2	28.4	44.7	0.2	32.8	4.7	20.9	36.2	52.6	20. 52. 32.39	31.99				..	20. 53. 20.19		
	10	61 ¹ Cygni	AD	8.8	12.4	15.8	19.4	26.3	33.4	36.9	40.3	44.0	21. 0. 26.34	26.57				..	21. 1. 14.77		
	11	61 ² Cygni	AD	..	..	..	..	27.8	34.9	38.5	41.9	45.5	21. 0. 27.85	28.08				..	21. 1. 16.28		
	12	ζ Cygni	AD	29.8	33.1	36.1	39.3	45.7	52.1	55.4	58.5	1.7	21. 6. 45.71	45.96				48.18	21. 7. 34.16		
	13	β ² Cephei	AD	35.0	43.4	51.3	59.2	15.4	31.6	39.8	..	..	21. 26. 15.43	15.41				..	21. 27. 3.61		
	14	ε Pegasi	L	57.0	0.0	2.7	5.6	11.0	16.9	19.6	22.4	25.2	21. 37. 11.14	11.44				47.91	47.92†		..
	15	16 Pegasi.....	AD	15.7	18.7	21.8	24.8	31.0	37.1	40.0	43.0	46.2	21. 46. 30.90	31.16				48.27	48.24		21. 47. 19.35
Sept. 4	16	⊙ 1 L.....	II	..	..	..	..	..	44.7	47.6	50.4	53.3	10.51. 39.20	(+1.67)	43.64	21.38	48.23	48.21	10. 53. 31.84	- 1.59	
	17	⊙ 2 L.....	II	33.6	36.5	39.0	41.8	47.4	53.0	55.9	58.7	1.4	10.53. 47.46	..				[-0.03]	..		
	18	72 Ophiuchi....	II	..	..	24.6	27.2	32.8	38.4	41.4	43.9	46.9	18. 0. 32.84	33.15				..	18. 3. 25.86		
	19	101 Herculis	II	22.6	25.8	28.6	31.5	37.5	43.2	46.4	49.0	52.1	18. 2. 37.39	37.67				..	..		
	20	δ Ursæ Min. (E&E)	II	3.8	53.5	38.0	25.0	..	..	..	..	..	18. 12. 29.92	28.26				49.13	..		
	21	η Serpentis.....	II	43.6	46.4	49.3	52.0	57.6	3.2	6.0	8.7	11.4	18. 13. 57.56	57.90				48.23	..		
	22	Bradley 2308....	II	49.0	52.0	55.1	58.0	3.9	10.0	13.1	16.1	19.0	18. 16. 3.99	4.27				..	18. 16. 52.46		
	23	Piazzi XVIII. 116	II	27.2	30.3	33.4	36.3	42.3	48.4	51.4	54.4	57.4	18. 26. 42.32	42.60				..	18. 27. 30.79		
	24	α Lyrae	E	..	..	..	44.4	51.2	58.2	1.8	5.3	8.9	18. 31. 51.19	51.42				48.46	48.43†		..
	25	2 Aquilæ	E	18.3	21.3	24.1	27.1	32.6	38.0	41.0	43.7	46.5	18. 34. 32.49	32.84				48.35	..		
	26	Ceph. 51 S.P. (E&E)	II	..	..	0.5	58.5	55.0	48.8	..	..	..	18. 39. 25.64	28.41				48.73	48.21		..
	27	Saturn 1 L.....	H	49.9	52.1	55.0	57.9	3.7	9.8	12.8	15.8	18.9	19. 54. 3.97	..				..	19. 54. 53.13		
	28	Saturn 2 L.....	II	50.3	53.3	56.2	59.2	5.1	11.2	14.2	17.1	20.1	19. 54. 5.17	4.94				..	..		
	29	θ Aquilæ	II	45.0	47.9	50.7	53.4	58.8	4.4	7.2	9.8	12.8	20. 3. 58.87	59.20				48.18	..		
	30	19 Vulpeculæ ...	II	..	30.9	33.9	37.0	43.2	49.3	52.3	55.5	..	20. 5. 43.13	43.39				..	20. 6. 31.57		
	31	35 Cygni	II	43.2	46.8	50.0	53.4	59.9	6.8	10.0	13.6	16.9	20. 13. 0.04	0.28				..	20. 13. 48.46		
	32	Piazzi XX. 146..	II	..	..	..	12.4	18.4	24.5	27.4	30.4	..	20. 21. 18.40	18.77				..	20. 22. 6.95		
	33	α Delphini	II	43.7	47.0	49.6	52.3	..	..	..	..	..	20. 32. 58.17	58.46				48.13	..		
Sept. 7	34	33 Piscium.....	AD	50.4	53.4	56.0	58.9	4.4	9.9	12.8	15.5	18.2	23. 58. 4.37	(+2.11)	4.61	44.33	47.99	47.99	23.58. 52.52	- 2.65	
	35	γ Pegasi	AD	..	44.9	47.8	..	56.0	1.8	4.8	7.5	10.3	0. 5. 56.12	[+3.20]				[-0.08]	..		
	36	Venus 2 L.....	HC	51.9	54.9	57.8	0.5	6.4	12.3	15.2	18.1	21.1	8. 35. 6.44	+0.29				6.71	8.35. 54.00		
	37	α Hydrae	HC	18.1	21.6	24.4	27.1	32.6	38.3	41.1	43.8	46.7	9. 20. 32.69	(+2.15)				32.98	9.21. 20.83		
	38	ε Leonis	HC	35.3	38.5	41.5	44.5	50.5	56.7	59.6	..	..	9. 37. 50.54	50.81				47.93	9.38. 38.66		
	39	Regulus	HC	34.3	37.2	40.0	42.9	48.5	54.0	57.0	59.6	2.7	10. 0. 48.44	48.72				47.91	10. 1. 36.57		
	40	Mercury 2 L. ...	HC	7.8	10.7	13.4	16.3	22.0	27.6	30.5	33.2	36.2	10. 15. 21.95	22.23				..	10. 16. 9.88		
Sept. 8	41	⊙ 2 L.....	HC	59.0	2.0	4.6	7.6	13.2	18.7	21.5	24.2	27.0	11. 8. 13.08	..	13.34	3.76	47.86	..	11. 7. 57.06	- 1.43	
	42	α Ophiuchi....	HC	1.4	4.4	7.1	10.0	15.6	21.2	24.2	27.0	29.9	17. 28. 15.62	15.90				..	17. 29. 3.71		
	43	γ Herculis.....	HC	45.9	50.0	54.0	57.9	5.9	13.8	17.8	21.8	25.8	17. 35. 5.86	6.13				..	17.35. 53.93		
	44	Piazzi XVII. 312	HC	..	..	..	20.6	26.5	32.5	35.6	38.5	41.5	17. 53. 26.52	26.80				..	17.54. 14.60		
	45	μ Sagittarii	HC	9.2	12.2	15.2	18.1	24.0	30.0	33.0	35.9	38.8	18. 5. 24.03	24.32				47.72	18. 6. 12.12		
	46	δ Ursæ Min. (E&E)	HC	..	47.0	32.5	19.0	52.0	25.3	..	..	..	18. 12. 27.67	27.91				47.94	..		

The observations of transits are usually made by the galvanic or chronographic method, the wires employed being generally P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P. Occasionally the observations are made by eye and ear (E & E); the wires then employed are N, O, P, T, X, Y, Z; in reversed order for stars S.P.

Reading of Transit-Micrometer, 32".400.

Corrections to the times by Hardy for reduction to Sidereal Standard, applied to form Concluded Transit, Nos. 20, 26, and 46, -28".40: -28".40: and -24".50.

Corrections for passage of Semidiameter, Nos. 4, 36, 40, and 41, +75".76: -0".56: -0".20: and -64".12.

† These clock-errors have been used in the reduction of the observations made with the Altazimuth.

September 3 and 4. The azimuthal error by tabular places of δ Ursæ Minoris and Cephei 51 S.P. on September 4.

September 7 and 8. The azimuthal error by tabular places of δ Ursæ Minoris and Cephei 51 S.P. on September 8.

4. Very tremulous. Correction to R.A. on true meridian, +0".02.

32. Very faint; wires illuminated.

13, 16, 17, 18, 19, 22, 34, 35. Cloudy.

33. Faint.

40. Very faint.

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire	Error of Collimation. (Level). [Azimuth].	Seconds of Transit Corrected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at α Sidereal and (losing Rate).	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873. Jan. 1.																
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.																								
				s	s	s	s	s	s	s	s	s																								
										h	m	s																								
																				''																
																				s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s
Sept. 8	1	37 Draconis	HC	..	..	..	..	14.2	29.4	37.1	44.6	52.5	18. 15. 14.17	+0.29	14.43			47.90	18. 16. 2.23	- 0.88																
	2	38 Draconis	HC	18.1	25.9	33.3	41.1	56.1	11.5	19.1	26.6	34.2	18. 16. 56.15	(+2.15)	56.41			[-0.13]	18. 17. 44.21	- 0.90																
	3	Piazz VI. 75 S.P.	HC	..	..	..	..	45.0	16.1	31.6	46.6	2.5	18. 23. 45.17	[+3.20]	45.43				6. 24. 33.23	- 2.48																
	4	α Lyrae	HC	34.1	37.6	41.1	44.8	51.8	58.8	2.4	5.9	9.5	18. 31. 51.75		52.01	39.79	47.78		18. 32. 39.81	- 1.50																
	5	Ceph. 51 S.P. (E&E)	HC	..	5.0	3.0	0.0	55.0	..	..	..	..	18. 39. 30.50		30.79	18.73	47.94		....																	
	6	Bradley 2370....	HC	33.1	39.0	44.8	50.1	1.5	13.0	18.6	24.3	30.0	18. 42. 1.55		1.81				18. 42. 49.61	- 1.29																
	7	ν Draconis	HC	..	..	44.1	53.0	10.0	27.0	35.8	..	..	18. 55. 9.95		10.21				18. 55. 58.01	- 1.24																
	8	δ Aquilæ	E	5.5	8.4	11.1	14.0	19.5	25.0	27.9	30.5	33.4	19. 18. 19.45		19.72	7.71	47.99	48.10†	....																	
	9	α Vulpeculæ	E	23.6	26.9	29.8	32.8	38.9	44.9	47.8	51.0	54.0	19. 22. 38.83		39.10	27.10	48.00		....																	
	10	γ Piscium	HC	35.6	38.5	41.1	44.0	49.5	53.1	57.9	0.5	3.3	23. 9. 49.48		49.76	37.48	47.72	47.90	23. 10. 37.53	- 2.65																
	11	τ Pegasi	HC	20.7	23.7	26.7	29.5	35.6	41.6	44.7	47.7	50.7	23. 13. 35.63		35.90				23. 14. 23.67	- 2.51																
	12	η Pegasi	HC	44.4	47.3	50.0	52.8	58.4	4.2	7.0	9.8	12.5	23. 21. 58.47		58.75				23. 22. 46.52	- 2.55																
	13	W.B. (2) XXIII. 612	HC	36.1	39.1	42.0	45.0	..	56.5	59.4	2.3	5.3	23. 28. 50.68		50.95				23. 29. 38.72	- 2.53																
	14	δ Sculptoris	HC	..	..	..	..	39.8	43.0	46.0	49.4	23. 41. 33.47		33.76	21.48	47.72		23. 42. 21.53	- 3.07																	
	15	δ Piscium	HC	6.1	9.0	11.6	14.5	20.1	25.5	28.4	31.2	33.9	0. 41. 20.02		20.29	8.09	47.80	47.77	0. 42. 8.06	- 2.49																
	16	γ 2 L.	HC	53.8	56.7	59.6	2.5	8.1	13.8	16.7	19.4	22.3	1. 9. 8.08		8.36				1. 8. 47.16																	
Sept. 9	17	ϵ Aquilæ	L	51.3	..	..	..	..	14.2	17.0	20.0	18. 53. 5.60	(+1.71)	5.86	53.24	47.38		47.48	18. 53. 53.25	- 1.79																
	18	δ Aquilæ	L	6.1	9.0	11.9	14.5	20.0	25.6	28.5	31.0	33.9	19. 18. 20.04	[+3.45]	20.31	7.70	47.39	[-0.11]	19. 19. 7.70	- 2.07																
	19	μ Aquilæ	L	53.6	56.3	59.1	1.9	7.6	13.1	15.8	18.6	21.3	19. 27. 7.46		7.72	55.12	47.40		19. 27. 55.11	- 2.05																
	20	γ Aquilæ	AD	13.4	16.2	18.9	21.7	27.3	33.0	35.8	38.5	41.5	19. 39. 27.34		27.60	15.33	47.73	47.82†	....																	
	21	λ Ursæ Min. (E&E)	L	..	..	40.0	7.0	1.5	..	29.0	54.0	23.0	19. 50. 37.58		35.97	23.83	47.86	47.48	....																	
	22	α Pegasi	AD	26.5	29.4	32.0	35.0	40.7	46.4	49.3	52.0	55.0	22. 57. 40.68		40.93	28.64	47.71	47.82†	....																	
	23	κ Piscium	L	..	..	..	34.7	40.3	45.7	48.6	51.4	54.2	23. 19. 40.27		40.54	27.91	47.37	47.48	23. 20. 27.91	- 2.64																
	24	ι Piscium	L	26.3	29.0	31.7	34.5	40.1	45.7	48.4	51.0	54.0	23. 32. 40.06		40.33	27.69	47.36		23. 33. 27.70	- 2.61																
	25	Bradley 91	L	46.9	49.8	52.5	55.3	0.7	6.5	9.1	11.8	14.7	0. 44. 0.80		1.08			47.37	0. 44. 48.45	- 2.51																
	26	ϵ Piscium	L	22.0	24.9	27.6	30.4	35.9	41.6	44.4	47.1	49.8	0. 55. 35.95		36.21	23.67	47.46		0. 56. 23.58	- 2.48																
	27	Polaris (E&E)	L	52.0	52.0	47.0	41.0	33.0	24.5	..	..	..	1. 12. 7.96		6.77	53.87	47.10		....																	
	28	ν Piscium	L	..	..	55.6	58.7	4.1	9.7	12.5	15.4	17.9	1. 34. 4.11		4.38	51.74	47.36		1. 34. 51.74	- 2.38																
	29	ϕ Piscium	L	42.0	44.9	47.7	50.4	56.0	1.7	4.6	7.3	10.0	1. 37. 56.04		56.31	43.66	47.35		1. 38. 43.67	- 2.37																
	30	Neptune	L	11.7	14.6	17.4	20.1	25.8	31.4	34.2	37.0	39.7	1. 46. 25.75		26.02				1. 47. 13.38																	
	31	γ 2 L.	L	..	9.4	12.1	15.1	21.0	26.8	29.6	32.5	..	2. 4. 20.90		21.16				2. 3. 59.36																	
Sept. 10	32	Mercury 2 L.	G	..	51.0	53.6	56.4	2.0	7.7	10.6	13.3	..	10. 36. 2.06	(+1.57)	2.34			47.65	10. 36. 49.79																	
Sept. 11	33	$\odot$ 1 L.	G	38.5	41.4	44.2	..	52.6	58.2	0.9	3.6	..	11. 16. 52.51		56.79				11. 18. 44.42																	
	34	$\odot$ 2 L.	G	..	..	..	..	0.4	5.8	9.0	11.9	14.6	11. 19. 0.49																							
	35	Polaris S.P. (E&E)	G	46.5	43.5	37.0	34.0	..	..	..	..	..	13. 12. 3.00		6.22	54.76	48.54		1. 12. 53.84	-37.07																
	36	α Ophiuchi	G	1.8	4.6	7.4	10.2	15.8	21.6	24.4	27.2	30.0	17. 28. 15.87		16.15	3.71	47.56		17. 29. 3.76	- 1.38																
	37	μ Herculis	G	27.0	30.3	33.3	36.4	42.8	49.0	52.1	55.2	58.4	17. 40. 42.69		42.95	30.59	47.64		17. 41. 30.56	- 1.26																
	38	δ Herculis	G	38.3	41.5	44.4	47.6	53.7	59.9	2.8	5.9	9.1	17. 42. 53.66		53.92				17. 43. 41.53	- 1.31																
	39	ι Herculis	G	23.2	26.3	29.2	32.0	37.9	43.9	46.8	49.7	52.6	18. 2. 37.93		38.20				18. 3. 25.81	- 1.50																
	40	δ Ursæ Min. (E&E)	G	..	..	..	..	..	25.3	13.5	58.5	46.0	18. 12. 27.69		26.79	14.64	47.85		18. 13. 14.40	+ 3.65																
	41	41 Camelop. S.P.	G	..	..	42.4	48.2	0.0	12.0	17.8	..	..	18. 28. 0.12		0.33				6. 28. 48.14	- 1.77																
	42	α Lyrae	L	34.4	38.1	41.5	45.1	52.1	59.2	2.9	6.2	9.9	18. 31. 52.13		52.36	39.72	47.36	47.35†	....																	
	43	2 Aquilæ	L	19.4	22.4	25.2	28.0	33.5	39.2	42.0	44.6	47.6	18. 34. 33.53		33.84	21.09	47.25		....																	
	44	ρ Capricorni	L	37.2	40.1	43.1	46.0	51.9	57.7	0.5	3.4	6.4	20. 20. 51.79		52.12	39.43	47.31		....																	
	45	76 Draconis	G	..	..	55.1	15.0	55.1	35.8	55.4	..	..	20. 50. 55.16		54.95			47.65	20. 51. 42.56	- 3.42																
	46	ϵ Ursæ Maj. S.P.	G	..	5.9	11.6	17.7	29.6	41.1	47.0	52.9	..	21. 3. 29.46		29.87				9. 4. 17.48	- 0.56																

Polaris and other stars very near the pole are observed by eye and ear over the wires P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P.; using the Clock Hardy. The Intervals of the Wires of both systems are given in the Introduction.

Reading of Transit-Micrometer, 32".400.

Corrections to the times by Hardy for reduction to Sidereal Standard, applied to form Concluded Transit, Nos. 5, 21, 27, 35, and 40, -24".50: -24".50: -24".50:

Corrections for passage of Semidiameter, Nos. 16, 31, and 32, -68".97: -69".17: and -0".18.

† These clock-errors have been used in the reduction of the observations made with the Altazimuth.

September 9. The azimuthal error is the mean of two determinations (+ 3".24 and + 3".65) by tabular places of μ Aquilæ and λ Ursæ Minoris, and of ϵ Piscium and Polaris.

September 10 and 11. The azimuthal error from Polaris S.P. and Polaris on September 11, allowing -0".29 for change of R.A.

5, 17, 27, 35. Cloudy.
18. Faint; cloudy.

13, 14, 28, 33, 34. Very cloudy.

16. Very cloudy. Correction to R.A. on true meridian, +0".01.
31. Cloudy, faint at times. Correction to R.A. on true meridian, +0".01.

TRANSITS OBSERVED WITH THE TRANSIT-CIRCLE, AND COMPUTATIONS OF APPARENT RIGHT ASCENSION,

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of Collimation. (Level). [Azimuth].	Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at 0 ^h Sidereal and [Leaving Rate].	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1893, Jan. 1.
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.								
				s	s	s	s	s	s	s	s	s								
Sept. 11	1	ζ Cygni	G	30.3	33.7	36.6	39.9	46.3	52.6	55.8	59.0	2.2	21. 6. 46.24	+0.29	46.49	34.07	47.58	47.65	21. 7. 34.10	- 2.20
	2	34 Vulpeculæ ...	G	19.4	22.4	25.4	28.4	34.5	40.4	43.4	46.3	49.4	21. 14. 34.37	(+1.57)	34.63			[-0.05]	21. 15. 22.24	- 2.27
	3	β Aquarii	G	53.0	55.9	58.8	1.3	7.0	12.7	15.4	18.1	20.8	21. 24. 6.98	(+4.13)	7.29	54.85	47.56		21. 24. 54.90	- 2.59
	4	ε Pegasi	G	57.4	0.1	3.1	5.6	11.4	17.0	19.8	22.6	25.4	21. 37. 11.36		11.65	59.33	47.68		21. 37. 59.26	- 2.44
	5	Bradley 3147 (E&E)	G	..	..	..	..	..	16.7	2.5	48.3	35.0	23. 27. 17.55		16.66				23. 28. 4.26	-13.75
	6	Bradley 3212	G	0.5	3.8	6.8	10.1	16.1	22.5	25.6	28.8	32.0	23. 59. 16.21		16.46				0. 0. 4.06	- 2.58
	7	Bradley 1634 S.P.	G	14.1	27.7	41.2	55.0	21.9	49.0	3.1	16.2	30.7	0. 5. 22.21		22.81		47.60		12. 6. 10.41	+ 2.56
	8	43 Piscium	G	4.4	7.3	9.9	12.8	18.3	24.1	27.0	29.6	32.7	0. 17. 18.43		18.71				0. 18. 6.31	- 2.55
	9	13 Cassiopeie	G	..	57.2	3.7	10.3	23.9	37.6	44.3	51.1	..	0. 23. 23.95		24.08				0. 24. 11.68	- 3.49
	10	Bradley 63	G	3.0	8.2	13.2	18.5	29.3	39.6	44.8	49.8	55.1	0. 34. 29.01		29.19				0. 35. 16.79	- 3.07
	11	Bradley 91	G	46.8	49.6	52.4	55.0	0.5	6.1	8.9	11.6	14.4	0. 44. 0.57		0.87				0. 44. 48.47	- 2.55
	12	ε Piscium	G	21.9	24.8	27.4	30.1	35.8	41.5	44.2	46.9	49.6	0. 55. 35.78		36.07	23.70	47.63		0. 56. 23.67	- 2.51
	13	Polaris ... (E&E)	G	54.5	54.0	47.0	..	33.0	25.5	22.0	15.5	14.0	1. 12. 9.16		6.50	55.05	48.55		1. 12. 54.10	-37.36
	14	Piazzi I. 104	G	54.6	58.0	1.5	4.9	11.6	18.6	22.0	25.5	28.9	1. 26. 11.71		11.95				1. 26. 59.55	- 2.57
	15	ν Piscium	G	50.0	52.9	55.7	58.4	3.8	9.4	12.1	15.0	17.8	1. 34. 3.88		4.17	51.78	47.61		1. 34. 51.77	- 2.42
	16	Neptune	G	2.6	5.5	8.1	11.0	16.6	22.2	25.0	27.7	30.6	1. 46. 16.57		16.86				1. 47. 4.46	
	17	τ Arietis	HC	53.4	56.5	59.3	2.4	7.9	14.0	17.2	19.9	23.0	3. 13. 8.15		8.42	55.97	47.55	47.61	..	
	18	Piazzi III. 87	HC	54.1	57.1	59.9	2.8	8.6	14.4	17.3	20.2	23.1	3. 26. 8.59		8.86			[-0.04]	3. 26. 56.46	- 2.04
	19	13 Tauri	HC	59.1	2.1	5.0	7.9	13.6	19.6	22.6	25.4	28.4	3. 34. 13.73		14.00				3. 35. 1.60	- 2.04
	20	η Tauri	HC	55.3	58.4	1.4	4.4	10.5	16.5	19.5	22.6	25.6	3. 39. 10.45		10.71	58.32	47.61		..	
	21	δ 2 L.	HC	3.7	7.0	9.9	13.2	19.3	25.5	28.3	31.4	34.4	3. 57. 19.17		19.44				3. 56. 56.26	
	22	ω ¹ Tauri	HC	45.5	48.4	51.4	54.4	0.2	6.1	9.1	11.7	14.9	4. 1. 0.17		0.44	48.08	47.64		..	
Sept. 12	23	42 Draconis	P	17.2	23.9	30.4	37.0	50.2	3.9	10.4	17.0	23.7	18. 24. 50.35	(+4.10)	50.49			47.51	18. 25. 38.05	- 0.86
	24	Ceph. 51 S.P. (E&E)	P	8.0	6.0	0.0	..	54.0	..	..	..	..	18. 39. 30.47		32.18	20.72	48.54	[0.06]	..	
	25	β ¹ Lyræ	P	..	24.0	27.3	30.7	37.1	43.8	47.1	50.4	..	18. 44. 37.17		37.41	24.97	47.56		18. 45. 24.97	- 1.52
	26	Groombridge 2719	P	..	..	..	49.2	8.9	29.4	39.0	48.8	59.3	18. 58. 9.05		9.09				18. 48. 56.65	- 0.77
	27	ζ Aquilæ	P	..	..	..	..	..	53.9	56.9	59.6	2.7	18. 58. 48.29		48.57	36.11	47.54		18. 59. 36.13	- 1.80
	28	λ Ursæ Min. (E&E)	P	..	11.0	39.0	1.0	0.0	..	..	..	..	19. 50. 35.49		32.08	20.63	48.55		..	
	29	β Capricorni	P	52.7	55.7	58.4	1.3	7.1	12.7	15.6	18.4	21.5	20. 13. 7.02		7.34	54.92	47.58		20. 13. 54.90	- 2.52
	30	ρ Capricorni	P	36.9	40.0	42.9	45.6	51.5	57.4	0.4	3.3	6.3	20. 20. 51.57		51.90	39.42	47.52		20. 21. 39.46	- 2.60
	31	θ Cephei	P	11.1	17.4	..	29.3	41.2	53.2	..	4.9	10.9	20. 26. 41.09		41.25				20. 27. 28.81	- 1.96
	32	ε Aquarii	P	..	..	54.2	56.9	2.6	8.0	11.0	13.8	16.7	20. 40. 2.54		2.85	50.46	47.61		20. 40. 50.41	- 2.53
	33	β Aquarii	E	52.7	55.6	58.4	1.1	6.7	12.3	15.2	17.8	20.7	21. 24. 6.70		7.01	54.85	47.84	47.80†	..	
	34	γ Aquarii	E	6.4	9.2	12.0	14.6	20.2	25.7	28.5	31.3	34.2	22. 14. 20.22		20.52	8.37	47.85	[0.06]	..	
	35	ι Aurigæ	L	41.3	44.6	47.9	51.0	57.8	4.1	7.5	10.7	14.1	4. 47. 57.63		57.87	45.38	47.51	47.45	..	
	36	δ 2 L.	L	21.7	25.0	28.2	31.4	37.5	43.7	46.9	50.0	53.0	4. 55. 37.46		37.71			[0.15]	4. 55. 13.76	
	37	Rigel	L	25.8	28.7	31.5	34.2	39.9	45.4	48.3	51.0	53.8	5. 7. 39.82		40.13	27.46	47.33		..	
	38	β Tauri	L	14.0	17.3	20.5	23.4	29.7	35.9	39.4	42.3	45.4	5. 17. 29.73		29.98	17.59	47.61		..	
Sept. 13	39	α Orionis	E	17.0	19.7	22.5	25.4	31.0	36.4	39.3	42.0	44.9	5. 47. 30.90	(+2.31)	31.22	19.13	47.91	47.92	..	
	40	δ 2 L.	E	11.2	14.2	17.4	20.5	27.0	33.4	36.5	39.6	43.0	5. 54. 26.95		27.26			[-0.06]	5. 54. 3.73	
Sept. 14	41	Venus 2 L. ...	AD	24.0	27.0	29.8	32.7	38.5	44.4	47.3	50.1	53.0	9. 8. 38.51	+0.12	38.78			47.50	9. 9. 25.69	
	42	α Hydræ	AD	19.2	22.1	25.0	27.7	33.1	38.7	41.5	44.5	47.2	9. 20. 33.20	(+1.71)	33.50	20.97	47.47	[-0.16]	9. 21. 20.94	- 0.23
	43	Regulus	AD	34.6	37.6	40.4	43.3	48.9	54.5	57.5	0.1	3.1	10. 0. 48.86	(+3.95)	49.13	36.74	47.61		10. 1. 36.56	- 0.38
Sept. 15	44	Polaris S.P. (E&E)	AD	..	..	41.0	36.0	29.0	19.5	..	..	..	13. 12. 6.15		9.22	56.81	47.59		..	
	45	θ Aquilæ	AD	45.9	48.7	51.4	..	59.7	..	8.0	10.7	13.6	20. 3. 59.69		59.98	47.27	47.29		20. 4. 47.35	- 2.23

The observations of transits are usually made by the galvanic or chronographic method, the wires employed being generally P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P. Occasionally the observations are made by eye and ear (E & E); the wires then employed are N, O, P, T, X, Y, Z; in reversed order for stars S.P.

Reading of Transit-Micrometer, 32".400.

Corrections to the times by Hardy for reduction to Sidereal Standard, applied to form Concluded Transit, Nos. 5, 13, 24, 28, and 44, -24".00: -24".00: -23".80: -23".90: and -22".90.

Corrections for passage of Semidiameter, Nos. 21, 36, 40, and 41, +70".79: -71".44: -71".45: and -0".53.

† This clock-error has been used in the reduction of the observations made with the Altazimuth.

September 12 and 13. The azimuthal error by tabular places of Cephei 51 S.P. and λ Ursæ Minoris on September 12.

September 14 to September 15, α Ceti. The azimuthal error by tabular places of Regulus and Polaris S.P., allowing -0".02 for clock-rate.

19, 45. Cloudy.

35. Very foggy; image diffused.

21, 22. Very faint; cloudy.

37. Diffused.

21, 36, 39. Correction to R.A. on true meridian, +0".01.

44. Faint; cloudy.

AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1873.

[65]

MONTH and DAY.	No. of Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of Collimation. (Level). [Azimuth].	Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at Sidereal and [Losing Rate].	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873, Jan. 1.
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.								
				s	s	s	s	s	s	s	s	s								
Sept. 15	1	Bradley 2636....	AD	8.1	15.9	23.2	31.0	45.8	0.7	8.5	16.0	23.6	20. 18. 45.81	+0.12	45.92			47.50	20. 19. 33.29	- 1.78
	2	Δ Delphini	AD	..	..	..	17.6	23.4	29.0	..	..	..	20. 26. 23.32	(+1.71)	23.59	10.86	47.27	[-0.16]	20. 27. 10.95	- 2.17
	3	α Delphini	AD	..	47.5	50.2	53.2	59.0	4.6	7.5	10.4	..	20. 32. 58.88	[+3.95]	59.15	46.48	47.33		20. 33. 46.51	- 2.15
	4	16 Delphini	AD	35.4	38.4	41.0	44.0	49.5	55.2	58.0	0.8	3.7	20. 48. 49.53		49.80				20. 49. 37.16	- 2.25
	5	Piazzi XX. 465..	AD	3.0	6.8	10.3	14.0	21.4	28.6	32.4	36.0	39.6	20. 58. 21.32		21.54				20. 59. 9.90	- 2.09
	6	ζ Cygni	AD	30.4	33.9	37.0	40.2	46.4	52.8	56.0	59.2	2.3	21. 6. 46.43		46.67	34.03	47.36		21. 7. 34.03	- 2.16
	7	σ Cygni	AD	22.3	26.0	29.5	33.1	40.2	47.2	50.9	54.2	57.9	21. 11. 40.12		40.34				21. 12. 27.70	- 2.15
	8	δ Ursæ Maj. S.P.	AD	11.4	17.6	23.7	30.0	42.4	54.7	0.8	7.1	13.4	21. 20. 42.40		42.80				21. 21. 30.16	- 0.36
	9	Groombridge 3503	AD	54.8	3.4	11.2	19.4	35.8	52.2	0.2	8.5	16.6	21. 28. 35.72		35.81				21. 29. 23.17	- 2.58
	10	28 Ursæ Maj. S.P.	AD	48.4	54.8	1.1	7.3	20.4	33.0	39.3	45.5	52.0	21. 35. 20.28		20.68				21. 36. 8.04	- 0.41
	11	13 Pegasi	AD	6.4	9.5	12.3	15.0	20.8	26.6	29.4	32.5	35.3	21. 43. 20.85		21.12				21. 44. 8.48	- 2.38
	12	Groombridge 3616	AD	..	23.1	28.7	34.4	45.4	57.2	2.9	8.4	..	21. 49. 45.68		45.84				21. 50. 33.19	- 2.48
	13	α Aquarii	AD	16.6	19.5	22.4	25.1	30.5	36.2	38.8	41.6	44.4	21. 58. 30.55		30.84	18.14	47.30		21. 59. 18.19	- 2.59
	14	σ Arietis	L	29.6	32.7	35.5	38.2	44.0	49.8	52.8	55.4	58.3	2. 43. 44.02		44.29	31.24	46.95	47.04†	..	
	15	ε Arietis	L	57.4	0.3	3.4	6.3	12.2	18.1	21.2	24.0	27.0	2. 51. 12.19		12.45	59.52	47.07	[-0.16]	..	
	16	α Ceti	L	39.5	42.5	45.2	47.9	53.4	59.0	1.7	4.4	7.3	2. 54. 53.40		53.69	40.74	47.05		..	
	17	Venus 2 L	C	10.2	13.2	16.0	18.9	24.8	30.4	33.3	36.3	39.1	9. 13. 24.67	(+1.40) [+1.75]	24.83			47.37 [-0.16]	9. 14. 11.61	
Sept. 16	18	Polaris S.P.	C	52.0	48.5	43.5	40.0	31.5	..	..	..	..	13. 12. 10.11		9.90	57.19	47.29		..	
	19	θ Aquarii	C	..	..	..	17.5	23.2	28.7	31.6	34.3	37.2	22. 9. 23.14		23.30	10.52	47.22		..	
Sept. 17	20	α Aquilæ	L	36.4	39.4	42.0	44.5	50.3	55.7	58.6	1.3	4.2	19. 43. 50.25	[+3.55]	50.49	37.17	46.68	46.84	19. 44. 37.20	- 2.01
	21	β Aquilæ	L	5.7	8.4	11.2	14.0	19.5	25.1	27.9	30.7	33.4	19. 48. 19.52		19.77	6.49	46.72	[-0.16]	19. 49. 6.48	- 2.04
	22	μ Pegasi	L	53.0	56.1	59.0	1.8	8.0	14.0	17.2	20.0	23.4	22. 43. 8.02		8.24	54.98	46.74		22. 43. 54.93	- 2.50
	23	Bradley 3041	L	17.2	20.1	22.8	25.6	31.1	36.8	39.5	42.3	45.0	22. 54. 31.14		31.39				22. 55. 18.08	- 2.64
	24	γ Piscium	L	36.7	39.6	42.3	45.1	50.6	56.1	59.1	1.6	4.4	23. 9. 50.60		50.85	37.53	46.68		23. 10. 37.54	- 2.70
	25	Piazzi XXIII. 96	L	0.0	3.0	5.5	8.3	13.8	19.5	22.4	25.1	27.7	23. 22. 13.90		14.16				23. 23. 0.84	- 2.75
	26	W.B. (2) XXIII. 612	L	..	40.4	43.3	46.0	52.0	57.7	0.5	3.4	..	23. 28. 51.88		52.11				23. 29. 38.79	- 2.59
	27	Bradley 47	L	2.2	5.1	8.0	10.9	16.9	22.8	25.6	28.6	31.5	0. 26. 16.82		17.05			46.68	0. 27. 3.73	- 2.61
	28	β Ceti	L	14.1	17.1	20.0	22.8	28.7	34.6	37.5	40.4	43.3	0. 36. 28.70		28.97	15.64	46.67		0. 37. 15.65	- 2.85
	29	Polaris (E&E)	L	58.0	55.0	50.0	45.0	37.0	28.0	26.0	20.5	..	1. 12. 13.53		11.01	57.66	46.65		..	
	30	96 Piscium	L	27.2	29.9	32.6	35.4	41.0	46.5	49.4	52.0	54.8	1. 21. 40.96		41.21				1. 22. 27.88	- 2.56
	31	ν Piscium	L	51.1	53.9	56.7	59.4	5.0	10.5	13.5	16.0	18.9	1. 34. 4.98		5.22	51.89	46.67		1. 34. 51.89	- 2.53
	32	Neptune	L	34.7	37.6	40.4	43.2	48.8	54.4	57.2	59.9	2.8	1. 45. 48.75		48.99				1. 46. 35.66	
	33	67 Ceti	AD	40.1	43.0	45.7	48.5	54.0	59.6	2.5	5.2	8.0	2. 9. 54.05		54.31	41.37	47.06	47.08†	..	
	34	τ Arietis	AD	54.0	57.1	0.0	3.0	9.0	14.8	17.7	20.7	23.6	3. 13. 8.85		9.08	56.14	47.06	[-0.16]	..	
	35	Venus 2 L	G	40.6	43.6	..	49.3	55.0	0.6	..	6.4	9.4	9. 22. 54.97	(+1.61)	55.23			46.99	9. 23. 41.70	
	36	ε Leonis	G	..	..	..	..	..	57.8	0.7	3.8	7.0	9. 37. 51.68	[+3.85]	51.93	38.94	47.01	[0.02]	9. 38. 38.93	- 0.60
Sept. 18	37	Arcturus	G	50.5	53.6	56.5	59.5	5.3	11.2	14.1	17.0	20.0	14. 9. 5.28		5.53	52.48	46.95		14. 9. 52.53	- 0.35
	38	α Ophiuchi	G	2.2	5.2	7.8	10.8	16.2	22.1	25.0	27.8	30.6	17. 28. 16.38		16.64	3.58	46.94		17. 29. 3.64	- 1.25
	39	μ Herculis	G	27.5	30.8	33.7	36.9	43.2	49.4	52.6	55.6	59.0	17. 40. 43.16		43.40	30.44	47.04		17. 41. 30.40	- 1.11
	40	87 Herculis	G	38.7	41.9	45.0	48.0	54.0	0.3	3.4	6.5	9.6	17. 42. 54.13		54.37				17. 43. 41.37	- 1.16
	41	70 Ophiuchi	G	2.6	5.4	8.0	10.9	16.3	21.9	24.7	27.5	30.4	17. 58. 16.39		16.66				17. 59. 3.66	- 1.52
	42	δ Ursæ Min. (E&E)	G	..	..	..	..	47.7	21.5	9.5	55.0	..	18. 12. 25.51		24.63	11.50	46.87		..	
	43	Ceph. 51 S.P. (E&E)	G	..	..	..	..	1.5	56.5	51.5	49.5	..	18. 39. 34.55		36.23	24.09	47.86		..	
	44	17 Lynceis S.P.	G	0.7	6.3	12.0	17.9	29.4	40.6	46.4	52.0	57.8	18. 57. 29.28		29.66				6. 58. 16.67	- 1.93
	45	η Lyræ	G	22.6	26.4	29.6	33.4	40.4	47.6	51.3	54.6	58.4	19. 8. 40.45		40.67				19. 9. 27.68	- 1.44
	46	δ Aquilæ	G	55.4	58.2	0.8	3.9	9.4	15.1	17.9	20.7	23.5	19. 18. 9.41		9.68				19. 18. 56.69	- 1.84

Polaris and other stars very near the pole are observed by eye and ear over the wires P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P.; using the Clock Hardy. The Intervals of the Wires of both systems are given in the Introduction.

Reading of Transit-Micrometer, 32".400.

Corrections to the times by Hardy for reduction to Sidereal Standard, applied to form Concluded Transit, Nos. 18, 29, 42, and 43, — 22".50 : — 23".00 : — 22".40 : and — 22".40.

Corrections for passage of Semidiameter, Nos. 17 and 35, — 0".53 : and — 0".53.

† These clock-errors have been used in the reduction of the observations made with the Altazimuth.

September 15, Venus 2 L., to September 16. The azimuthal error by tabular places of Polaris S.P. and θ Aquarii, allowing — 0".07 for clock-rate.

September 17 to τ Arietis. The azimuthal error by tabular places of β Ceti and Polaris.

September 17, Venus 2 L., to September 19. The azimuthal error used is the mean of two determinations (+ 4".49 and + 3".20) by tabular places of δ Ursæ Minoris and Cephei 51 S.P., and of δ Sculptoris and Polaris on September 18.

3. Very faint.

13. Faint; cloudy.

35. Very cloudy.

36. Cloudy.

TRANSITS OBSERVED WITH THE TRANSIT-CIRCLE, AND COMPUTATIONS OF APPARENT RIGHT ASCENSION,

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of Collimation.		Seconds of Transit Cor- rected.	Tabular R. A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at 0 ^h Sidereal and [Losing Rate].	Apparent R. A. of Center from the Observation.	Correction for Reduction to Mean R. A. 1873, Jan. 1.		
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.		(Level).									
				s	s	s	s	s	s	s	s	s		[Azimuth].									
				s	s	s	s	s	s	s	s	h	m	s	"	s	s	s	s	h	m	s	s
Sept. 18	1	B. A. C. 6702 ...	G	17.4	29.8	41.4	52.8	15.8	39.5	51.2	2.9	15.0	19. 25. 16.10	+0.12	16.10				46.99	19. 26. 3.11	- 0.66		
	2	α Sagittæ	G	25.2	28.2	31.1	33.8	39.7	45.4	48.4	51.4	54.2	19. 33. 39.69	(+1.61)	39.95			[0.02]	19. 34. 26.96	- 1.82			
	3	γ Aquilæ	G	13.7	16.8	19.6	22.4	28.0	33.5	36.4	39.2	42.1	19. 39. 27.94	[+3.85]	28.20	15.21	47.01		19. 40. 15.21	- 1.94			
	4	π Aquilæ	G	43.5	46.4	49.2	52.0	57.6	3.4	6.1	9.0	11.6	19. 41. 57.62		57.89				19. 42. 44.90	- 1.93			
	5	Saturn 1 L.	G	6.0	9.0	12.0	14.8	20.9	26.8	29.7	32.6	35.6	19. 52. 20.81										
	6	Saturn 2 L.	G	7.3	10.3	13.0	16.1	22.1	28.0	31.0	34.0	36.9	19. 52. 22.06		21.74				19. 53. 8.75				
	7	Groombridge 3019	G	37.1	43.4	49.4	55.4	..	20.0	26.3	32.0	38.3	19. 56. 7.68		7.83				19. 56. 54.84	- 1.45			
	8	β^2 Cygni	G	40.0	43.6	46.8	50.4	57.2	4.0	7.6	11.0	14.4	20. 3. 57.19		57.41				20. 4. 44.42	- 1.78			
	9	α^2 Capricorni	G	1.1	4.2	7.0	9.8	15.5	21.1	24.0	26.8	29.6	20. 10. 15.44		15.74				20. 11. 2.75	- 2.40			
	10	α Pegasi	G	27.1	30.1	32.9	35.6	41.4	47.2	50.0	52.7	55.7	22. 57. 41.39		41.65	2.76	47.02		22. 58. 28.66	- 2.56			
	11	60 Pegasi	G	39.4	42.5	45.5	48.6	54.7	0.7	4.0	7.0	10.1	23. 4. 54.69		54.93				23. 5. 41.94	- 2.53			
	12	τ Pegasi	G	21.4	24.5	27.4	30.5	36.4	42.4	45.4	48.5	51.4	23. 13. 36.41		36.65				23. 14. 23.66	- 2.56			
	13	Bradley 3121	G	31.6	40.4	48.5	56.4	12.6	28.7	36.8	44.6	53.0	23. 20. 12.44		12.52				23. 20. 59.53	- 3.57			
	14	Brad. 3147. (E&E)	G	..	..	..	..	40.5	13.3	1.0	4.6	5.3	23. 27. 17.30		16.46				23. 28. 3.47	- 13.53			
	15	78 Pegasi	G	35.9	39.0	42.1	45.3	51.7	58.0	0.9	4.3	7.5	23. 36. 51.61		51.84				23. 37. 38.85	- 2.60			
	16	δ Sculptoris	G	18.3	21.6	24.8	27.9	34.2	40.6	43.6	46.9	50.0	23. 41. 34.18		34.50	21.57	47.07		23. 42. 21.51	- 3.16			
	17	α^1 Piscium	G	51.4	54.6	57.8	1.1	7.5	13.8	17.2	20.4	23.6	0. 55. 7.46		7.69			47.01	0. 55. 54.70	- 2.66			
	18	Polaris (E&E)	G	55.0	54.5	48.0	42.5	..	..	..	..	..	1. 12. 12.28		9.72	57.94	48.22		....				
	19	δ Leonis	HC	..	..	25.4	28.3	34.2	40.1	43.2	46.1	49.2	11. 6. 34.24		34.49	21.45	46.96	[0.06]	....				
	20	Mercury 2 L. ...	HC	32.5	35.3	38.0	40.9	..	..	54.8	..	..	11. 31. 46.38		46.66				11. 32. 33.45				
Sept. 19	21	$\odot$ 2 L.	HC	30.8	33.6	36.3	39.2	44.8	50.0	53.0	55.7	58.8	11. 47. 44.67	(+1.03)	44.94				11. 47. 27.89				
Sept. 20	22	Polaris S.P. (E&E)	AD	..	..	..	..	29.0	..	18.0	..	..	13. 12. 6.70	(+3.39)	10.23	58.35	48.12	47.06	1. 12. 57.31	-40.66			
	23	δ Ursæ Min. (E&E)	AD	54.5	42.0	27.5	14.0	..	..	..	..	..	18. 12. 24.56	(+0.61)	23.06	10.68	47.62	[0.04]	18. 13. 10.15	+ 7.61			
	24	η Serpentis	AD	44.7	47.4	50.3	53.0	58.5	4.1	6.9	9.6	12.4	18. 13. 58.52		58.73	45.88	47.15		18. 14. 45.82	- 1.60			
	25	Ceph. 51 S.P. (E&E)	AD	..	..	..	2.0	58.0	52.0	..	..	..	18. 39. 34.37		36.66	25.11	48.45		6. 40. 23.75	-10.51			
	26	Groomb. 1228 S.P.	AD	27.2	35.7	43.9	52.4	9.4	26.3	35.0	43.1	52.0	18. 46. 9.51		10.00				6. 46. 57.09	- 2.63			
	27	ν Draconis	AD	27.5	36.3	44.6	53.3	10.3	27.5	35.8	44.2	53.0	18. 55. 10.22		10.13				18. 55. 57.22	- 0.42			
	28	Groombridge 2771	AD	..	56.2	1.6	7.7	19.4	31.3	37.0	43.0	..	19. 1. 19.51		19.53				19. 2. 6.62	- 0.89			
	29	ψ Sagittarii	AD	44.7	47.8	50.8	53.9	59.8	6.2	9.3	12.4	15.4	19. 7. 0.00		0.26	47.30	47.04		19. 7. 47.35	- 2.26			
	30	Saturn 1 L.	AD	57.3	0.2	3.3	6.2	12.0	18.0	21.1	23.9	26.8	19. 52. 12.07										
	31	Saturn 2 L.	AD	58.5	1.6	4.6	7.4	13.4	19.5	22.4	25.3	28.2	19. 52. 13.42		13.00				19. 53. 0.09				
	32	θ Aquilæ	AD	46.1	48.9	51.7	54.5	59.9	5.5	8.2	11.0	13.8	20. 3. 59.93		0.14	47.21	47.07		20. 4. 47.23	- 2.17			
	33	Lalande (F) 3384	AD	..	..	52.9	58.7	10.3	22.0	27.9	33.6	39.4	20. 6. 10.29		10.31				20. 6. 57.40	- 1.48			
	34	Lacaille 8427	AD	53.8	57.2	0.1	3.6	9.8	16.1	19.4	22.6	25.8	20. 16. 9.79		10.07				20. 16. 57.16	- 2.75			
	35	44 Cygni	AD	7.3	10.8	14.0	17.6	24.5	31.3	34.8	38.2	41.7	20. 25. 24.44		24.57				20. 26. 11.66	- 1.86			
	36	Bradley 2659	AD	37.8	40.7	43.4	46.2	51.7	57.4	59.9	2.8	5.5	20. 31. 51.69		51.90				20. 32. 38.99	- 2.31			
	37	ϵ Aquarii	AD	49.0	51.9	54.8	57.5	3.1	8.8	11.4	14.3	17.2	20. 40. 3.09		3.32	50.38	47.06		20. 40. 50.41	- 2.45			
	38	14 Delphini	AD	35.6	38.5	41.2	44.0	49.5	55.2	57.9	0.7	3.5	20. 42. 49.54		49.74				20. 43. 36.83	- 2.23			
	39	Bradley 2725	AD	10.4	14.7	18.8	22.9	31.3	39.7	43.8	48.0	52.3	20. 51. 31.30		31.39				20. 52. 18.48	- 1.92			
	40	6 Equulei	AD	21.8	24.8	27.6	30.4	36.0	41.7	44.4	47.2	50.0	21. 3. 35.97		36.16				21. 4. 23.26	- 2.28			
	41	ζ Cygni	AD	30.9	34.0	37.0	40.2	46.8	53.1	56.2	59.4	2.6	21. 6. 46.66		46.81	33.97	47.16		21. 7. 33.91	- 2.10			
	42	γ Pegasi	AD	42.9	45.8	48.6	51.5	57.3	3.0	5.8	8.6	11.6	0. 5. 57.21	(+0.18)	57.37	44.45	47.08	47.10	0. 6. 44.47	- 2.63			
	43	Bradley 18	AD	21.1	28.6	35.6	42.6	56.9	11.0	17.9	25.3	32.5	0. 13. 56.77		56.66				0. 14. 43.76	- 3.69			
	44	Bradley 47	AD	1.6	4.6	7.5	10.4	16.4	22.2	25.1	28.0	31.1	0. 26. 16.30		16.45				0. 27. 3.55	- 2.64			
	45	α Cassiopeiæ	AD	10.0	15.0	19.8	24.9	34.7	44.5	49.4	54.3	59.3	0. 32. 34.62		34.62				0. 33. 21.72	- 3.12			
	46	W. B. (2) O. 1057	AD	0.0	3.8	7.3	11.1	18.2	25.5	29.1	32.8	36.2	0. 41. 18.19		18.28				0. 42. 5.38	- 2.78			
	47	κ Piscium	AD	8.8	11.8	15.0	18.0	24.2	30.5	33.5	36.6	39.6	0. 48. 24.19		24.32				0. 49. 11.42	- 2.67			

The observations of transits are usually made by the galvanic or chronographic method, the wires employed being generally P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P. Occasionally the observations are made by eye and ear (x & x); the wires then employed are N, O, P, T, X, Y, Z; in reversed order for stars S.P.

Reading of Transit-Micrometer, $32^{\circ}.400$.

Corrections to the times by Hardy for reduction to Sidereal Standard, applied to form Concluded Transit, Nos. 14, 18, 22, 23, and 25, $-22^{\circ}.50$: $-22^{\circ}.50$: $-23^{\circ}.20$: $-23^{\circ}.20$: and $-23^{\circ}.20$.

Corrections for passage of Semidiameter, Nos. 20 and 21, $-0^{\circ}.17$: and $-64^{\circ}.01$.

September 20. The azimuthal error from Polaris S.P. and Polaris, allowing $-0^{\circ}.15$ for change of R.A.

18, 22. Cloudy.

19. Very faint.

20, 21. Very cloudy.

29. Tremulous.

AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1873.

[67]

187500AM

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire	Error of Collimation. (Level). [Azimuth].	Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at Sidereal and (Losing Rate).	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873, Jan. 1.	
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.									
				s	s	s	s	s	s	s	s	s									
				s	s	s	s	s	s	s	h	m	s		s	s	s	h	m	s	s
Sept. 20	1	9 Draconis.. S.P.	AD	42.5	..	56.7	4.0	18.2	32.4	39.6	..	53.8	0.54. 18.21	+0.12	18.68			47.10	12.55. 5.78	+ 0.98	
	2	Polaris (E&E)	AD	58.5	58.0	50.0	49.0	38.5	..	..	..	..	1.12. 15.37	(+0.18)	10.39	58.50	48.11	[0.04]	1.12. 57.49	- 40.81	
	3	θ Ceti	AD	41.7	44.8	47.5	50.2	55.8	1.4	4.4	7.0	9.9	1.16. 55.83	[+3.39]	56.05	43.16	47.11		1.17. 43.15	- 2.67	
	4	Bradley 193.....	AD	48.6	56.6	4.3	12.1	27.6	43.1	51.4	59.0	6.9	1.22. 27.66		27.51				1.23. 14.61	- 4.22	
	5	ν Piscium	AD	50.7	53.6	56.3	59.0	..	10.2	13.0	15.7	18.5	1.34. 4.60		4.78	51.94	47.16		1.34. 51.88	- 2.58	
	6	Neptune	AD	19.0	21.8	24.6	27.3	32.8	38.5	41.4	44.2	46.9	1.45. 32.93		33.10				1.46. 20.21		
Sept. 21	7	α Hydræ	E	19.6	22.5	25.2	27.8	33.5	39.0	42.0	44.7	47.6	9.20. 33.53	+0.34	33.90	21.12	47.22	47.28	9.21. 21.20	- 0.38	
	8	Venus 2 L.....	E	34.7	37.5	40.4	43.4	49.0	54.7	57.6	0.4	3.5	9.41. 49.00	(+2.24)	49.33			[0.06]	9.42. 36.12		
	9	Regulus	E	35.2	38.0	40.8	43.7	49.3	55.0	57.9	0.6	3.6	10.0. 49.32	[+4.62]	49.66	36.86	47.20		10.1. 36.97	- 0.50	
	10	γ ¹ Leonis	E	56.4	59.3	2.3	5.1	11.3	..	..	22.8	25.7	10.12. 11.08		11.41	58.60	47.19		10.12. 58.72	- 0.55	
	11	α Ursæ Majoris ..	E	..	..	..	..	..	16.8	22.9	28.6	34.8	10.55. 4.81		5.05				10.55. 52.36	- 0.03	
Sept. 22	12	Polaris S.P. (E&E)	E	..	..	..	..	..	..	20.0	14.0	13.0	13.12. 9.22		11.74	58.96	47.22		1.12. 59.05	- 41.27	
	13	ε Aquilæ	E	50.9	54.0	56.7	59.6	5.3	11.0	13.9	16.7	19.6	18.53. 5.28		5.62	53.03	47.41		18.53. 52.95	- 1.58	
	14	ν Draconis	E	..	..	..	..	9.3	26.3	34.9	43.2	52.2	18.55. 9.17		9.36				18.55. 56.69	- 0.28	
	15	Piazzi VI. 292 S.P.	E	..	..	..	..	29.0	12.1	33.7	55.0	17.3	19.3. 29.06		29.77				7.4. 17.10	- 4.61	
	16	47 Camelop. S.P.	E	55.3	0.8	6.4	12.0	..	34.4	39.7	45.5	51.1	19.10. 23.20		23.61				7.11. 10.94	- 2.01	
	17	Piazzi VII. 67 S.P.	E	..	..	29.6	37.4	52.7	7.6	15.5	..	..	19.16. 52.61		53.07				7.17. 40.40	- 2.28	
	18	α Vulpeculæ	E	24.0	27.0	30.0	33.0	39.1	45.3	48.3	51.4	54.4	19.22. 39.13		39.45	26.86	47.41		19.23. 26.78	- 1.61	
	19	B. A. C. 6702....	E	..	..	..	..	15.3	38.4	49.8	1.0	13.3	19.25. 14.78		14.92				19.26. 2.25	- 0.28	
	20	σ Draconis	E	..	..	26.0	33.8	..	5.0	13.2	..	..	19.31. 49.44		49.66				19.32. 36.99	- 1.38	
	21	λ Ursæ Min. (E&E)	E	..	..	59.0	23.5	53.0	..	..	35.0	..	19.50. 22.14		19.68	8.44	48.76		19.51. 7.01	+ 8.96	
	22	Saturn 1 L.....	E	49.8	52.8	55.6	58.6	4.7	10.6	13.6	16.5	19.5	19.52. 4.61		5.65				19.52. 52.98		
	23	Saturn 2 L.....	E	51.2	54.1	57.0	0.0	6.0	11.9	14.9	17.7	20.8	19.52. 5.93		21.08				8.5. 8.41	- 1.55	
	24	56 Camelop. S.P.	E	..	..	3.5	9.5	20.6	32.0	37.6	..	..	20.4. 20.67		21.19				20.13. 8.52	- 1.12	
	25	κ ¹ Cephei	E	..	..	43.4	55.8	21.1	46.5	59.0	..	..	20.12. 21.08		26.21				8.23. 13.54	- 1.44	
	26	A Ursæ Maj. S.P.	E	..	..	5.6	12.4	25.8	39.2	45.7	..	..	20.22. 25.78		18.76				8.29. 6.09	- 1.38	
	27	π Ursæ Maj. S.P.	E	..	..	58.7	5.4	18.4	31.1	37.8	..	..	20.28. 18.32		32.53				21.51. 19.86	- 2.73	
	28	79 Draconis	E	..	..	3.8	13.5	32.6	51.2	1.0	..	..	21.50. 32.36		30.76	18.11	47.35		21.59. 18.09	- 2.56	
	29	α Aquarii	E	16.5	19.5	22.1	24.8	30.4	36.0	38.8	41.5	44.2	21.58. 30.41		59.86				10.8. 47.20	- 0.33	
	30	32 Ursæ Maj. S.P.	E	25.6	32.4	39.3	46.2	59.4	12.6	19.7	26.1	33.1	22.7. 59.43		4.11				10.20. 51.45	- 0.20	
	31	35 Ursæ Maj. S.P.	E	..	36.0	43.0	50.0	3.6	17.5	24.2	31.0	..	22.20. 3.67		10.78	58.21	47.43		22.23. 58.12	- 2.77	
	32	σ Aquarii	E	36.2	59.3	2.0	4.8	10.4	16.0	18.8	21.6	24.7	22.23. 10.41		8.17				22.27. 55.51		
	33	Hygeia	E	54.0	56.7	59.6	2.3	8.0	13.3	16.0	19.0	21.6	22.27. 7.81		21.21	8.47	47.26	47.34	1.7. 8.55	- 2.66	
	34	ζ ¹ Piscium	E	7.0	9.9	12.5	15.4	20.8	26.4	29.3	31.9	34.8	1.6. 20.86		12.89	59.14	46.25		1.13. 0.23	- 41.45	
	35	Polaris (E&E)	E	0.0	55.0	..	..	41.0	32.0	28.5	..	..	1.12. 14.74		1.71				13.25. 49.05	+ 3.84	
	36	Piazzi XIII. 133 S.P.	E	..	..	16.3	31.4	1.3	30.6	45.5	..	..	1.25. 1.11		4.48	51.97	47.49		1.34. 51.82	- 2.61	
	37	ν Piscium	E	50.3	53.1	55.7	58.6	4.1	9.6	12.5	15.4	18.1	1.36. 43.48		27.09				13.37. 31.27	+ 0.94	
38	Piazzi XIII. 184 S.P.	E	..	..	25.6	30.3	43.4	56.5	3.4	..	..	1.41. 26.98		22.22				1.42. 14.43	- 6.15		
39	Bradley 230.....	E	..	..	48.3	1.7	26.8	52.9	5.6	..	..	1.45. 21.88		31.48				1.46. 9.56			
40	Neptune	E	..	10.8	13.6	16.4	21.8	27.6	30.2	33.0	..	9.46. 31.15						9.47. 18.11			
41	Venus 2 L.....	C	16.8	19.7	22.6	25.5	31.2	36.9	39.8	42.5	45.5						[47.11 0.06]				
Sept. 23	42	⊙ 2 L.	C	53.2	56.1	58.7	1.3	7.0	12.8	15.4	18.2	21.0	12.2. 7.06		7.41				12.1. 50.48		
	43	Polaris S.P. (E&E)	C	52.0	52.0	46.0	40.0	35.0	..	..	..	..	13.12. 10.48		13.00	59.32	46.32		1.13. 0.14	- 41.63	
	44	Saturn 1 L.....	C	46.9	50.1	52.9	55.9	1.8	7.6	10.8	13.7	16.6	19.52. 1.79		2.89				19.52. 50.05		
	45	Saturn 2 L.....	C	48.4	51.4	54.4	57.3	3.2	9.3	12.0	15.1	18.1	19.52. 3.23		59.94	47.16	47.22		20.4. 47.10	- 2.12	
46	θ Aquilæ	C	45.7	48.7	51.4	54.0	59.6	5.2	7.9	10.6	13.4										

Polaris and other stars very near the pole are observed by eye and ear over the wires P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P.; using the Clock Hardy. The Intervals of the Wires of both systems are given in the Introduction.

Reading of Transit-Micrometer, 32".400.

Corrections to the times by Hardy for reduction to Sidereal Standard, applied to form Concluded Transit, Nos. 2, 12, 21, 35, and 43, -23^s.30: -23^s.80: -24^s.10: -24^s.20: and -24^s.20.

Corrections for passage of Semidiameter, Nos. 8, 41, and 42, -0^s.51: -0^s.50: and -64^s.07.

September 21 to 23. The azimuthal error from four consecutive transits of Polaris S.P. and Polaris.

41. Very faint; foggy.

43. Very faint and tremulous.

TRANSITS OBSERVED WITH THE TRANSIT-CIRCLE, AND COMPUTATIONS OF APPARENT RIGHT ASCENSION,

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of Collimation.		Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at 0 ^h Sidereal and [Loss Rate].	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873, Jan. 1.
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.		(Level).							
				s	s	s	s	s	s	s	s	s		h	m						s
Sept. 23	1	ρ Capricorni.	C	37.2	40.2	43.0	46.0	51.8	57.5	0.5	3.5	6.3	20. 20. 51.76	+ 0.34	52.14	39.30	47.16	47.11	20. 21. 39.30	- 2.48	
	2	γ 6 Draconis.	C	..	..	53.1	12.4	..	33.0	53.4	..	..	20. 50. 52.82	(+ 2.24)	52.79			[0.06]	20. 51. 39.95	- 1.93	
	3	Groombridge 3409	C	..	..	..	..	51.6	8.6	17.2	25.4	33.8	21. 4. 51.57	[+ 4.62]	51.77				21. 5. 38.93	- 1.97	
	4	Bradley 2827	C	21.5	24.4	27.1	29.9	35.5	41.3	44.0	46.8	49.6	21. 35. 35.55		35.90				21. 36. 23.06	- 2.37	
	5	ν Ursæ Maj. S.P.	C	42.4	47.6	53.1	58.7	9.5	20.4	25.9	31.2	36.8	21. 41. 9.56		9.97				9. 41. 57.13	- 0.71	
	6	γ 79 Draconis.	C	44.5	54.6	3.8	13.2	32.4	51.5	0.8	10.3	20.0	21. 50. 32.26		32.43				21. 51. 19.59	- 2.69	
	7	23 Pegasi.	C	48.5	51.9	55.0	58.0	4.2	10.6	13.7	17.0	20.0	21. 59. 4.29		4.62				21. 59. 51.78	- 2.31	
	8	32 Ursæ Maj. S.P.	C	..	33.2	39.7	46.6	59.8	13.4	20.1	26.8	..	22. 8. 0.00		0.44				10. 8. 47.61	- 0.37	
	9	γ Aquarii.	C	7.0	9.8	12.5	15.3	20.9	26.2	29.1	31.8	34.7	22. 14. 20.80		21.16	8.34	47.18		22. 15. 8.33	- 2.62	
	10	Eunomia.	C	..	..	..	..	8.0	13.6	16.4	19.2	22.1	22. 24. 8.01		8.35			47.17	0. 28. 36.60		
	11	Ceres.	C	34.9	37.7	40.5	43.5	49.1	54.8	57.6	0.4	3.3	0. 27. 49.06		49.43				0. 37. 15.65	- 2.91	
	12	β Ceti.	C	13.5	16.5	19.5	22.2	28.0	34.0	36.9	39.8	42.8	0. 36. 28.11		28.48	15.70	47.22		12. 41. 7.86	+ 4.49	
	13	Groomb. 1927 S.P.	C	..	6.8	25.4	43.8	20.2	56.1	14.4	32.3	..	0. 40. 20.03		20.69				0. 49. 6.73	- 3.39	
	14	γ Cassiopeiæ.	C	51.7	57.4	2.8	8.2	19.6	30.2	35.8	41.5	47.0	0. 48. 19.30		19.56				1. 12. 59.26	- 4.181	
	15	Polaris (E&E)	C	58.0	57.5	50.5	47.0	38.0	..	..	..	..	1. 12. 13.94		12.09	59.50	47.41		1. 17. 43.19	- 2.71	
	16	θ Ceti.	C	41.7	44.5	47.4	50.0	55.6	1.2	4.2	6.8	9.6	1. 16. 55.65		56.02	43.20	47.18		1. 46. 4.32		
	17	Neptune.	C	..	5.8	8.4	11.2	16.8	22.5	25.2	28.0	..	1. 45. 16.81		17.15						
Sept. 24	18	α Hydræ.	E	19.4	22.4	25.1	27.8	33.5	..	..	44.7	47.4	9. 20. 33.45	(+ 1.42)	33.72	21.18	47.46	47.47	9. 21. 21.19	- 0.44	
	19	Venus 2 L.	E	39.7	42.7	45.5	48.4	54.0	59.7	2.6	5.4	8.3	9. 55. 54.02	[+ 3.42]	54.26			[- 0.01]	9. 56. 41.23		
	20	Regulus.	E	35.0	37.9	40.6	43.4	49.4	54.8	57.7	0.4	3.3	10. 0. 49.14		49.39	36.91	47.52		10. 1. 36.86	- 0.55	
	21	γ 1 Leonis.	E	56.3	59.3	2.1	5.0	10.9	16.8	19.7	22.6	25.7	10. 12. 10.92		11.15	58.65	47.50		10. 12. 58.62	- 0.60	
	22	μ Ursæ Majoris. .	E	..	43.4	47.1	..	58.0	5.6	9.5	13.0	16.8	10. 13. 58.14		58.35				10. 14. 45.82	- 0.63	
	23	β Ursæ Majoris. .	E	..	..	..	..	..	32.6	37.6	42.9	48.2	10. 53. 22.48		22.66				10. 54. 10.13	- 0.27	
	24	α Ursæ Majoris. .	E	..	..	46.7	52.3	4.7	16.7	22.7	..	..	10. 55. 4.58		4.74				10. 55. 52.21	- 0.10	
	25	λ Draconis.	E	..	..	..	..	..	17.8	26.5	..	42.5	11. 23. 1.82		1.95				11. 23. 49.42	+ 0.58	
	26	γ Ursæ Majoris. .	E	..	2.1	6.6	11.3	21.0	30.1	35.0	39.7	..	11. 46. 20.78		20.96				11. 47. 8.43	- 0.06	
Sept. 25	27	$\odot$ 1 L.	E	..	..	2.3	5.0	10.6	16.1	19.0	21.7	24.2	12. 7. 10.55		14.93				12. 9. 2.39		
	28	$\odot$ 2 L.	E	5.1	7.8	10.5	13.4	18.8	24.2	27.1	29.6	32.8	12. 9. 18.79								
	29	Polaris S.P. (E&E)	E	54.0	52.5	47.0	41.5	33.0	25.5	..	..	..	13. 12. 11.08		13.22	0.09	46.87		1. 13. 0.68	- 42.40	
	30	η Ursæ Majoris. .	E	22.5	27.0	31.2	35.5	44.3	52.7	57.1	1.0	5.6	13. 41. 44.06		44.25				13. 42. 31.71	+ 0.15	
	31	ν Bootis.	E	..	..	..	45.0	50.8	56.7	59.6	2.7	5.5	13. 47. 50.85		51.09	38.59	47.50		13. 48. 38.55	- 0.33	
	32	Arcturus.	E	50.0	53.0	56.0	59.0	4.7	10.7	13.5	16.5	19.4	14. 9. 4.74		4.98	52.43	47.45		14. 9. 52.44	- 0.30	
	33	γ 2 Ophiuchi.	E	..	22.3	25.0	27.7	33.4	39.0	41.7	44.6	..	18. 0. 33.36		33.60	21.02	47.42		18. 1. 21.06	- 1.32	
	34	δ Ursæ Min. (E&E)	E	..	..	26.5	13.0	46.5	20.0	7.0	..	..	18. 12. 22.20		21.69	8.64	46.95		18. 13. 9.15	+ 9.65	
	35	Groomb. 1151 S.P.	E	..	..	19.1	32.5	59.6	26.3	40.2	..	..	18. 19. 59.62		0.06				6. 20. 47.52	- 4.59	
	36	Ceph. 51 S.P. (E&E)	E	..	12.5	10.0	7.0	1.5	56.0	..	..	..	18. 39. 37.81		38.98	27.64	48.66		6. 40. 26.44	- 13.04	
	37	β Lyre.	C	20.8	24.2	27.4	30.7	37.3	43.9	47.3	50.4	53.9	18. 44. 37.29		37.51	24.68	47.17	47.15†	..		
	38	ϵ Aquilæ.	C	51.3	54.3	57.0	59.7	5.6	11.4	14.1	17.0	19.8	18. 53. 5.56		5.80	52.97	47.17		..		
	39	17 Lyncis S.P.	E	..	..	11.6	17.5	29.0	40.4	46.0	..	..	18. 57. 28.94		29.24			47.47	6. 58. 16.70	- 2.34	
	40	Bradley 2440	E	..	..	..	..	27.7	52.5	4.4	16.8	28.9	19. 2. 27.85		27.90				19. 3. 15.36	+ 0.51	
	41	55 Draconis.	E	56.4	3.2	10.1	17.0	30.3	43.8	50.8	57.2	3.8	19. 8. 30.23		30.38				19. 9. 17.84	- 0.56	
	42	Groomb. 1299 S.P.	E	..	..	..	50.7	5.0	..	..	..	..	19. 14. 4.84		5.18				7. 14. 52.64	- 2.42	
	43	π Draconis.	E	..	..	..	..	..	27.0	34.1	40.7	47.4	19. 19. 13.93		14.08				19. 20. 1.54	- 0.69	
	44	Groomb. 2900	E	..	..	48.0	2.6	32.4	2.6	18.3	..	..	19. 28. 32.69		32.70				19. 29. 20.16	+ 0.41	
	45	51 Camelop. S.P. .	E	..	..	23.6	30.8	44.2	57.5	4.4	..	..	19. 33. 44.14		44.46				7. 34. 31.92	- 2.17	
	46	α Aquilæ.	E	35.2	38.1	41.0	43.6	49.4	54.9	57.7	0.4	3.3	19. 43. 49.26		49.51	37.05	47.54		19. 44. 36.97	- 1.83	
	47	λ Ursæ Min. (E&E)	E	..	..	..	..	..	13.0	38.0	8.0	19. 50. 21.70		19.53	4.96	45.43			19. 51. 6.99	+ 12.44	

The observations of transits are usually made by the galvanic or chronographic method, the wires employed being generally P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P. Occasionally the observations are made by eye and ear (E & E); the wires then employed are N, O, P, T, X, Y, Z; in reversed order for stars S.P.

Reading of Transit-Micrometer, $32^{\circ} 400$.

Corrections to the times by Hardy for reduction to Sidereal Standard, applied to form Concluded Transit, Nos. 15, 29, 34, 36, and 47, $-24^{\circ} 20' : -24^{\circ} 00' : -24^{\circ} 10' : -24^{\circ} 10' : \text{and} -24^{\circ} 20'$.

Correction for passage of Semidiameter, No. 19, $-0^{\circ} 50'$.

† This clock-error has been used in the reduction of the observations made with the Altazimuth. September 24 to 27. The azimuthal error from six consecutive transits of Polaris S.P. and Polaris.

8. Faint; cloudy.

25. Very faint.

1875 MONTH. 35A...1A

AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1873.

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of Collimation. (Level). [Azimuth].	Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at 0 ^h Sidereal and [Losing Rate].	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873, Jan. 1.
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.								
				s	s	s	s	s	s	s	s	s		h m s						
Sept. 25	1	Saturn 1 L.....	E	..	45.4	48.3	51.4	57.2	3.2	6.4	9.1	..	19. 51. 57.26	+0.34	58.13			47.47	19. 52. 45.59	
	2	Saturn 2 L.....	E	..	46.7	49.5	52.6	58.5	4.5	7.1	10.4	..	19. 51. 58.43	(+1.42)						
	3	57 Camelop. S.P..	E	56.4	2.1	8.0	14.1	26.2	38.5	44.6	50.7	56.7	20. 7. 26.42	[+3.42]						
	4	Bradley 2636....	E	8.0	15.6	23.0	30.4	45.7	0.5	8.3	15.6	23.3	20. 18. 45.54		26.73	18.09	47.46	47.46	8. 8. 14.19	- 1.73
	5	Piazzi IX. 187 S.P.	E	..	..	41.6	51.3	10.8	30.3	40.4	..	..	21. 46. 10.94		45.67					
	6	α Aquarii.....	E	16.5	19.4	22.1	24.8	30.4	35.9	38.7	41.5	44.2	21. 58. 30.37		11.32					
	7	32 Ursæ Maj. S.P.	E	..	..	39.3	46.0	59.4	13.2	19.7	..	..	22. 7. 59.56		30.63	18.09	47.46	47.46	21. 59. 18.09	- 2.54
	8	25 Cephei.....	E	..	..	1.4	7.4	19.2	31.2	37.0	..	..	22. 13. 19.20		59.88					
	9	Eunomia.....	E	30.9	33.7	36.4	39.4	44.8	50.4	53.4	56.0	58.8	22. 22. 44.85		19.36					
	10	Polaris... (E&E)	E	59.0	57.0	52.0	45.5	37.0	30.0	..	..	..	1. 12. 13.70		45.10	0.30	48.25	47.46	1. 12. 59.51	- 42.61
	11	Venus 2 L.....	J	20.6	23.6	26.4	29.2	34.8	40.5	43.4	46.2	49.0	10. 0. 34.84	(+1.13)	12.05					
	12	γ Leonis.....	J	56.4	59.5	2.3	5.3	11.3	17.0	20.0	23.0	25.9	10. 12. 11.17		35.07					
	13	μ Ursæ Majoris..	J	39.9	43.6	47.4	51.0	58.4	5.9	9.6	13.5	17.2	10. 13. 58.47		11.38	58.67	47.29	47.25	10. 12. 58.61	- 0.62
	14	β Ursæ Majoris..	J	57.0	2.3	7.4	12.4	22.6	32.9	38.0	43.0	48.2	10. 53. 22.62		58.65					
	15	α Ursæ Majoris..	J	35.1	41.3	47.2	53.0	5.0	17.0	22.8	28.8	35.0	10. 55. 4.97		22.76					
	16	ψ Ursæ Majoris..	J	24.2	28.4	32.2	36.0	43.8	51.8	55.7	59.5	3.5	11. 1. 43.87		5.09	35.13	47.20	47.25	10. 55. 52.32	- 0.13
	17	λ Draconis.....	J	..	30.3	38.0	46.2	3.0	..	26.8	34.8	42.8	11. 23. 2.43		44.04					
	18	β Leonis.....	J	33.4	36.4	39.0	41.9	47.7	53.5	56.4	59.3	2.0	11. 41. 47.71		2.50					
	19	γ Ursæ Majoris..	J	57.5	2.2	6.7	11.5	20.8	30.6	35.4	40.2	45.0	11. 46. 21.06		47.93	35.13	47.20	47.25	11. 42. 35.16	- 0.32
Sept. 26	20	⊙ 1 L.....	J	33.2	36.0	38.8	41.4	47.0	52.4	55.2	58.0	0.8	12. 10. 46.96		21.21					
	21	⊙ 2 L.....	J	41.4	44.2	47.0	49.5	55.1	0.6	3.6	6.4	9.0	12. 12. 55.18		51.32			12. 12. 38.54		
	22	γ Cassiopeiæ S.P.	J	51.5	57.2	2.4	7.8	19.4	..	..	..	..	12. 48. 19.20		19.51					
	23	ε Virginis.....	J	50.1	53.0	55.7	58.5	4.1	9.8	12.8	15.6	18.0	12. 55. 4.16		4.39	51.58	47.19	47.19	0. 49. 6.73	- 3.44
	24	Polaris S.P. (E&E)	J	54.5	49.0	44.0	41.0	32.5	..	..	..	..	13. 12. 9.45		12.22					
	25	Spica.....	J	28.9	31.8	34.5	37.3	43.0	48.6	51.5	54.1	57.0	13. 17. 42.95		43.21					
	26	γ Boötis.....	J	36.5	39.5	42.3	45.2	51.2	57.0	0.0	2.9	5.8	13. 47. 51.14		51.36	38.58	47.22	47.22	13. 48. 38.58	- 0.32
	27	Arcturus.....	J	50.2	53.3	56.1	59.1	5.0	10.9	13.8	16.7	19.6	14. 9. 4.95		5.17					
	28	γ Draconis.....	AD	30.1	34.8	39.3	43.6	52.6	1.5	5.8	10.4	14.8	17. 52. 52.51		52.67					
	29	72 Ophiuchi....	AD	19.4	22.4	25.2	27.9	33.5	39.1	41.9	44.6	47.6	18. 0. 33.49		33.72	21.00	47.28	47.28	17. 53. 39.96	- 0.50
	30	μ Sagittarii....	AD	9.5	12.5	15.4	18.3	24.2	29.9	33.0	36.0	39.0	18. 5. 24.18		24.45					
	31	δ Ursæ Min. (E&E)	J	51.5	40.0	26.5	12.5	46.5	..	..	..	..	18. 12. 21.40		20.62	8.19	47.57	47.25	18. 13. 7.83	+ 10.10
	32	η Serpentis.....	J	44.4	47.4	50.0	52.8	58.4	3.8	6.5	9.4	12.2	18. 13. 58.30		58.54					
	33	Groomb. 1151 S.P.	J	53.4	6.5	20.4	33.2	0.2	27.2	40.4	53.4	7.3	18. 20. 0.31		0.81					
	34	Ceph. 51 S.P. (E&E)	J	..	..	..	..	..	3.0	57.0	54.0	50.0	18. 39. 38.05		39.53	28.17	48.64	47.25	6. 20. 48.02	- 4.73
	35	55 Draconis.....	J	..	..	..	..	..	43.9	51.0	57.2	3.9	19. 8. 30.35		30.45					
	36	τ Draconis.....	J	23.9	34.0	43.2	52.6	11.7	31.0	40.6	49.5	59.6	19. 17. 11.71		11.74					
	37	μ Aquilæ.....	J	53.4	56.4	59.1	1.7	7.4	13.1	15.8	18.6	21.5	19. 27. 7.42		7.66	54.87	47.21	47.21	19. 27. 54.87	- 1.80
	38	Groombridge 2900	J	..	..	47.5	2.5	32.2	2.3	16.8	..	..	19. 28. 32.17		32.09					
	39	51 Camelop. S.P..	J	11.2	18.5	25.3	32.2	45.4	58.8	5.7	12.2	19.2	19. 33. 45.45		45.80					
	40	γ Aquilæ.....	J	13.4	16.4	19.1	21.8	27.6	33.4	36.0	38.6	41.8	19. 39. 27.54		27.77	15.08	47.31	47.31	19. 40. 14.98	- 1.81
	41	Piazzi VII. 187 S.P..	J	39.8	55.3	10.7	26.5	57.8	29.4	44.4	0.0	16.5	19. 43. 57.93		58.48					
	42	λ Ursæ Min. (E&E)	J	..	..	..	..	..	40.0	13.0	35.0	3.0	19. 50. 18.04		15.04	3.73	48.69	48.69	19. 51. 2.25	+ 13.67
	43	Saturn 1 L.....	J	40.8	44.0	46.8	49.6	55.7	1.8	4.5	7.5	10.6	19. 51. 55.68		56.60					
	44	Saturn 2 L.....	J	42.0	45.2	48.2	51.0	57.0	3.0	5.9	8.9	11.8	19. 51. 56.98		26.54					
	45	Groombridge 3735	J	30.0	41.7	52.5	4.1	26.6	49.6	0.4	11.7	23.2	22. 10. 26.55		3.39			22. 11. 13.74	- 3.07	
	46	Groombridge 3756	J	6.8	18.8	29.5	40.7	3.3	26.3	37.3	48.5	0.2	22. 16. 3.40		6.43					
	47	Eunomia.....	J	..	..	..	..	6.1	11.7	14.6	17.4	20.4	22. 22. 6.19		57.26					
	48	B. F. 1506 S.P...	J	17.5	26.0	33.6	41.4	56.8	12.2	20.1	27.5	36.2	22. 31. 56.87					10. 32. 44.46	- 0.10	

Polaris and other stars very near the pole are observed by eye and ear over the wires P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P.; using the Clock Hardy.
The Intervals of the Wires of both systems are given in the Introduction.

Reading of Transit-Micrometer, 32nd 400.
Corrections to the times by Hardy for reduction to Sidereal Standard, applied to form Concluded Transit, Nos. 10, 24, 31, 34, and 42, - 24^h 20: - 24^h 50: - 24^h 60:
- 24^h 60: and - 24^h 70.
Correction for passage of Semidiameter, No. 11, - 0^h 50.
† This clock-error has been used in the reduction of the observations made with the Altazimuth.

TRANSITS OBSERVED WITH THE TRANSIT-CIRCLE, AND COMPUTATIONS OF APPARENT RIGHT ASCENSION,

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of		Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at 0 ^h Sidereal and [Losing Rate].	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873, Jan. 1.	
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.		Collimation. (Level).	[Azimuth].							
																						s
Sept. 26	1	μ Pegasi	J	52.6	55.6	58.4	1.5	7.7	13.6	16.6	19.5	22.9	22. 43. 7.57	+0.34		7.78	54.96	47.18	47.25	22. 43. 54.98	-	2.48
	2	Fomalhaut	J	37.5	40.7	44.0	47.1	53.4	59.8	3.1	6.3	9.6	22. 49. 53.47	(+1.13)		53.77	40.88	47.11	[-0.05]	22. 50. 40.97	-	3.22
	3	β Ursæ Maj. S.P. . .	J	57.3	2.3	7.5	12.5	..	..	..	..	..	22. 53. 22.75	[+3.42]		23.06				10. 54. 10.26	-	0.32
	4	α Ursæ Maj. S.P. . .	J	35.3	40.9	46.7	53.2	4.7	16.9	23.0	28.6	35.0	22. 55. 4.97			5.30				10. 55. 52.50	-	0.14
	5	ψ Ursæ Maj. S.P. . .	J	..	..	..	..	..	51.6	55.6	59.6	3.6	23. 1. 43.90			44.18				11. 2. 31.38	-	0.42
	6	γ Piscium	J	36.4	39.1	41.7	44.7	50.1	55.7	58.5	1.2	4.0	23. 9. 50.14			50.38	37.54	47.16		23. 10. 37.58	-	2.71
	7	Piazzi XI. 43 S.P. . .	J	57.0	3.6	10.0	16.6	29.9	42.9	49.6	56.0	2.7	23. 14. 29.86			30.21				11. 15. 17.41	+	0.12
	8	λ Draconis S.P. . . .	J	22.0	29.4	38.0	46.5	2.5	18.9	27.1	34.4	43.4	23. 23. 2.54			2.92				11. 23. 50.12	+	0.55
	9	γ Ursæ Maj. S.P. . .	J	57.4	2.0	6.8	11.5	21.2	30.6	35.5	40.3	45.4	23. 46. 21.23			21.53				11. 47. 8.73	-	0.07
	10	Ceres	J	3.8	7.0	9.9	12.9	18.0	24.0	27.0	29.8	32.5	0. 25. 18.30			18.56			47.20	0. 26. 5.76		
	11	Polaris (E&E)	J	..	59.0	56.0	49.0	39.0	..	..	..	..	1. 12. 15.73			13.44	0.68	47.24		1. 13. 0.64	-	42.99
	12	Asia	J	21.3	24.2	27.1	29.6	35.4	41.2	44.1	46.7	49.4	1. 16. 35.42			35.65				1. 17. 22.85		
	13	η Piscium	J	42.5	45.4	48.0	51.0	56.7	2.3	5.4	8.0	11.0	1. 23. 56.68			56.90	44.05	47.15		1. 24. 44.10	-	2.69
	14	Neptune	J	46.1	49.3	51.8	54.5	0.1	5.8	8.6	11.2	14.1	1. 45. 0.15			0.39				1. 45. 47.59		
	15	ϵ Leonis	C	36.4	39.6	42.6	45.6	51.6	57.7	0.8	3.7	7.0	9. 37. 51.65	(+0.89)		51.90	39.14	47.24	47.19	9. 38. 39.06	-	0.80
	16	μ Leonis	C	30.1	33.3	36.3	39.4	45.5	51.7	54.8	57.9	1.0	9. 44. 45.52			45.72	32.97	47.25	[-0.07]	9. 45. 32.88	-	0.76
	17	Regulus	C	35.4	38.3	41.2	44.0	49.5	55.3	58.0	0.8	3.7	10. 0. 49.55			49.77	36.95	47.18		10. 1. 36.93	-	0.59
	18	Venus 2 L.	C	1.0	3.8	6.7	9.4	15.0	20.9	23.7	26.4	29.4	10. 5. 15.12			15.34				10. 6. 2.01		
	19	μ Ursæ Majoris . . .	C	40.0	43.7	47.4	51.2	58.6	6.1	9.8	13.5	17.4	10. 13. 58.60			58.76				10. 14. 45.92	-	0.68
	20	β Ursæ Majoris . . .	C	57.4	2.7	7.6	12.6	22.7	33.0	38.4	43.1	48.0	10. 53. 22.80			22.91				10. 54. 10.07	-	0.32
	21	π Cephei S.P. . . .	C	..	..	..	..	..	..	..	..	..	11. 3. 7.75			8.21				23. 3. 55.37	-	3.80
	22	χ Ursæ Majoris . . .	C	12.0	16.3	20.5	24.7	33.0	41.4	45.5	49.6	53.9	11. 38. 32.96			33.10				11. 39. 20.26	-	0.21
	23	γ Ursæ Majoris . . .	C	57.3	2.4	7.0	11.9	21.4	30.8	35.7	40.0	45.1	11. 46. 21.25			21.37				11. 47. 8.53	-	0.08
Sept. 27	24	$\odot$ 1 L.	C	9.7	12.7	15.4	18.0	23.7	29.3	32.0	34.8	37.5	12. 14. 23.66			} 28.09				12. 16. 15.24		
	25	$\odot$ 2 L.	C	18.1	21.0	23.6	26.4	32.0	37.5	40.5	43.3	46.0	12. 16. 32.03									
	26	Polaris S.P. (E&E)	C	56.0	53.0	46.0	42.0	35.0	..	..	..	..	13. 12. 11.18			14.46	0.87	46.41		1. 13. 1.61	-	43.18
	27	Spica	C	..	..	..	54.2	57.1	11.3	25.3	..	..	13. 17. 43.06			43.31	30.45	47.14		13. 18. 30.46	-	0.23
	28	γ 1 L.	C	13.7	16.8	19.9	23.0	29.4	35.6	38.8	41.9	45.0	16. 34. 29.31			29.60				16. 36. 26.89		
	29	γ 2 Ophiuchi	C	19.6	22.5	25.3	28.0	33.7	39.2	42.1	45.0	47.7	18. 0. 33.66			33.88	20.98	47.10		18. 1. 21.02	-	1.28
	30	δ Ursæ Min. (E&E)	C	53.5	41.5	28.0	14.5	..	..	7.5	..	..	18. 12. 22.22			21.22	7.74	46.52		18. 13. 8.36	+	10.55
	31	Piazzi VI. 75 S.P. . .	C	..	46.5	1.8	17.2	48.2	..	..	..	..	18. 23. 48.32			48.92				6. 24. 36.06	-	5.33
	32	Ceph. 51 S.P. (E&E)	C	..	..	12.0	9.0	4.0	58.5	55.0	..	..	18. 39. 38.87			40.60	28.74	48.14		6. 40. 27.74	-	14.14
	33	ψ Sagittarii	E	44.3	47.5	50.4	53.5	59.8	5.6	8.6	11.7	15.0	19. 6. 59.57			59.87	47.18	47.31	47.37†	....		
	34	α Aquilæ	E	51.2	54.1	57.0	59.8	5.4	11.0	13.9	16.6	19.5	19. 11. 5.37			5.59	52.90	47.31		....		
	35	Saturn 1 L.	C	39.6	42.7	45.5	48.7	54.4	0.4	3.4	6.4	9.4	19. 51. 54.48			} 55.44				19. 52. 42.57		
	36	Saturn 2 L.	C	41.1	44.1	47.0	49.9	55.8	1.7	4.8	7.7	10.7	19. 51. 55.85									
	37	Groomb. 1403 S.P. . .	C	..	..	..	..	..	23.1	34.8	46.0	58.3	20. 0. 0.23			0.74				8. 0. 47.87	-	2.54
	38	Bradley 1147 S.P. . .	C	..	..	11.6	23.0	46.2	9.0	20.6	..	..	20. 2. 46.15			46.66				8. 3. 33.79	-	2.53
	39	ρ Capricorni	C	37.3	40.3	43.3	46.0	52.0	57.7	0.6	3.5	6.4	20. 20. 51.88			52.14	39.24	47.10		20. 21. 39.27	-	2.42
	40	3 Ursæ Mai. S.P. . .	C	34.6	41.2	47.6	54.2	7.9	21.2	27.7	34.4	41.2	20. 27. 7.82			8.19				8. 27. 55.32	-	1.68
	41	74 Draconis	C	31.6	49.2	5.6	22.7	..	..	..	..	..	20. 35. 56.59			56.37				20. 36. 43.50	-	0.99
	42	6 Ursæ Maj. S.P. . .	C	..	30.0	36.6	43.2	56.4	9.5	16.2	22.7	..	20. 44. 56.43			56.79				8. 45. 43.92	-	1.48
	43	Bradley 2749	C	11.1	27.6	43.6	59.4	31.5	..	..	..	..	20. 52. 31.48			31.29				20. 53. 18.42	-	1.46
	44	θ Capricorni	C	49.0	52.0	54.8	57.6	3.5	9.4	12.3	15.2	18.0	20. 58. 3.52			3.78	50.91	47.13		20. 58. 50.91	-	2.59
	45	Ceres	C	13.4	16.4	19.2	22.0	27.6	33.4	36.2	39.1	42.0	0. 24. 27.68			27.94			47.12	0. 25. 15.06		
	46	ϵ Andromedæ	C	50.6	53.9	56.8	0.0	6.4	12.8	15.8	19.0	22.1	0. 31. 6.35			6.54	53.60	47.06		0. 31. 53.66	-	2.72
	47	76 Ursæ Maj. S.P. . .	C	41.4	47.6	53.9	0.0	12.3	24.7	31.0	37.1	43.4	0. 35. 12.43			12.78				12. 35. 59.90	+	0.59
	48	Polaris (E&E)	C	4.5	2.0	55.0	52.0	..	..	..	27.0	23.5	1. 12. 17.50			14.67	1.05	46.38		1. 13. 1.79	-	43.36

The observations of transits are usually made by the galvanic or chronographic method, the wires employed being generally P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P. Occasionally the observations are made by eye and ear (E & E); the wires then employed are N, O, P, T, X, Y, Z; in reversed order for stars S.P.

Reading of Transit-Micrometer, 32".400.

Corrections to the times by Hardy for reduction to Sidereal Standard, applied to form Concluded Transit, Nos. 11, 26, 30, 32, and 48, -24".90 : -25".00 : -25".20 : -25".20 : and -25".50.

Corrections for passage of Semidiameter, Nos. 18 and 28, -0".49 : and +70".14.

† This clock-error has been used in the reduction of the observations made with the Altazimuth.

27. Exceedingly faint; observed over wires W, X, Y, Z.

28. Very faint. Correction to R.A. on true meridian, +0".01.

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of Collimation. (Level). [Azimuth].	Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at 0 ^h Sidereal and [Losing Rate].	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1875, Jan. 1.
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.								
				s	s	s	s	s	s	s	s	s								
Sept. 27	1	Asia	C	34.3	..	39.9	42.6	48.2	54.0	57.5	59.4	..	1. 15. 48.38	+0.34	48.60			47.12	1. 16. 35.72	
	2	♊ Piscium	C	51.0	53.7	56.5	59.3	4.8	10.4	13.1	15.8	18.7	1. 34. 47.99	(+0.89)	5.02	52.05	47.03	[-0.07]	1. 34. 52.14	- 2.69
	3	Neptune	C	40.6	43.5	46.3	49.2	54.7	0.2	3.2	5.8	8.6	1. 44. 54.66	[+3.42]	54.88				1. 45. 41.99	
Sept. 29	4	♊ Piscium	E	36.4	39.3	41.7	44.7	50.3	55.7	58.4	1.2	4.1	23. 9. 50.18	+0.28	50.48	37.54	47.06		....	
	5	Venus 2 L.	L	58.6	1.5	4.2	7.1	12.8	18.4	21.2	24.1	27.0	10. 19. 12.75	(+1.49)	13.03			46.67	10. 19. 59.19	
														[+4.24]			[-0.07]			
Sept. 30	6	☉ 1 L.	L	0.3	3.4	5.9	8.8	14.2	19.8	22.5	25.3	28.0	12. 25. 14.23		14.54				12. 27. 5.46	
	7	♏ Aquilæ	L	36.0	39.0	41.7	44.4	50.1	55.8	58.6	1.2	4.1	19. 43. 50.08		50.36	36.98	46.62		....	
	8	♏ Aquilæ	L	5.5	8.4	11.1	13.9	19.4	25.0	27.8	30.5	33.4	19. 48. 19.42		19.71	6.30	46.59		....	
	9	♏ Delphini	AD	9.4	12.3	15.1	17.8	23.5	29.2	31.9	34.6	37.6	20. 26. 23.47		23.76	10.66	46.90	46.95†	....	
	10	♏ Delphini	AD	44.8	47.6	50.6	53.4	59.3	5.0	7.6	10.7	13.5	20. 32. 59.14		59.41	46.28	46.87		....	
	11	♏ Andromedæ . . .	L	49.6	52.7	55.9	59.2	5.4	11.6	14.8	18.0	21.2	0. 1. 5.35		5.61	52.23	46.62	46.60	....	
Oct. 1	12	♏ Aquilæ	C	14.0	16.9	19.6	22.4	28.0	33.6	36.4	39.3	42.0	19. 39. 28.00	(+0.86)	28.25	15.00	46.75	46.80	....	
	13	♏ Vulpeculæ . . .	C	35.7	38.8	41.7	44.7	50.8	56.8	59.6	2.6	5.6	19. 44. 50.68		50.90			[-0.23]	19. 45. 37.60	- 1.60
	14	♏ Sagittarii	C	12.7	15.9	18.9	22.0	28.2	34.4	37.4	40.4	43.6	19. 50. 28.13		28.47				19. 51. 15.17	- 2.36
	15	Saturn 1 L.	C	..	..	..	..	..	0.0	3.0	5.9	8.8	19. 51. 54.01							
	16	Saturn 2 L.	C	..	..	..	..	..	1.3	4.3	7.3	10.2	19. 51. 55.36		55.02				19. 52. 41.72	
	17	♏ Aquilæ	C	46.3	49.2	51.8	54.6	0.1	5.6	8.4	11.2	14.0	20. 4. 0.12		0.40	47.04	46.64		....	
	18	♏ Capricorni	E	37.4	40.5	43.4	46.2	52.0	57.8	0.6	3.7	6.7	20. 20. 52.02		52.34	39.18	46.84	47.19†	....	
	19	♏ Delphini	E	45.0	47.6	50.4	53.3	59.2	4.8	7.7	10.6	13.5	20. 32. 59.10		59.34	46.27	46.93		....	
	20	☾ 1 L.	C	14.7	17.8	21.0	24.2	30.4	36.7	39.8	42.8	46.1	20. 42. 30.36		30.70			46.89	20. 44. 31.41	
	21	♏ Draconis	C	..	..	36.1	49.3	14.9	40.6	53.9	..	..	21. 7. 14.88		14.61				21. 8. 1.30	- 1.49
	22	♏ Capricorni	C	25.5	28.5	31.5	..	40.5	..	49.5	52.5	55.5	21. 18. 40.47		40.80				21. 19. 27.49	- 2.74
	23	♏ Capricorni	C	59.0	2.0	5.0	7.9	13.7	19.5	22.5	25.3	28.4	21. 29. 13.70		14.02				21. 30. 0.70	- 2.72
	24	Bradley 2854	C	57.0	5.3	13.5	21.9	38.6	..	..	..	..	21. 36. 38.66		38.59				21. 37. 25.27	- 2.04
	25	17 Pegasi	C	46.1	49.1	51.7	54.6	0.1	5.8	8.6	11.5	14.4	21. 50. 0.20		0.45				21. 50. 47.13	- 2.34
	26	Venus 2 L.	AD	14.3	17.3	20.0	..	28.5	..	37.0	39.9	42.6	10. 28. 28.48	(+1.40)	28.76			46.63	10. 29. 14.84	
																		[-0.17]		
Oct. 2	27	☉ 1 L.	AD	15.5	18.2	20.8	23.7	29.3	34.8	37.6	40.4	43.3	12. 32. 29.26						12. 34. 20.42	
	28	☉ 2 L.	AD	..	26.9	29.6	32.4	37.9	43.5	46.2	..	..	12. 34. 37.90							
	29	♏ Ursæ Min. (E&E)	AD	52.5	41.0	27.0	..	46.5	..	..	..	..	18. 12. 19.85		18.71	5.43	46.72		....	
	30	♏ Lyræ	AD	34.8	38.4	41.8	45.5	52.4	59.6	3.2	6.6	10.2	18. 31. 52.47		52.69	39.20	46.51		18. 32. 39.19	- 0.91
	31	♏ Lyræ	AD	21.2	24.6	27.8	31.2	37.7	44.4	47.6	51.0	54.4	18. 44. 37.73		37.97	24.52	46.55		18. 45. 24.47	- 1.07
	32	♏ Ursæ Min. (E&E)	AD	..	..	..	..	41.0	36.5	5.5	..	..	19. 50. 12.86		8.63	53.48	46.85		....	
	33	♏ Aquilæ	L	46.8	49.6	52.4	55.0	0.5	6.2	8.8	11.6	14.4	20. 4. 0.57		0.87	47.03	46.16	46.35†	....	
	34	♏ Cygni	AD	49.4	52.9	56.4	59.7	6.9	13.8	17.5	21.0	24.5	20. 22. 6.87		7.09			46.63	20. 22. 53.58	- 1.58
	35	♏ Delphini	AD	45.2	48.0	50.9	53.7	59.6	5.3	8.1	10.9	13.7	20. 32. 59.46		59.73	46.25	46.52		20. 33. 46.21	- 1.92
	36	♏ Cygni	AD	..	5.6	9.4	13.4	21.1	29.0	32.9	36.7	..	20. 36. 21.12		21.33				20. 37. 7.81	- 1.57
	37	Piazzi XX. 452 . . .	AD	26.0	29.6	33.6	36.9	43.8	51.0	54.5	57.9	1.6	20. 56. 43.85		44.07				20. 57. 30.55	- 1.78
	38	♏ Cygni	AD	31.4	34.5	37.6	40.7	47.2	53.6	56.8	59.8	3.2	21. 6. 47.17		47.41	33.81	46.40		21. 7. 35.89	- 1.94
	39	♏ Piscium	L	56.0	58.9	1.5	4.2	9.7	15.5	18.2	20.7	23.7	0. 18. 9.80		10.10	56.31	46.21	46.18†	....	
	40	Ceres	AD	1.4	4.5	7.3	10.0	15.9	21.2	24.4	27.4	30.2	0. 20. 13.79		16.12			46.46	0. 21. 2.58	
	41	♏ Piscium	AD	7.8	10.6	13.2	16.1	21.6	27.2	30.0	32.7	35.7	0. 41. 21.64		21.93	8.37	46.44		0. 42. 8.39	- 2.77
	42	♏ Cassiopeiæ	AD	52.8	58.6	3.7	9.6	20.5	31.6	37.0	42.6	48.1	0. 48. 20.45		20.60				0. 49. 7.05	- 4.01
	43	Polaris (E&E)	AD	3.7	8.5	1.0	56.0	..	..	..	..	..	1. 12. 20.61		17.35	2.03	44.68		....	
	44	♏ Piscium	AD	43.0	46.0	48.7	51.8	57.5	3.0	6.0	8.8	11.8	1. 23. 57.38		57.65	44.12	46.47		1. 24. 44.10	- 2.76

Polaris and other stars very near the pole are observed by eye and ear over the wires P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P.; using the Clock Hardy. The Intervals of the Wires of both systems are given in the Introduction.

Reading of Transit-Micrometer, 32" 400.

Corrections to the times by Hardy for reduction to Sidereal Standard, applied to form Concluded Transit, Nos. 29, 32, and 43, -26".80; -26".70; and -26".92.

Corrections for passage of Semidiameter, Nos. 5, 6, 20, and 26, -0".48; +64".20; +74".01; and -0".48.

† These clock-errors have been used in the reduction of the observations made with the Altazimuth.

September 29 to October 2. The azimuthal error used is the mean of three determinations (+2".43, +4".09, and +5".30) by tabular places of δ Ursæ Minoris and α Lyræ (only half-weight being given to the value), of λ Ursæ Minoris and α Delphini, allowing -0".01 for clock-rate, and of Polaris and η Piscium, all on October 2.

7. Faint.

25. Very cloudy.

33, 38, 44. Faint; cloudy.

8, 11, 29. Very faint; cloudy.

26. Faint; misty.

37. Very faint.

20. Correction to R.A. on true meridian, -0".01.

27, 28, 33, 43. Cloudy.

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of Collimation. (Level). [Azimuth].	Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at 0 ^h Sidereal and (Losing Rate).	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1875, Jan. 1.	
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.									
				s	s	s	s	s	s	s	s	s									
				s	s	s	s	s	s	s	h m s	"	s	s	s	s	h m s	s			
Oct. 3	1	α Lyrae.....	C	35.0	38.5	42.0	45.6	52.6	59.7	3.3	6.8	10.3	18. 31. 52.62	+0.28	52.74	39.17	46.43	46.49†	....		
	2	α Aquilæ.....	C	20.0	23.0	25.8	28.5	34.2	39.7	42.6	45.4	48.1	18. 34. 34.13	(+0.22)	34.42	20.74	46.32	[-0.14]	....		
	3	α Aquilæ.....	E	..	..	..	44.6	50.2	55.6	58.5	1.3	4.2	19. 43. 50.12	[+4.40]	50.35	36.93	46.58	46.68	....		
	4	λ Ursæ Min.(E&E)	E	..	..	..	44.0	42.5	9.5	32.0	..	19. 50. 15.46		7.56	54.14	46.58	[-0.14]	....			
	5	β Capricorni....	E	53.4	56.4	59.2	2.0	7.7	13.5	16.4	19.3	22.1	20. 13. 7.76		8.07	54.64	46.57		....		
	6	α Cygni.....	E	49.4	53.0	56.4	59.8	6.8	13.9	17.5	20.8	24.4	20. 22. 6.86		6.99				20. 22. 53.55	- 1.55	
	7	α Aquarii.....	E	36.1	39.1	41.8	44.7	50.4	56.1	59.0	1.9	4.8	21. 58. 50.42		50.73				21. 59. 37.28	- 2.70	
	8	θ Aquarii.....	E	9.7	12.5	15.4	17.9	23.6	29.4	32.0	34.7	37.6	22. 9. 23.63		23.91	10.44	46.53		....		
	9	δ 1 L.....	E	38.0	41.0	43.8	46.8	52.6	58.4	1.3	4.3	7.4	22. 43. 52.60		52.90				22. 45. 50.46		
Oct. 5	10	γ Aquilæ.....	E	14.2	..	19.6	22.4	28.3	34.0	36.8	..	42.4	19. 39. 28.21	+0.21	28.53	14.93	46.40	46.45†	....		
	11	α Aquilæ.....	E	36.3	39.3	41.9	44.8	50.4	55.8	58.7	1.4	4.3	19. 43. 50.31	(+1.98)	50.64	36.90	46.26	[-0.15]	....		
	12	α Piscium.....	P	21.4	24.1	26.8	29.5	35.2	40.8	43.5	46.2	49.1	23. 54. 35.16	[+4.78]	35.51			46.28	23. 55. 21.64	- 2.80	
	13	γ Pegasi.....	P	43.7	46.6	49.6	52.4	58.0	3.8	6.7	9.5	12.4	0. 5. 58.06		58.38	44.53	46.15	46.13	0. 6. 44.51	- 2.71	
	14	μ Ceti.....	P	59.6	2.8	5.3	8.1	13.8	19.5	23.3	25.0	27.8	0. 12. 13.78		14.14	0.22	46.08	[-0.15]	0. 13. 0.27	- 2.88	
	15	α Ceti.....	P	9.2	12.0	14.7	17.5	23.0	28.5	31.3	34.0	36.8	0. 19. 22.98		23.32				0. 20. 9.45	- 2.81	
	16	ϵ Andromedæ....	P	51.5	54.7	57.7	0.8	7.4	13.6	16.7	19.7	23.0	0. 31. 7.20		7.50	53.65	46.15		0. 31. 53.63	- 2.77	
	17	δ 1 L.....	P	59.5	2.4	5.2	7.8	13.7	19.3	22.2	25.0	27.8	0. 37. 13.64		13.98				0. 39. 9.40		
	18	δ 2 L.....	P	17.7	20.7	23.4	26.3	32.0	37.8	40.5	43.2	46.3	0. 39. 31.97		32.31				0. 39. 9.17		
	19	ϵ Piscium.....	P	23.6	26.5	29.1	32.0	37.4	43.1	45.8	48.7	51.5	0. 55. 37.50		37.83	23.97	46.14		0. 56. 23.95	- 2.78	
	20	f Piscium.....	P	17.4	20.3	23.0	25.6	31.2	36.9	39.6	42.2	45.2	1. 10. 31.25		31.59				1. 11. 17.71	- 2.80	
	21	Polaris....(E&E)	P	7.0	8.5	1.5	5.5	..	..	..	..	..	1. 12. 19.28		16.22	2.32	46.10		....		
	22	θ Ceti.....	P	42.7	45.8	48.5	51.3	56.8	2.5	5.4	8.2	10.9	1. 16. 56.88		57.24	43.34	46.10		1. 17. 43.36	- 2.85	
	23	μ Piscium.....	P	34.4	37.3	39.8	42.5	48.2	53.9	56.6	59.4	2.2	1. 22. 48.23		48.56				1. 23. 34.68	- 2.81	
	24	Venus 2 L.....	II	40.7	43.5	46.3	49.2	54.7	0.3	3.3	6.0	8.9	10. 46. 54.75	[+3.35]	55.01			46.15	10. 47. 40.68		
	25	α Ursæ Majoris..	II	..	..	..	..	..	..	..	30.0	36.2	10. 55. 6.16		6.39			[-0.03]	10. 55. 52.53	- 0.42	
	26	ψ Ursæ Majoris..	II	25.5	29.5	33.4	37.3	45.3	53.1	57.0	0.8	4.9	11. 1. 45.17		45.41				11. 2. 31.55	- 0.60	
	27	δ Leonis.....	II	20.5	23.6	26.4	29.4	35.4	41.2	44.2	47.0	50.2	11. 6. 35.30		35.55	21.70	46.15		11. 7. 21.69	- 0.61	
Oct. 6	28	$\odot$ 1 L.....	II	49.3	52.0	54.7	57.5	3.1	8.6	11.5	14.3	17.1	12. 47. 3.10		3.37				12. 48. 54.09		
	29	ϵ^2 Boötis.....	II	..	..	..	..	40.3	46.6	49.6	52.8	55.9	14. 38. 40.28		40.54	26.66	46.12		14. 39. 26.67	- 0.23	
	30	β Ursæ Minoris..	II	24.2	35.2	45.4	55.9	16.8	37.6	48.1	58.4	9.1	14. 50. 16.65		16.83				14. 51. 2.96	+ 3.10	
	31	γ 2 Ophiuchi....	II	20.4	23.3	..	..	..	40.0	42.9	45.8	48.5	18. 0. 34.45		34.71	20.82	46.11		18. 1. 20.84	- 1.12	
	32	δ Ursæ Min.(E&E)	II	53.0	43.0	27.5	14.3	..	..	..	..	..	18. 12. 17.71		17.61	3.83	46.22		....		
	33	η Serpentis.....	II	45.4	..	..	..	59.4	4.7	..	..	..	13.1	18. 13. 59.25		59.52	45.60	46.08		18. 14. 45.65	- 1.32
	34	μ Lyrae.....	II	..	2.8	6.3	10.0	17.3	24.4	27.8	31.5	..	18. 19. 17.13		17.38				18. 20. 3.51	- 0.69	
	35	α Lyrae.....	II	..	..	42.0	45.5	52.8	59.6	3.4	6.8	10.5	18. 31. 52.65		52.90	39.09	46.19		18. 32. 39.03	- 0.80	
	36	γ Aquilæ.....	L	14.7	17.5	20.4	23.1	28.8	34.4	37.2	39.8	42.8	19. 39. 28.72		28.98	14.91	45.93	45.95†	....		
	37	α Aquilæ.....	L	36.6	39.5	42.4	45.1	50.6	56.4	59.1	1.7	4.7	19. 43. 50.65		50.91	36.88	45.97		....		
	38	β Aquilæ.....	L	6.1	9.1	11.5	14.5	20.2	25.6	28.5	31.2	33.9	19. 48. 20.05		20.31	6.20	45.89		....		
	39	λ Ursæ Min.(E&E)	II	..	..	..	..	..	..	28.5	59.0	19. 50. 5.55		4.64	50.37	45.73	46.15		....		
	40	Saturn 1 L.....	II	48.0	51.0	53.9	57.0	..	8.7	11.6	14.8	17.8	19. 52. 2.82		3.78				19. 52. 49.91		
	41	Saturn 2 L.....	II	49.2	52.3	55.4	58.4	4.2	10.0	13.0	16.0	19.1	19. 52. 4.16						20. 19. 32.24	- 0.65	
	42	Bradley 2636....	II	..	..	23.5	31.3	45.8	0.7	8.5	..	..	20. 18. 45.91			46.12					
Oct. 7	43	2 Ceti.....	C	16.1	19.1	21.9	24.8	30.6	36.5	39.6	42.4	45.4	23. 56. 30.70	(+2.69)	31.14	16.90	45.76	45.82†	....		
	44	α Andromedæ....	C	50.3	53.5	56.5	59.6	6.0	12.4	15.4	18.7	21.9	0. 1. 6.00	[+5.52]	6.37	52.25	45.88	[-0.03]	....		
	45	Polaris....(E&E)	E	..	..	..	..	52.0	..	39.5	34.0	31.5	1. 12. 19.31		16.58	2.73	46.15	46.23	....		
	46	ν Piscium.....	E	51.7	54.6	57.4	0.0	5.6	11.3	14.0	16.6	19.6	1. 34. 5.52		6.02	52.17	46.15	[-0.03]	....		

The observations of transits are usually made by the galvanic or chronographic method, the wires employed being generally P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P. Occasionally the observations are made by eye and ear (E & E); the wires then employed are N, O, P, T, X, Y, Z; in reversed order for stars S.P.

Reading of Transit-Micrometer, 32".400.

Corrections to the times by Hardy for reduction to Sidereal Standard, applied to form Concluded Transit, Nos. 4, 21, 32, 39, and 45, -27^s.20 : -29^s.40 : -30^s.00 : -30^s.00 : and -30^s.70.

Corrections for passage of Semidiameter, Nos. 9, 17, 18, 24, and 28, +71^s.00 : +69^s.30 : -69^s.30 : -0^s.47 : and +64^s.59.

† These clock-errors have been used in the reduction of the observations made with the Altazimuth.

October 3. The azimuthal error by tabular places of α Aquilae and λ Ursae Minoris.

October 5 to μ Piscium. The azimuthal error by tabular places of Polaris and θ Ceti.

October 5, Venus 2 L., to October 6. The azimuthal error used is the mean of two determinations (+3^s.13 and +3^s.57) by tabular places of δ Ursae Minoris and η Serpentis, and of α Lyrae and λ Ursae Minoris.

October 7. The azimuthal error by tabular places of Polaris and ν Piscium.

9, 17, 18. Correction to R.A. on true meridian, +0^s.01.

28, 34, 35, 40, 41. Cloudy.

18. Correction for defect of illumination, +0^s.04.

39. Very faint; cloudy.

24, 31, 32, 33. Very faint.

MOON
1750AM
D A Y.

No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of Collimation. (Level). [Azimuth].	Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at 0 ^h Sidereal and [Losing Rate].	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873, Jan. 1.		
			I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.										
			s	s	s	s	s	s	s	s	s										
											h	m	s		s	s		h	m	s	s
Oct. 7	1 ξ ¹ Ceti	E	..	..	..	..	38.0	40.8	43.6	46.3	2. 5. 32.37	+0.21	32.76	19.02	46.26	46.23	....				
	2 ξ Arietis	E	..	5.7	8.5	11.4	16.8	22.6	25.5	28.2	2. 17. 16.93	(+2.69)	17.33			[0.03]	2. 18. 3.56	- 2.79			
	3 γ ² L.	E	43.4	46.4	49.4	52.1	58.0	4.0	6.9	9.7	2. 31. 58.06	[+5.52]	58.45				2. 31. 34.33				
	4 ρ ³ Arietis	E	17.9	21.0	23.7	26.7	32.4	38.4	44.1	44.0	2. 48. 32.45		32.83				2. 49. 19.06	- 2.81			
	5 δ Arietis	E	23.8	26.8	29.4	32.3	38.4	44.0	47.2	50.0	3. 3. 38.30		38.68	24.97	46.29		....				
Oct. 8	6 α ² Capricorni ...	J	2.0	4.8	7.6	10.4	16.2	21.7	24.7	27.4	20. 10. 16.10	[+2.01]	16.31	2.48	46.17	46.14†	....				
	7 β Capricorni	J	54.0	57.0	59.6	2.5	8.0	14.0	16.9	19.7	22.6		8.44	54.57	46.13	[0.01]	....				
	8 ρ Capricorni	L	38.5	41.5	44.4	47.3	53.2	59.0	1.8	4.7	7.6	20. 20. 53.09		53.30	39.08	45.78	45.81	20. 21. 39.12	- 2.26		
	9 Bradley 2667	L	13.0	15.9	18.5	21.5	27.4	33.0	35.9	38.8	41.5	20. 32. 27.26		27.50			[0.01]	20. 33. 13.32	- 1.82		
	10 η Cephei	L	28.3	34.4	39.8	45.5	57.3	8.8	14.5	20.3	26.0	20. 41. 57.16		57.51				20. 42. 43.33	- 1.14		
	11 ι Ursæ Maj. S.P.	L	24.7	28.9	33.1	37.4	45.6	54.0	58.2	2.5	6.5	20. 49. 45.69		45.82				8. 50. 31.64	- 1.64		
	12 ζ Cygni	L	31.6	35.1	38.1	41.4	47.7	54.0	57.3	0.4	3.6	21. 6. 47.66		47.93	33.71	45.78		21. 7. 33.75	- 1.84		
	13 α Cephei	L	18.5	24.7	30.5	36.3	48.0	59.8	6.0	11.7	17.6	21. 14. 48.07		48.43				21. 15. 34.25	- 1.52		
	14 θ Ursæ Maj. S.P.	L	13.7	18.5	22.9	27.2	36.5	45.5	50.1	54.5	59.3	21. 23. 36.51		36.63				9. 24. 22.45	- 1.35		
	15 ι Ceti	L	0.0	3.0	5.8	8.5	14.2	19.8	22.7	25.5	28.3	0. 12. 14.18		14.40	0.22	45.82	45.82	0. 13. 0.22	- 2.88		
	16 12 Ceti	L	36.1	39.1	41.8	44.7	50.0	55.7	58.5	1.3	4.0	0. 22. 50.12		50.34	36.22	45.88		0. 23. 36.16	- 2.84		
	17 Polaris (E&E)	L	4.0	3.5	57.0	52.0	44.5	34.0	34.0	27.0	25.0	1. 12. 13.08		16.27	2.99	46.72		1. 13. 2.09	- 45.30		
	18 ν Piscium	L	52.3	54.9	57.6	0.5	6.0	11.6	14.5	17.3	19.9	1. 34. 6.05		6.28	52.18	45.90		1. 34. 52.10	- 2.82		
	19 τ Ceti	L	12.5	15.5	18.2	21.0	26.9	32.6	35.6	38.4	41.3	1. 37. 26.87		27.08				1. 38. 12.90	- 2.83		
	20 Neptune	L	36.4	39.3	42.1	44.9	50.5	56.0	59.0	1.8	4.6	1. 43. 50.50		50.73				1. 44. 36.55			
	21 σ Arietis	L	31.5	34.5	37.3	40.0	45.8	51.5	54.4	57.2	0.0	2. 43. 45.78		46.02	31.73	45.71		2. 44. 31.84	- 2.79		
	22 ρ ³ Arietis	L	18.5	21.4	24.4	27.0	32.8	39.0	41.6	44.5	47.4	2. 48. 32.94		33.19				2. 49. 19.01	- 2.83		
	23 δ Arietis	L	24.3	27.4	30.1	33.0	38.9	44.7	47.6	50.6	53.5	3. 3. 38.88		39.13	24.99	45.86		3. 4. 24.95	- 2.82		
	24 γ ² L.	L	51.8	54.9	57.7	0.8	7.0	12.9	16.1	19.1	22.0	3. 30. 6.90		7.15				3. 29. 41.50			
	25 η Tauri	L	57.7	0.8	4.0	6.9	12.9	19.1	22.0	25.0	28.2	3. 39. 12.94		13.21	59.06	45.85		3. 39. 59.03	- 2.80		
	26 α ¹ Tauri	L	13.1	16.3	19.4	22.3	28.0	33.9	37.0	39.8	42.8	3. 56. 28.04		28.30	14.07	45.77		3. 57. 14.12	- 2.73		
	27 Venus 2 L.	C	26.1	29.0	31.7	34.6	40.1	45.7	48.5	51.3	54.2	11. 0. 40.12	(+3.59)	40.40			46.07	11. 1. 25.98			
	28 δ Leonis	C	20.6	23.5	26.6	29.5	35.4	41.4	44.3	47.2	50.2	11. 6. 35.39		35.71	21.75	46.04	[+0.06]	....			
Oct. 9	29 ☉ 1 L.	C	48.3	51.2	53.9	..	2.3	..	10.6	13.5	16.3	12. 58. 2.27						12. 59. 53.34			
	30 ☉ 2 L.	C	58.0	0.7	3.4	6.2	11.8	17.4	20.3	23.0	25.8	13. 0. 11.83									
	31 Polaris S.P. (E&E)	C	13.0	8.0	59.0	57.0	50.5	..	..	..	..	13. 12. 21.08		16.40	3.11	46.71		1. 13. 2.44	- 45.42		
	32 Mercury (center)	C	..	..	..	..	..	..	25.4	28.0	30.9	13. 37. 16.78		17.03				13. 38. 3.07			
Oct. 13	33 ε Andromedæ	E	52.0	55.4	58.4	1.4	7.7	14.1	17.3	20.5	23.6	0. 31. 7.79	+0.26	7.99	53.68	45.69	45.69†	....			
	34 20 Ceti	C	..	..	..	..	48.4	53.8	56.6	59.5	2.2	0. 45. 48.33	(+1.61)	48.53	33.85	45.32	45.44	....			
	35 ε Piscium	C	..	..	..	..	38.4	43.9	46.7	49.5	52.2	0. 55. 38.31	[+2.00]	38.50	24.03	45.53	45.20	....			
	36 Polaris (E&E)	C	14.0	13.0	6.5	3.5	53.0	..	..	..	..	1. 12. 18.44		19.39	3.60	44.21		1. 13. 4.82	- 45.91		
	37 Neptune	C	6.1	8.8	11.4	14.3	19.9	25.4	28.1	31.0	33.7	1. 43. 19.83		20.02				1. 44. 5.45			
	38 67 Ceti	C	42.3	45.3	47.9	50.5	56.2	1.6	4.5	7.4	10.0	2. 9. 56.17		56.36	41.79	45.43		..			
	39 Castor	G	29.8	33.0	36.1	39.5	46.0	52.4	55.7	59.4	2.4	7. 25. 46.00		46.29	31.79	45.50	45.54	7. 26. 31.77	- 2.15		
	40 σ Geminorum	G	52.0	55.5	58.7	2.2	8.8	15.6	19.0	22.3	25.6	7. 30. 8.82	(+2.91)	9.12			[+0.21]	7. 30. 54.59	- 2.19		
	41 Pollux	G	32.9	36.2	39.2	42.4	48.8	55.2	58.2	1.3	4.5	7. 36. 48.71		49.00	34.49	45.49		7. 37. 34.47	- 1.99		
	42 λ Ursæ Min. S.P. (E&E)	G	..	..	..	..	31.5	..	54.5	17.5	..	7. 49. 54.25		49.88	40.17	50.29		19. 50. 35.35	+ 37.23		
	43 6 Cancri	G	43.4	46.8	49.6	52.8	59.0	5.3	8.5	11.7	15.0	7. 54. 59.09		59.38	44.82	45.44		7. 55. 44.85			
	44 γ ² L.	G	..	..	24.4	27.5	33.8	40.0	43.1	46.2	49.4	8. 24. 33.75		34.03				8. 24. 11.18			
	45 Polaris S.P. (E&E)	G	15.0	12.5	..	3.0	57.0	..	..	..	..	13. 12. 21.23		17.84	3.59	45.75		1. 13. 3.26	- 45.90		

Polaris and other stars very near the pole are observed by eye and ear over the wires P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P.; using the Clock Hardy. The Intervals of the Wires of both systems are given in the Introduction.

Reading of Transit-Micrometer, 32".400.

Corrections to the times by Hardy for reduction to Sidereal Standard, applied to form Concluded Transit, Nos. 17, 31, 36, 42, and 45, -30".50: -30".50: -36".00: -36".20: and -36".30.

Corrections for passage of Semidiameter, Nos. 3, 24, 27, and 44, -70".36: -71".48: -0".46: and -68".33.

† These clock-errors have been used in the reduction of the observations made with the Altazimuth.

October 8 and 9. The azimuthal error from Polaris and Polaris S.P., allowing -0".12 for change of R.A.

October 13 to October 15, Rigel. The azimuthal error from four consecutive transits of Polaris and Polaris S.P.

3, 24, 44. Correction to R.A. or true meridian, + 0".01.

11. Faint; foggy.

17, 39. Very diffused.

32. Very cloudy.

TRANSITS OBSERVED WITH THE TRANSIT-CIRCLE, AND COMPUTATIONS OF APPARENT RIGHT ASCENSION,

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of		Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at 0 ^h Sidereal and [Lossing Rate].	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873, Jan. 1.	
														Collimation.	(Level).							
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.			[Azimuth].							"
				s	s	s	s	s	s	s	s	h	m	s		s	s	s	h	m	s	s
Oct. 14	1	☉ 2 L.....	G	..	..	32.8	35.9	41.4	46.7	50.0	52.6	55.4	13. 18. 41.36	+ 0.26		41.60			45.54	13. 18. 21.88		
	2	Arcturus	G	52.0	55.2	58.0	0.8	6.9	12.7	15.6	18.5	21.4	14. 9. 6.77	(+ 2.91)		7.04	52.37	45.33	[- 0.21]	14. 9. 52.46	- 0.24	
	3	α Coronæ	G	17.8	20.9	24.0	27.1	33.4	39.4	42.6	45.6	48.8	15. 28. 33.26	[+ 2.00]		33.54	18.90	45.36		15. 29. 18.95	- 0.25	
	4	Ceph. 51 S.P. (E&E)	G	41.0	40.3	37.0	34.0	30.0	..	..	..	..	18. 39. 52.88			51.31	38.25	46.94		6. 40. 36.69	- 23.65	
	5	λ Ursæ Min. (E&E)	G	..	38.0	3.5	33.0	..	..	..	18.0	51.0	19. 49. 50.51			55.34	39.45	44.11		19. 50. 40.71	+ 37.95	
	6	Saturn 1 L.....	G	24.0	27.2	29.9	32.8	38.8	44.9	47.8	50.5	53.7	19. 52. 38.82			} 39.68				19. 53. 25.05		
	7	Saturn 2 L.....	G	25.4	28.4	31.0	34.0	40.1	46.2	49.2	51.9	55.0	19. 52. 40.12									
	8	Bradley 1160 S.P.	G	..	18.6	28.1	37.4	55.6	15.1	24.1	33.2	..	20. 5. 56.10			56.04				8. 6. 41.40	- 3.74	
	9	β Capricorni	G	54.6	57.4	0.3	3.0	8.9	14.4	17.4	20.1	23.2	20. 13. 8.79			9.02	54.47	45.45		20. 13. 54.38	- 2.07	
	10	W.B. XX. 465 ..	G	39.5	42.5	45.3	48.0	53.6	59.3	2.0	5.0	7.5	20. 18. 53.62			53.88				20. 19. 39.24	- 1.73	
	11	π Ursæ Maj. S.P..	G	..	..	3.0	9.5	22.5	35.6	42.0	..	..	20. 28. 22.56			22.60				8. 29. 7.96	- 2.70	
	12	Groombridge 3756	G	7.4	18.7	30.2	41.5	3.9	26.8	38.4	49.4	0.3	22. 16. 3.98			4.55				22. 16. 49.90	- 2.16	
	13	α Andromedæ ...	L	51.4	54.5	57.5	0.5	7.0	13.3	16.5	19.5	22.6	0. 1. 6.95			7.24	52.24	45.00	45.02†	....		
	14	γ Pegasi	L	45.0	47.9	50.6	53.6	59.5	4.8	7.9	10.6	13.5	0. 5. 59.24			59.50	44.54	45.04		....		
	15	β Ceti	G	15.6	18.4	21.4	24.4	30.4	36.0	39.3	41.8	44.8	0. 36. 30.22			30.44	15.83	45.39	45.33	0. 37. 15.76	- 3.04	
	16	Bradley 74.....	G	38.4	1.8	23.8	46.7	32.9	..	..	..	..	0. 42. 32.08			33.03				0. 43. 18.35	- 9.17	
	17	γ Draconis S.P...	G	..	52.3	59.2	6.3	20.8	35.1	42.0	49.0	..	0. 54. 20.74			20.75				12. 55. 6.07	+ 0.98	
	18	Polaris (E&E)	G	9.0	10.5	3.0	58.0	50.0	..	..	..	..	1. 12. 13.97			17.80	3.56	45.76		1. 13. 3.12	- 45.87	
	19	Neptune	G	59.6	2.5	5.0	7.8	13.6	19.1	21.7	24.6	27.5	1. 43. 13.47			13.73				1. 43. 59.04		
	20	☽ 2 L.....	E	21.8	25.0	28.0	31.2	37.4	43.1	46.3	49.4	52.5	9. 16. 37.17			37.44			45.44	9. 16. 16.80		
	21	α Leonis	E	23.6	26.5	29.3	32.0	37.5	43.3	46.1	48.8	51.7	9. 33. 37.62			37.88	23.34	45.46	[- 0.15]	9. 34. 23.26	- 1.11	
	22	ε Leonis	E	38.7	41.7	44.8	..	53.9	..	3.1	6.0	9.0	9. 37. 54.00			54.28	39.61	45.33		9. 38. 39.66	- 1.27	
	23	Venus 2 L.....	E	49.0	51.8	54.6	57.3	3.0	8.6	11.4	14.2	17.1	11. 28. 2.98			3.24				11. 28. 48.16		
	24	β Leonis	E	35.4	38.4	41.2	44.1	49.8	55.6	58.4	1.1	4.2	11. 41. 49.78			50.05	35.39	45.34		11. 42. 35.42	- 0.58	
	25	κ Draconis	E	..	..	..	..	16.1	32.6	41.1	49.0	57.8	12. 27. 16.06			16.54				12. 28. 1.90	+ 1.00	
	26	Polaris S.P. (E&E)	E	17.5	13.0	9.5	8.0	..	..	48.0	..	..	13. 12. 22.66			19.27	3.52	44.25		1. 13. 4.63	- 45.83	
Oct. 15	27	☉ 1 L.....	E	0.5	3.2	6.0	8.7	14.5	20.1	22.9	25.6	28.5	13. 20. 14.42			} 19.84				13. 22. 5.20		
	28	☉ 2 L.....	E	10.6	13.6	16.4	19.2	24.7	30.5	33.2	36.2	38.8	13. 22. 24.78									
	29	ι Piscium	E	28.1	31.2	33.9	36.8	42.2	47.7	50.7	53.4	56.3	23. 32. 42.24			42.50	27.77	45.27		23. 33. 27.79	- 2.69	
	30	ω Piscium	E	50.7	53.6	56.2	59.0	4.6	10.0	13.0	15.7	18.5	23. 52. 4.57			4.83	50.12	45.29		23. 52. 50.12	- 2.72	
	31	Rigel	C	29.1	31.9	34.6	37.5	43.0	48.6	51.4	54.2	57.0	5. 7. 43.02			43.26	28.39	45.13	45.16†	....		
	32	Venus 2 L.....	L	22.6	25.3	28.0	30.8	36.3	41.9	44.7	47.5	50.4	11. 32. 36.37	[+ 2.62]		36.65			44.78	11. 33. 20.94		
	33	Polaris S.P. (E&E)	L	16.5	14.0	6.0	4.0	57.0	48.0	..	..	..	13. 12. 19.29			17.02	3.44	46.42	[- 0.08]	1. 13. 1.76	- 45.75	
Oct. 16	34	☉ 1 L.....	L	44.6	47.5	50.3	53.1	58.6	4.2	7.2	9.9	12.6	13. 23. 58.64			} 4.25				13. 25. 48.99		
	35	☉ 2 L.....	L	53.3	58.2	0.8	3.6	9.4	15.1	17.6	20.6	23.4	13. 26. 9.31									
	36	Arcturus	L	52.6	55.6	58.5	1.4	7.4	13.3	16.2	19.2	21.9	14. 9. 7.32			7.62	52.37	44.75		14. 9. 52.35	- 0.24	
	37	β Ophiuchi	L	14.0	16.8	19.5	22.2	27.7	33.4	36.1	38.9	41.6	17. 36. 27.78			28.06	12.82	44.76		17. 37. 12.78	- 0.92	
	38	λ Ursæ Min. (E&E)	L	..	..	..	30.5	..	24.0	54.5	17.5	49.0	19. 49. 47.67			51.15	36.63	45.48		19. 50. 35.86	+ 40.77	
	39	Saturn 1 L.....	L	37.5	40.6	43.4	46.5	52.4	58.3	1.2	4.0	7.2	19. 52. 52.33			} 53.24				19. 53. 37.95		
	40	Saturn 2 L.....	L	38.8	41.9	44.9	47.6	53.5	59.6	2.5	5.4	8.5	19. 52. 53.62									
	41	θ Aquilæ	L	48.4	50.8	53.6	56.3	1.8	7.5	10.2	12.9	15.6	20. 4. 1.88			2.16	46.82	44.66		20. 4. 46.87	- 1.78	
	42	W.B. XX. 465 ..	L	40.2	43.2	45.8	48.6	54.3	59.7	2.7	5.4	8.3	20. 18. 54.23			54.52				20. 19. 39.23	- 1.70	
	43	α Aquarii	L	19.1	22.0	24.6	27.4	32.9	38.5	41.3	44.0	46.7	21. 58. 32.93			33.21	17.90	44.69		21. 59. 17.92	- 2.35	
	44	Bradley 2904 ...	L	51.3	54.0	56.8	59.5	5.0	10.6	13.5	16.3	19.1	22. 2. 5.10			5.37				22. 2. 50.08	- 2.49	
	45	κ Piscium	L	11.4	14.4	17.5	20.6	26.8	33.1	36.0	39.2	42.3	0. 48. 26.78			27.08			44.70	0. 49. 11.78	- 2.88	
	46	ε Piscium	L	25.4	28.0	30.6	33.4	39.2	44.6	47.3	50.4	53.0	0. 55. 39.08			39.36	24.04	44.68		0. 56. 24.06	- 2.85	
	47	Polaris (E&E)	L	12.5	13.5	7.5	3.0	54.0	..	44.0	..	..	1. 12. 16.09			18.88	3.39	44.51		1. 13. 3.58	- 45.70	

The observations of transits are usually made by the galvanic or chronographic method, the wires employed being generally P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P. Occasionally the observations are made by eye and ear (E & E); the wires then employed are N, O, P, T, X, Y, Z; in reversed order for stars S.P.

Reading of Transit-Micrometer, 32".400.

Corrections to the times by Hardy for reduction to Sidereal Standard, applied to form Concluded Transit, Nos. 4, 5, 18, 26, 33, 38, and 47, -36".40: -36".50:

-36".60: -37".20: -38".20: -38".40: and -38".40.

Corrections for passage of Semidiameter, Nos. 1, 20, 23, and 32, -65".14: -66".03: -0".45: and -0".45.

† These clock-errors have been used in the reduction of the observations made with the Altazimuth.

October 15, Venus 2 L., to October 17. The azimuthal error from four consecutive transits of Polaris S.P. and Polaris.

6, 7. Very tremulous.

31. Faint; cloudy.

10. Mag. = 5-6.

32. Foggy; ill-defined.

20. Correction to R.A. on true meridian, +0".01.

42. Mag. = 5.

13759 DAWN...35A...1A

AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1873.

[75]

1873 OCT 16

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of Collimation. (Level).		Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at 0 ^h Sidereal and [Loss Rate].	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873, Jan. 1.
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.		"							
				s	s	s	s	s	s	s	s	s		s	h	m	s	s	s		
Oct. 16	1	Piazzi XIII. 109 S.P.	L	19.2	29.0	38.1	47.7	7.5	25.9	35.2	44.5	54.2	1. 22. 6.89	+0.26		6.94			44.70	13. 22. 51.64	+ 2.15
	2	44 Cassiopeiae ...	L	36.5	42.2	47.3	52.6	3.7	14.8	20.4	25.7	31.4	1. 34. 3.81	(+2.91)		4.18			[-0.08]	1. 34. 48.87	- 3.97
	3	Neptune.....	L	47.7	50.5	53.3	56.0	1.6	7.2	10.0	12.6	15.5	1. 43. 1.58	[+2.62]		1.87				1. 43. 46.56	
	4	♂ Eridani.....	J	..	46.3	49.1	51.8	57.4	2.9	5.6	8.5	..	4. 4. 57.35			57.62	42.60	44.98	45.04†	....	
	5	γ Tauri.....	J	37.0	40.2	42.8	45.7	51.6	57.3	0.0	3.0	5.8	4. 11. 51.47			51.77	36.85	45.08	[-0.08 ]	....	
	6	Venus 2 L.	C	55.1	57.8	0.6	3.4	9.0	14.6	17.4	20.1	22.9	11. 37. 8.96	(+2.11)		9.21			45.04	11. 37. 53.73	
	7	Polaris S.P. (E&E)	C	..	16.0	10.0	5.0	58.5	49.0	..	..	..	13. 12. 20.42			19.87	3.35	43.48	[-0.15]	1. 13. 4.83	-45.66
Oct. 17	8	⊙ 1 L.....	C	29.0	31.9	34.6	37.4	43.0	48.7	51.5	54.2	57.0	13. 27. 43.02			48.66				13. 29. 33.62	
	9	⊙ 2 L.....	C	39.7	42.6	45.4	48.3	53.8	59.5	2.3	5.2	7.7	13. 29. 53.82								
	10	δ Ursæ Min. (E&E)	C	58.5	46.0	32.0	18.5	52.0	..	..	..	..	18. 12. 13.19			13.73	59.05	45.32		18. 12. 58.66	+19.24
	11	Ceph. 51 S.P. (E&E)	C	..	..	..	39.5	34.0	28.0	25.0	21.0	..	18. 39. 55.08			54.92	39.85	44.93		6. 40. 39.84	-25.25
	12	α Aquilæ.....	C	53.4	..	59.0	1.8	7.4	13.2	16.0	..	21.5	19. 11. 7.44			7.68	52.55	44.87		19. 11. 52.60	- 1.28
	13	Piazzi VII. 67 S.P.	C	..	27.3	34.7	42.4	57.8	13.0	20.6	28.0	..	19. 16. 57.76			57.93				7. 17. 42.85	- 4.21
	14	μ Aquilæ.....	C	55.5	58.4	1.0	3.7	9.4	14.9	17.6	20.5	23.4	19. 27. 9.35			9.39	54.52	44.93		19. 27. 54.51	- 1.45
	15	Groomb. 2900 ...	C	..	..	..	..	..	1.4	16.6	31.2	46.4	19. 28. 31.38			31.72				19. 29. 16.64	+ 3.30
	16	Groomb. 1374 S.P.	C	25.5	35.9	45.8	56.1	16.4	..	..	..	..	19. 44. 16.57			16.72				7. 45. 1.64	-4.68
	17	β Aquilæ.....	C	7.0	9.8	12.6	..	..	..	..	..	..	19. 48. 20.89			21.13	6.02	44.89		19. 49. 6.05	- 1.57
	18	Bradley 1458 S.P.	C	36.0	54.2	11.7	29.5	..	..	..	..	..	22. 30. 5.58			5.67				10. 30. 50.57	- 0.73
	19	Groomb. 3887 ...	C	57.5	15.5	32.0	49.2	..	..	..	..	..	22. 38. 23.49			23.84				22. 39. 8.74	- 2.92
	20	λ Aquarii.....	C	2.8	5.6	..	11.2	16.7	22.2	..	27.9	30.8	22. 45. 16.72			16.96	1.83	44.87		22. 46. 1.86	- 2.64
	21	Bradley 1508 S.P.	C	49.4	3.2	17.2	31.0	58.3	..	..	..	..	22. 48. 58.65			58.77				10. 49. 43.67	- 0.24
	22	Groomb. 3946 ...	C	..	..	..	..	7.7	25.8	35.0	44.2	53.5	22. 53. 7.49			7.78				22. 53. 52.68	- 2.71
	23	Polaris (E&E)	C	16.0	17.5	10.0	5.0	58.5	..	..	..	..	1. 12. 18.95			19.96	3.31	43.35	44.89	1. 13. 4.84	-45.62
	24	θ Ceti.....	C	44.4	47.3	49.8	52.6	58.2	3.7	6.7	9.4	12.2	1. 16. 58.23			58.47	43.43	44.96		1. 17. 43.35	- 2.94
	25	ν Piscium.....	C	53.3	56.0	58.8	1.5	7.3	12.6	15.4	18.3	21.0	1. 34. 7.11			7.36	52.26	44.90		1. 34. 52.24	- 2.90
	26	Neptune.....	C	41.2	44.0	46.7	49.5	55.2	0.5	3.5	6.3	9.2	1. 42. 55.10			55.35				1. 43. 40.23	
Oct. 18	27	α Lyrae.....	H	36.0	39.7	43.2	46.6	53.7	0.8	4.3	7.8	11.4	18. 31. 53.69	(+2.55)		53.98	38.80	44.82	44.89	....	
	28	Ceph. 51 S.P. (E&E)	H	..	..	42.5	39.8	34.8	29.0	..	..	..	18. 39. 55.46	[+3.42]		55.57	40.34	44.77	[-0.12 ]	....	
	29	β Lyrae.....	H	22.6	26.0	29.2	32.5	39.1	45.7	49.0	52.3	55.6	18. 44. 39.08			39.39	24.16	44.77		....	
	30	γ Lyrae.....	H	10.9	14.2	17.3	20.7	27.2	33.8	37.2	40.3	43.3	18. 53. 27.23			27.53				18. 54. 12.33	- 0.77
Oct. 20	31	ι Capricorni	E	13.2	16.1	18.9	21.6	27.5	33.3	36.2	39.2	42.0	21. 14. 27.53	+0.38		27.78	12.70	44.92	44.93	21. 15. 12.71	- 2.36
	32	α Aquarii.....	E	18.7	21.5	24.4	27.2	32.7	38.3	41.0	43.9	46.7	21. 58. 32.69	(+2.62)		32.95	17.86	44.91	[0.00]	21. 59. 17.88	- 2.31
	33	23 Pegasi.....	E	..	..	..	..	6.6	12.5	15.6	18.8	22.0	21. 59. 6.28	[+2.26]		6.57				21. 59. 51.50	- 1.99
	34	Piazzi XXII. 42.	E	..	..	23.6	29.6	41.6	53.7	59.7	..	..	22. 7. 41.60			41.97				22. 8. 26.90	- 1.72
	35	31 Pegasi.....	E	..	..	..	..	33.1	38.6	41.7	44.4	47.3	22. 14. 33.09			33.36				22. 15. 18.29	- 2.24
	36	33 Pegasi.....	E	..	..	41.1	44.1	50.0	55.8	58.8	..	..	22. 16. 49.94			50.21				22. 17. 35.14	- 2.19
	37	56 Aquarii.....	E	32.0	35.0	37.8	40.7	46.3	52.1	55.0	57.7	0.6	22. 22. 46.33			46.57				22. 23. 31.50	- 2.64
	38	Lalande 44356..	E	..	41.0	43.7	46.7	52.3	58.0	0.7	3.4	..	22. 33. 52.24			52.50				22. 34. 37.43	- 2.32
	39	Piazzi XXII. 195	E	44.1	47.1	50.0	52.9	58.5	4.2	6.9	9.7	12.7	22. 34. 58.43			58.69				22. 35. 43.62	- 2.32
	40	Piazzi XXII. 241	E	50.0	53.0	56.0	58.8	4.4	10.3	13.1	16.0	18.8	22. 46. 4.47			4.74				22. 46. 49.67	- 2.36
	41	Bradley 3041....	E	19.0	22.0	24.6	27.4	33.0	38.5	41.3	44.0	46.8	22. 54. 32.94			33.20				22. 55. 18.13	- 2.52
	42	Bradley 3077....	E	..	..	13.0	18.0	27.8	38.0	43.1	..	..	23. 6. 27.95			28.30				23. 7. 13.23	- 2.61
	43	66 Pegasi.....	E	43.7	46.6	49.4	52.0	57.7	3.5	6.3	8.9	11.9	23. 15. 57.76			58.03				23. 16. 42.96	- 2.54
	44	κ Piscium.....	E	..	31.8	34.4	37.4	42.7	48.4	51.0	53.9	..	23. 19. 42.78			43.04	27.91	44.87		23. 20. 27.97	- 2.64
	45	14 Andromedæ ..	E	2.5	6.0	9.6	13.0	20.2	27.3	31.0	34.4	37.8	23. 24. 20.17			20.46				23. 25. 5.39	- 2.52
	46	δ Sculptoris	E	..	..	26.8	30.1	36.2	42.9	45.9	49.0	52.3	23. 41. 36.38			36.61	21.56	44.95		23. 42. 21.54	- 3.15

Polaris and other stars very near the pole are observed by eye and ear over the wires P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P.; using the Clock Hardy. The Intervals of the Wires of both systems are given in the Introduction.

Reading of Transit-Micrometer, 32".400.

Corrections to the times by Hardy for reduction to Sidereal Standard, applied to form Concluded Transit, Nos. 7, 10, 11, 23, and 28, -38".60: -38".80: -38".80: -39".00: and -39".40.

Correction for passage of Semidiameter, No. 6, -0".45.

† This clock-error has been used in the reduction of the observations made with the Altazimuth.

October 18. The azimuthal error by tabular places of Cephei 51 S.P. and β Lyrae.

October 20 to 23. The azimuthal error used is the mean of two determinations (+2".13 and +2".39) by tabular places of Polaris and η Piscium on October 20, and of δ Piscium and Polaris on October 22.

6. Very faint; foggy.

16. Cloudy.

17. Very cloudy.

28. Very faint; invisible at times.

TRANSITS OBSERVED WITH THE TRANSIT-CIRCLE, AND COMPUTATIONS OF APPARENT RIGHT ASCENSION,

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire. h m s	Error of Collimation. (Level). [Azimuth]. "	Seconds of Transit Cor- rected.	Tabular R. A. of Known Stars. s	Clock appa- rently Slow. s	Adopted Clock Slow at 0 ^h Sidereal and [Losing Rate]. s	Apparent R. A. of Center from the Observation. h m s	Correction for Reduction to Mean R. A. 1873, Jan. 1. s
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.								
				s	s	s	s	s	s	s	s	s								
Oct. 20	1	Piazzi XXIII. 229	E	57.7	0.6	3.6	6.7	12.9	19.2	22.3	25.1	28.2	23. 48. 12.89	+0.38	13.17			44.93	23. 48. 58.10	- 2.63
	2	85 Pegasi.....	E	34.5	37.6	40.6	43.7	49.9	56.0	59.3	2.2	5.4	23. 54. 49.88	(+2.62)	50.16			[0.00]	23. 55. 35.09	- 2.71
	3	ε Piscium.....	E	25.0	27.8	30.6	33.4	39.0	44.5	47.0	49.8	53.0	0. 55. 38.88	[+2.26]	39.14	24.05	44.91	0. 56. 24.07	- 2.86	
	4	ψ ³ Piscium.....	E	5.1	8.1	11.0	13.7	19.7	25.7	28.5	31.5	34.3	1. 2. 19.71		19.98			1. 3. 4.91	- 2.90	
	5	Polaris ....(E&E)	E	..	..	..	5.0	59.5	50.0	46.0	39.5	39.0	1. 12. 14.94		18.02	3.19	45.17	....		
	6	η Piscium.....	E	..	..	..	..	..	4.8	7.7	10.5	13.4	1. 23. 59.07		59.34	44.29	44.95	1. 24. 44.27	- 2.93	
	7	ν Piscium.....	E	53.2	55.9	58.6	1.4	7.1	12.8	15.4	18.0	20.9	1. 34. 7.01		7.27	52.28	45.01	1. 34. 52.20	- 2.92	
	8	Neptune.....	E	22.2	24.9	27.7	30.4	35.9	41.7	44.4	47.2	50.0	1. 42. 36.02		36.28			1. 43. 21.21		
Oct. 22	9	Bradley 2667....	L	14.6	17.5	20.4	23.3	28.8	34.7	37.6	40.4	43.4	20. 32. 28.94	(+1.88)	29.17			44.26	20. 33. 13.15	- 1.59
	10	ε Aquarii.....	L	51.7	54.8	57.4	0.2	5.8	11.4	14.1	17.2	19.8	20. 40. 5.80		6.02	49.94	43.92	[-0.33]	....	
	11	32 Vulpeculæ ...	L	10.6	13.7	16.9	19.8	26.3	32.5	35.6	38.8	41.7	20. 48. 26.18		26.41	10.34	43.93	....		
	12	Bradley 3212....	L	4.4	7.5	10.5	13.7	20.1	26.4	29.5	32.5	35.7	23. 59. 20.01		20.24			0. 0. 4.17	- 2.70	
	13	α Andromedæ ...	L	52.4	55.6	58.6	1.7	7.9	14.4	17.5	20.5	23.7	0. 1. 8.00		8.23	52.22	43.99	43.93	....	
	14	δ Piscium.....	L	10.4	13.4	15.8	18.7	24.3	29.7	32.6	35.5	38.1	0. 41. 24.26		24.49	8.45	43.96	....		
	15	Asia.....	L	57.3	0.0	2.6	5.5	10.8	17.6	20.0	22.4	..	0. 55. 11.25		11.48			0. 55. 55.40		
	16	Polaris ....(E&E)	L	20.5	19.5	12.5	9.5	3.0	55.0	52.0	..	..	1. 12. 18.04		19.48	3.21	43.73	....		
Oct. 23	17	μ Aquarii.....	C	52.0	55.0	57.5	0.4	6.0	11.5	14.5	17.2	20.0	20. 45. 5.99	(+2.72)	6.24	50.12	43.88	44.17	....	
	18	16 Delphini....	C	38.5	41.5	44.2	47.0	52.7	58.3	1.0	3.8	6.8	20. 48. 52.63		52.91			[-0.39]	20. 49. 36.74	- 1.73
	19	Piazzi XX. 465..	C	5.7	9.5	13.2	16.8	24.3	31.4	35.2	38.8	42.5	20. 58. 24.13		24.44			20. 59. 8.27	- 1.32	
	20	ξ Cygni.....	C	33.5	36.7	39.8	43.0	49.5	55.8	59.0	2.1	5.3	21. 6. 49.38		49.67	33.44	43.77	....		
	21	Lalande 41419..	C	36.0	39.5	43.0	46.4	53.5	0.5	4.2	7.6	11.4	21. 11. 53.54		53.84			21. 12. 37.67	- 1.46	
	22	35 Capricorni ...	C	6.1	9.0	12.0	15.0	21.0	26.9	29.9	32.8	35.9	21. 19. 20.94		21.18			21. 20. 5.00	- 2.42	
	23	Bradley 2827....	C	24.6	27.4	30.3	33.0	38.8	44.4	47.2	49.8	52.6	21. 35. 38.65		38.92			21. 36. 22.74	- 2.02	
	24	Groombridge 3598	C	..	..	..	..	0.0	9.7	14.6	19.4	24.2	21. 46. 59.98		0.32			21. 47. 44.14	- 1.49	
	25	Bradley 2866....	C	..	..	..	..	0.6	10.3	15.2	19.9	24.8	21. 47. 0.56		0.90			21. 47. 44.72	- 1.49	
	26	γ Aquarii.....	C	10.2	13.2	15.7	18.4	24.2	29.6	32.3	35.2	37.9	22. 14. 24.06		24.32	8.10	43.78	....		
	27	Groombridge 3804	C	50.0	53.5	57.0	0.4	7.6	14.9	18.4	21.9	25.5	22. 26. 7.67		7.97			22. 26. 51.78	- 2.03	
	28	14 Andromedæ ...	C	3.7	7.4	10.8	14.3	21.4	28.5	32.0	35.4	39.2	23. 24. 21.38		21.68			23. 25. 5.47	- 2.49	
	29	15 Andromedæ ...	C	25.5	29.3	32.7	36.4	43.4	50.7	54.3	57.8	1.4	23. 27. 43.47		43.77			23. 28. 27.56	- 2.50	
	30	ι Piscium.....	C	29.8	32.6	35.4	38.1	43.7	49.3	52.0	54.8	57.5	23. 32. 43.67		43.94	27.73	43.79	....		
	31	Sophrosyne.....	C	..	..	..	..	27.5	..	55.3	..	..	23. 44. 13.51		13.77			23. 44. 57.55		
Oct. 24	32	ω Piscium.....	E	47.4	50.3	53.0	55.8	1.4	6.9	9.7	12.5	15.3	23. 52. 1.35	(+3.44)	1.68	50.10	48.42	48.16	....	
	33	γ Pegasi.....	E	..	44.5	47.4	49.8	..	1.4	4.3	7.0	9.9	0. 5. 55.69	[+2.94]	56.03	44.52	48.49	48.46	....	
	34	σ ² Piscium.....	E	10.2	13.5	16.8	19.9	26.5	32.9	36.2	39.4	42.6	0. 58. 26.41		26.78			[0.30]	0. 59. 15.25	- 2.97
	35	Calypso.....	E	48.6	51.6	54.5	57.1	2.6	8.0	11.1	13.8	16.6	1. 5. 2.64		2.97			1. 5. 51.44		
	36	Polaris ....(E&E)	E	..	..	..	..	2.0	56.0	52.0	44.5	45.5	1. 12. 10.93		14.69	3.20	48.51	....		
	37	Neptune.....	E	53.1	56.0	58.6	1.5	6.9	12.6	15.4	18.2	21.0	1. 42. 7.01		7.34			1. 42. 55.82		
	38	27 Arietis.....	E	51.5	54.5	57.5	0.0	6.0	11.9	14.7	17.6	20.5	2. 23. 6.03		6.38			2. 23. 54.87	- 3.06	
	39	Arg. Zone + 2°. No. 407	E	20.3	23.1	25.9	28.5	34.3	39.5	42.6	45.1	48.0	2. 31. 34.13		34.46			2. 32. 22.95	- 2.98	
Oct. 26	40	ρ Capricorni....	E	35.0	38.0	40.8	43.7	49.6	55.4	58.2	1.1	4.2	20. 20. 49.53		49.83	38.80	48.97	48.61†	....	
	41	ε Delphini.....	E	6.7	9.6	12.4	15.4	21.0	26.5	29.3	32.1	34.9	20. 26. 20.86		21.20	10.25	49.05	[0.47]	....	
	42	Venus 2 L.....	C	16.2	19.0	21.7	24.4	30.0	35.5	38.4	41.1	43.9	12. 22. 30.01	+0.31	30.19			49.00	12. 23. 19.01	
	43	Polaris S.P. (E&E)	C	33.5	30.0	25.0	23.0	16.0	7.5	..	..	..	13. 12. 20.11	(+2.93)	14.25	2.99	48.74	[0.51]	1. 13. 3.53	-45.30

The observations of transits are usually made by the galvanic or chronographic method, the wires employed being generally P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P. Occasionally the observations are made by eye and ear (E & E); the wires then employed are N, O, P, T, X, Y, Z; in reversed order for stars S.P.

Reading of Transit-Micrometer, 32nd 400.

Corrections to the times by Hardy for reduction to Sidereal Standard or Arnold 1, applied to form Concluded Transit, Nos. 5, 16, 36 and 43, -41st 60: -43rd 60: -50th 60: and -55th 80.

Correction for passage of Semidiameter, No. 42, -0th 44.

† This clock-error has been used in the reduction of the observations made with the Altazimuth.

October 24th. 0^h. The clock Arnold 1 was brought into use, being connected with the Chronograph as Transit-clock.

October 24 to October 26, ε Delphini. The azimuthal error by tabular places of γ Pegasi and Polaris, allowing 0th 02 for clock-rate.

October 26, Venus 2 L, to October 28. The azimuthal error from Polaris S.P. and Polaris on October 26 and 27, allowing +0th 32 for clock-rate and change of R.A.

15. Very faint.

31. Exceedingly faint; wires X and Z.

39. Faint.

AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1873.

[77]

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of Collimation. (Level). [Azimuth].	Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at ob- sideral and (losing Rate).	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873, Jan. 1.
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.								
				s	s	s	s	s	s	s	s	s								
Oct. 27	1	⊙ 1 L.	C	..	27.4	30.2	32.9	38.8	44.3	47.1	50.1	..	14. 5. 38.66	+0.31	45.22	26.18	49.11	49.00	14. 7. 34.52	
	2	⊙ 2 L.	C	37.4	40.3	43.0	45.7	51.4	57.2	0.0	2.8	5.7	14. 7. 51.48	(+2.93)						
	3	⊙ 1 L.	C	..	..	..	..	..	..	9.7	12.8	16.2	19. 17. 59.96	+0.72						
	4	α Vulpeculæ.	L	..	..	..	..	36.8	43.0	46.0	49.0	52.0	19. 22. 36.83	..	37.07	26.18	49.11	48.71†	....	
	5	h ² Sagittarii.	C	55.6	58.7	1.7	4.7	10.8	17.0	20.0	23.0	26.1	19. 28. 10.82	..	10.94	0.38	49.44	49.00	19. 29. 0.35	— 1.77
	6	ε ¹ Sagittarii.	L	24.7	27.6	30.6	33.4	39.2	45.0	47.8	50.7	53.5	19. 32. 39.14	..	39.29	28.41	49.12	48.71†	....	
	7	γ Aquilæ.	C	10.8	13.8	16.5	19.4	24.9	30.6	33.5	36.3	39.1	19. 39. 24.97	..	25.17	14.57	49.40	49.00	19. 40. 14.59	— 1.30
	8	Δ Sagittarii.	C	9.6	..	..	19.0	..	31.4	34.4	37.4	40.6	19. 50. 25.10	..	25.22	..	..	..	19. 51. 14.64	— 1.92
	9	Saturn 1 L.	C	13.4	16.4	19.4	22.1	28.0	34.1	37.0	39.8	42.8	19. 54. 28.09	..	28.88	46.65	49.38	..	19. 55. 18.30	
	10	Saturn 2 L.	C	14.6	17.6	20.5	23.5	29.3	35.4	38.3	41.2	44.2	19. 54. 29.40	..						
	11	θ Aquilæ.	C	43.3	46.2	48.8	51.5	57.0	2.6	5.4	8.3	10.9	20. 3. 57.09	..	57.27	46.65	49.38	..	20. 4. 46.70	— 1.61
	12	W. B. XX. 465. .	C	35.5	38.4	41.2	43.8	49.5	55.0	57.8	0.5	3.5	20. 18. 49.44	..	49.64	..	..	..	20. 19. 39.07	— 1.53
	13	19 Cephei.	C	56.6	2.5	8.3	14.0	25.7	37.4	43.1	49.0	54.9	22. 0. 25.67	..	26.11	..	..	..	22. 1. 15.58	— 1.41
	14	32 Ursæ Maj. S.P.	C	..	..	39.6	46.4	59.7	13.4	20.0	..	..	22. 7. 59.86	..	59.69	..	..	..	10. 8. 49.16	— 2.03
	15	γ Aquarii.	C	4.6	7.4	10.2	..	18.5	..	26.8	29.5	32.4	22. 14. 18.46	..	18.64	8.05	49.41	..	22. 15. 8.11	— 2.33
	16	37 Ursæ Maj. S.P.	C	..	49.6	54.7	59.7	10.1	20.4	25.7	30.7	..	22. 26. 10.18	..	10.11	..	..	..	10. 26. 59.39	— 1.66
	17	38 Ursæ Maj. S.P.	C	..	..	7.0	14.0	27.6	41.5	48.0	..	..	22. 32. 27.66	..	27.50	..	..	..	10. 33. 16.98	— 1.63
	18	Bradley 1508 S.P.	C	46.8	0.2	13.9	28.2	..	..	..	..	..	22. 48. 55.82	..	55.26	..	..	..	10. 49. 44.74	— 1.16
	19	Bradley 3077. .	C	58.3	3.2	8.2	..	23.3	33.4	38.3	..	..	23. 6. 23.24	..	23.63	..	..	..	23. 7. 13.12	— 2.47
	20	Bradley 3125. .	C	..	..	..	..	..	..	31.8	39.7	47.8	23. 21. 7.79	..	8.35	..	..	..	23. 21. 57.84	— 2.74
	21	γ Cephei.	C	..	..	45.7	58.0	22.6	46.7	59.0	..	..	23. 33. 22.48	..	23.27	..	..	..	23. 34. 12.77	— 3.56
	22	κ Cassiopeiæ	C	31.6	37.6	43.4	49.4	1.4	13.2	19.1	24.9	30.9	0. 25. 1.23	..	1.68	..	49.51	0. 25. 51.20	— 3.42	
	23	ε Andromedæ. .	C	48.2	51.3	54.4	57.6	3.8	10.2	13.4	16.4	19.6	0. 31. 3.85	..	4.10	53.68	49.58	0. 31. 53.62	— 2.80	
	24	Groomb. 1926 S.P.	C	32.4	38.5	44.7	50.8	3.5	15.7	22.0	28.0	34.4	0. 41. 3.38	..	3.24	..	..	12. 41. 52.76	+ 0.26	
	25	Asia.	C	29.2	32.0	..	..	43.3	48.6	..	..	57.2	0. 51. 43.14	..	43.33	..	..	..	0. 52. 32.86	..
	26	Calypso.	C	..	..	29.6	..	..	..	25.6	..	..	1. 2. 43.78	..	43.96	..	..	..	1. 3. 33.49	..
	27	Polaris. (E&E)	C	..	..	17.5	..	6.0	57.5	53.0	50.0	..	1. 12. 7.74	..	13.92	2.91	48.99	1. 13. 3.46	— 4.52	
	28	γ Piscium.	C	40.4	43.2	46.1	48.9	54.5	0.2	3.2	6.0	8.8	1. 23. 54.57	..	54.79	44.32	49.53	1. 24. 44.33	— 2.96	
	29	Neptune.	C	33.4	36.3	38.8	41.7	47.4	53.0	55.8	58.5	1.4	1. 41. 47.34	..	47.54	..	..	..	1. 42. 37.09	..
	30	Arg. Zone + 2°. No. 410	C	32.8	35.8	38.4	41.1	46.6	52.4	55.0	57.7	0.4	2. 32. 46.67	..	46.86	..	..	..	2. 33. 36.42	— 3.01
	31	Flora.	C	5.4	8.2	10.7	13.6	19.0	..	..	..	..	2. 33. 19.05	..	19.24	..	..	..	2. 34. 8.80	..
	32	Arg. Zone + 2°. No. 412	C	..	..	..	..	..	30.6	33.4	36.1	38.7	2. 33. 24.99	..	25.18	..	..	..	2. 34. 14.74	— 3.01
	33	σ Arietis.	C	28.1	31.0	33.8	36.5	42.3	48.1	50.9	53.7	56.5	2. 43. 42.30	..	42.51	32.03	49.52	2. 44. 32.08	— 3.09	
	34	Aurora.	C	22.0	25.4	28.4	..	37.3	..	46.6	49.4	52.5	2. 57. 37.34	..	37.59	..	..	..	2. 58. 27.16	..
	35	δ Arietis.	C	20.8	23.7	26.6	29.6	35.4	41.4	44.4	47.1	50.1	3. 3. 35.43	..	35.66	25.32	49.66	3. 4. 25.24	— 3.15	
Oct. 28	36	⊙ 2 L.	E	28.7	31.6	34.4	37.2	42.8	48.6	51.5	54.4	57.2	14. 11. 42.92	(+3.66)	43.09	..	..	14. 11. 26.35	..	
	37	α Aquilæ.	HC	32.5	35.4	38.1	41.0	46.5	52.2	54.9	57.6	0.6	19. 43. 46.51	..	46.74	36.52	49.78	..	..	
	38	ε Pegasi.	HC	..	..	..	..	8.9	14.3	..	20.0	22.8	21. 37. 8.78	..	9.02	58.86	49.84	..	..	
	39	δ Capricorni. .	HC	59.6	2.6	5.3	8.3	14.0	19.9	22.8	25.5	28.4	21. 39. 14.03	..	14.19	4.07	49.88	..	..	
Oct. 29	40	⊙ 1 L.	L	8.3	11.4	14.2	..	22.5	..	31.2	33.9	36.8	14. 13. 22.58	[+0.87]	29.37	52.36	50.03	49.75	14. 15. 19.17	
	41	⊙ 2 L.	L	21.5	24.4	27.3	30.0	35.9	41.5	44.4	47.2	49.9	14. 15. 35.77	..						
	42	ω Aquilæ.	C	48.0	51.0	53.6	56.5	2.1	7.7	10.5	13.3	16.2	19. 11. 2.08	..	2.33	..	..	..	..	
	43	δ Aquilæ.	C	2.8	5.7	8.4	11.1	16.6	22.2	24.9	27.8	30.5	19. 18. 16.64	..	16.86	6.92	50.06	..	..	
	44	Saturn 1 L.	L	36.0	39.0	42.0	44.9	50.9	56.8	59.7	2.6	5.8	19. 54. 50.84	..	51.70	46.62	49.76	49.75	19. 55. 41.52	
	45	Saturn 2 L.	L	37.3	40.5	43.4	46.3	52.3	58.2	1.2	4.1	7.0	19. 54. 52.24	..						
	46	θ Aquilæ.	L	42.7	45.7	48.4	51.0	56.7	2.2	5.0	7.8	10.5	20. 3. 56.64	..						

Polaris and other stars very near the pole are observed by eye and ear over the wires P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P.; using the Clock Hardy. The Intervals of the Wires of both systems are given in the Introduction.

Reading of Transit-Micrometer, 32".400.

Correction to the time by Hardy for reduction to Arnold 1, applied to form Concluded Transit, No. 27,—56".80.

Corrections for passage of Semidiameter, Nos. 3 and 36, +73".89; and —66".49.

† These clock-errors have been used in the reduction of the observations made with the Altazimuth.

October 29. The azimuthal error by tabular places of ε Piscium and Polaris.

7. The time at wire VI. is also used as the 3rd wire of an Altazimuth Transit, γ 2 L. Left.

12. Mag. = 7½.

26. Of the last degree of faintness; observed over wires P and Z. No N.P.D.

25, 37. Very faint.

TRANSITS OBSERVED WITH THE TRANSIT-CIRCLE, AND COMPUTATIONS OF APPARENT RIGHT ASCENSION,

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of		Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at Sidereal and [Lossing Rate].	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873, Jan. 1.
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.		Collimation. (Level).	[Azimuth].						
Oct. 29	1	α^2 Capricorni....	L	58.0	1.0	3.8	6.5	12.2	17.9	20.8	23.5	26.3	20. 10. 12.20	+0.31	12.38	2.16	49.78	49.75	20. 11. 2.20	- 1.80	
	2	W.B. XX. 465 ..	L	34.9	37.9	40.7	43.4	49.0	54.7	57.5	0.2	3.1	20. 18. 49.02	(+3.66)	49.27			[0.08]	20. 19. 39.09	- 1.49	
	3	ρ Capricorni.....	L	34.3	37.2	40.0	43.0	48.8	54.7	57.6	0.3	3.4	20. 20. 48.79	[+0.87]	48.96	38.75	49.79		20. 21. 38.78	- 1.93	
	4	Bradley 2671....	L	37.5	40.5	43.1	46.0	51.9	57.5	0.4	3.2	6.0	20. 33. 51.77		52.04				20. 34. 41.86	- 1.49	
	5	η Capricorni	L	8.0	11.0	14.0	16.8	22.7	28.5	31.5	34.5	37.4	20. 56. 22.69		22.85				20. 57. 12.67	- 2.17	
	6	ζ Cygni	L	27.3	30.6	33.8	36.9	43.2	49.6	52.8	55.9	59.1	21. 6. 43.22		43.53	33.33	49.80		21. 7. 33.35	- 1.46	
	7	Lalande 41419...	L	29.6	33.4	36.6	40.2	47.4	54.3	57.9	1.6	5.0	21. 11. 47.30		47.66				21. 12. 37.48	- 1.33	
	8	δ 1 L.....	L	37.8	41.0	44.0	47.0	53.3	59.3	2.5	5.4	8.6	21. 20. 53.19		53.35				21. 22. 55.10		
	9	γ Capricorni	L	1.2	4.0	6.9	9.8	15.4	21.2	24.2	27.0	30.0	21. 32. 15.50		15.67				21. 33. 5.49	- 2.33	
	10	Groombridge 3735	L	24.4	36.4	47.5	58.4	20.8	43.3	54.8	5.9	18.0	22. 10. 20.91		21.81				22. 11. 11.63	- 0.93	
	11	Groombridge 3756	L	1.5	12.9	24.3	35.5	57.8	20.4	32.0	43.1	54.5	22. 15. 57.91		58.81				22. 16. 48.63	- 1.10	
	12	ϵ Piscium	L	20.0	22.9	25.7	28.4	34.2	39.6	42.4	45.1	48.0	0. 55. 34.01		34.25	24.07	49.82	49.83	0. 56. 24.08	- 2.88	
	13	Polaris ....(E&E)	L	24.5	27.0	17.5	14.5	9.5	59.0	59.5	51.0	..	1. 12. 5.03		12.58	2.41	49.83		....		
	14	ϵ 1 Ceti	L	15.0	18.0	20.7	23.5	29.2	34.6	37.5	40.0	43.0	2. 5. 29.03		29.27	19.26	49.99		2. 6. 19.11	- 3.03	
Oct. 30	15	$\odot$ 1 L.....	AD	1.3	4.4	7.2	10.0	15.7	21.4	24.0	27.0	30.0	14. 17. 15.64	(+3.94)	22.41			50.17	14. 19. 12.53		
	16	$\odot$ 2 L.....	AD	14.6	17.6	20.5	23.0	29.0	34.5	37.5	40.3	43.2	14. 19. 28.89	[+0.18]				50.08	50.21†		
	17	ζ Cygni	E	26.9	30.2	33.3	36.4	42.9	49.4	52.6	55.8	59.0	21. 6. 42.92		43.23	33.31	50.08		....		
	18	α Equulei	E	26.1	28.9	31.6	34.4	39.8	45.5	48.1	51.0	53.9	21. 8. 39.90		40.11	30.30	50.19		....		
	19	δ 1 L.....	AD	53.7	56.7	59.6	2.4	8.5	14.5	17.5	20.3	23.1	22. 19. 8.45		8.59			50.17	22. 21. 9.06		
	20	ζ Pegasi	AD	..	..	..	14.0	19.8	25.4	28.0	30.8	33.9	22. 34. 19.68		19.91	9.90	49.99		22. 35. 10.00	- 2.26	
	21	μ Pegasi	AD	49.0	52.1	55.2	58.2	4.4	10.3	13.3	16.4	19.4	22. 43. 4.23		4.52	54.66	50.14		22. 43. 54.61	- 2.18	
	22	α Pegasi	AD	24.0	26.7	29.5	32.4	38.1	43.9	46.7	49.6	52.5	22. 57. 38.13		38.38	28.45	50.07		22. 58. 28.47	- 2.34	
	23	Polaris ....(E&E)	AD	..	..	..	17.0	6.5	0.5	57.0	..	..	1. 12. 2.57		11.91	2.10	50.19	50.09	1. 13. 2.00	-44.41	
	24	ν Piscium	AD	48.0	51.0	53.9	56.4	2.2	7.6	10.2	13.1	15.9	1. 34. 2.02		2.23	52.34	50.11		1. 34. 52.31	- 2.98	
	25	ϵ Piscium	AD	39.8	42.9	45.5	48.4	53.9	59.5	2.5	5.3	7.9	1. 37. 53.95		54.18	44.28	50.10		1. 38. 44.26	- 2.99	
	26	Neptune	AD	13.8	16.6	19.5	22.2	27.8	33.5	36.2	39.0	41.8	1. 41. 27.80		28.03				1. 42. 18.11		
	27	γ^1 Andromedæ...	AD	1.0	4.7	8.4	12.2	19.4	..	..	..	..	1. 55. 19.46		19.84				1. 56. 9.92	- 3.43	
	28	γ^2 Andromedæ...	AD	..	..	..	..	..	27.9	31.5	35.1	39.0	1. 55. 20.38		20.76				1. 56. 10.84	- 3.43	
	29	δ Trianguli	AD	57.2	0.5	3.8	6.8	13.0	19.3	22.7	25.8	29.0	2. 4. 13.09		13.40				2. 5. 3.48	- 3.22	
	30	ι Trianguli	AD	32.8	36.0	39.0	42.2	48.3	54.6	57.9	0.9	4.1	2. 10. 48.39		48.70				2. 11. 38.78	- 3.23	
	31	Bradley 332.....	AD	17.1	24.3	31.4	38.3	52.5	6.6	13.6	20.4	27.5	2. 17. 52.35		53.04				2. 18. 43.12	- 5.16	
	32	Flora	AD	11.0	13.6	15.4	19.0	24.6	30.0	32.9	35.5	38.4	2. 30. 24.47		24.68				2. 31. 14.76		
	33	γ^2 Ceti	AD	41.8	45.0	47.6	50.4	56.0	1.7	4.4	7.1	9.9	2. 36. 55.97		56.18	46.28	50.10		2. 37. 46.26	- 3.03	
	34	τ Persei	AD	7.0	11.5	15.9	20.2	29.3	38.6	43.1	47.5	52.1	2. 44. 29.42		29.88				2. 45. 19.96	- 4.07	
	35	Venus 2 L.....	G	28.4	31.5	34.3	37.0	42.6	48.0	50.8	53.6	56.6	12. 40. 42.52	(+3.05)	42.67			50.03	12. 41. 32.26		
	36	Polaris S.P. (E&E)	G	40.5	..	..	..	23.5	17.5	11.5	7.0	8.0	13. 12. 18.90		11.81	1.94	50.13	[-0.01]	1. 13. 1.83	-44.25	
	37	Arcturus	G	47.3	50.5	53.4	56.3	2.2	8.0	11.0	13.9	16.9	14. 9. 2.15		2.37	52.44	50.07		14. 9. 52.39	- 0.31	
Oct. 31	38	$\odot$ 1 L.....	G	55.2	58.3	..	..	..	15.5	18.3	21.0	24.1	14. 21. 9.65		16.64				14. 23. 6.66		
	39	$\odot$ 2 L.....	G	9.0	12.0	15.0	17.6	..	..	..	..	..	14. 23. 23.39								
	40	λ Ursæ Min. (E&E)	G	..	..	..	..	..	..	49.5	15.5	44.0	19. 49. 15.60		24.93	16.21	51.28		19. 50. 14.95	+61.19	
	41	Saturn 1 L.....	G	..	4.0	6.9	9.9	15.8	21.8	24.7	27.5	..	19. 55. 15.77		16.45				19. 56. 6.47		
	42	Saturn 2 L.....	G	..	5.0	8.0	11.0	17.2	22.8	25.9	28.8	..	19. 55. 16.93								
	43	W.B. XX. 465 ..	G	34.8	37.7	40.3	43.1	48.9	54.4	57.2	0.1	2.9	20. 18. 48.80		48.99				20. 19. 39.01	- 1.46	
	44	ϵ Delphini	G	5.9	8.7	11.5	14.3	20.0	25.6	28.4	31.2	34.0	20. 26. 19.94		20.13	10.17	50.04		20. 27. 10.15	- 1.48	
	45	Bradley 2673....	G	55.3	4.8	13.6	22.4	40.6	58.8	7.7	16.3	25.6	20. 29. 40.50		41.19				20. 30. 31.21	+ 1.19	
	46	ϵ Aquarii	L	46.3	48.9	51.5	54.5	0.1	5.6	8.5	11.0	14.0	20. 40. 0.02		0.15	49.81	49.66	49.68†	....		
	47	μ Aquarii	L	46.2	49.0	51.8	54.6	0.2	5.8	8.6	11.4	14.3	20. 45. 0.19		0.32	50.00	49.68		....		

The observations of transits are usually made by the galvanic or chronographic method, the wires employed being generally P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P. Occasionally the observations are made by eye and ear (E & E); the wires then employed are N, O, P, T, X, Y, Z; in reversed order for stars S.P.

Reading of Transit-Micrometer, 32".400.

Corrections to the times by Hardy for reduction to Arnold 1, applied to form Concluded Transit, Nos. 15, 23, 36, and 40, -62".10: -64".70: -65".60: and 66".20.

Corrections for passage of Semidiameter, Nos. 8, 19, and 35, +71".92: +70".36: and -0".43.

† These clock-errors have been used in the reduction of the observations made with the Altazimuth.

October 30 to October 31, W.B. (2) XXI. 923. The azimuthal error from Polaris and Polaris S.P. on October 30, allowing 0".10 for clock-rate and change of R.A.

2. Mag.=7. Estimated as being at least two magnitudes fainter than when observed on October 16.

8. Correction to R.A. on true meridian, +0".01.

19. Very faint. Correction to R.A. on true meridian, +0".01.

24. Diffused. 26, 32, 35. Very faint.

31. The brightest star of three.

38, 39. Cloudy.

14. Image diffused; foggy.

21. Image unsteady.

29. Preceding and brighter of two stars; exceedingly tremulous.

36. Cloudy; exceedingly faint and tremulous.

43. Mag.=6.

5. Very tremulous.

17, 20. Very faint and unsteady.

22, 23, 25. Diffused and tremulous.

1875 DAMM...35A...1A

1875 JAN
MONTH
and
DAY.

No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of Collimation. (Level). [Azimuth].	Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at 0 ^h Sidereal and [Losing Rate].	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873, Jan. 1.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.								
			s	s	s	s	s	s	s	s	s								
Oct. 31	1 32 Vulpeculæ ...	G	4.2	7.6	10.6	13.7	19.8	26.1	29.2	32.4	35.5	20. 48. 19.98	+0.31	20.23	10.18	49.95	50.03	20. 49. 10.25	- 1.34
	2 Groombridge 3357	G	57.0	0.7	4.3	7.9	15.0	22.2	25.8	29.2	33.0	20. 54. 14.98	(+3.05)	15.27			[-0.01]	20. 55. 5.29	- 1.12
	3 77 Draconis.....	G	2.9	16.6	29.2	41.9	8.0	33.7	46.3	59.1	12.2	21. 7. 7.65	[+0.18]	8.58				21. 7. 58.60	+ 1.45
	4 Piazzi XXI.114.	G	..	..	17.9	20.7	27.0	32.8	36.0	..	..	21. 17. 26.86		27.09				21. 18. 17.11	- 1.61
	5 β Aquarii.....	G	50.3	53.0	55.9	58.6	4.2	9.6	12.6	15.4	18.0	21. 24. 4.16		4.30	54.33	50.03		21. 24. 54.32	- 2.07
	6 W.B. (2) XXI.923	G	55.0	58.5	2.0	5.4	12.4	19.3	23.0	..	..	21. 37. 12.39		12.67				21. 38. 2.69	- 1.52
	7 Arcturus	E	47.4	50.4	53.3	56.3	2.2	8.0	10.7	13.8	16.7	14. 9. 2.07	(+2.23) [+0.93]	2.26	52.45	50.19	50.16 [0.05]	14. 9. 52.45	- 0.32
Nov. 1	8 ☉ 1 L.....	E	50.5	53.4	56.3	59.0	4.6	10.4	13.4	16.3	19.0	14. 25. 4.75		11.79				14. 27. 1.98	
	9 ☉ 2 L.....	E	4.2	7.2	10.0	12.8	18.5	24.3	27.2	30.0	33.0	14. 27. 18.55							
	10 ε Aquilæ.....	AD	48.0	50.9	53.7	56.6	2.2	8.0	10.8	13.7	16.6	18. 53. 2.26			2.45	52.33	49.88	49.85†	....
	11 ζ Aquilæ	AD	30.8	33.8	36.6	39.5	4.5	51.0	53.7	56.6	59.6	18. 58. 45.18		45.36	35.26	49.90		....	
	12 λ Ursæ Min. (E&E)	E	..	..	..	..	33.0	..	..	19.5	49.0	19. 49. 19.53		24.92	14.88	49.96	50.16	....	
	13 Saturn 1 L.....	E	13.8	17.0	20.0	22.8	28.9	34.6	37.7	40.6	43.5	19. 55. 28.74		29.47				19. 56. 19.67	
	14 Saturn 2 L.....	E	15.1	18.2	21.1	24.0	30.0	35.8	38.9	41.8	44.7	19. 55. 29.94							
	15 α Capricorni....	E	57.5	0.5	3.2	6.2	11.8	17.5	20.3	23.1	26.1	20. 10. 11.78			11.93	2.11	50.18		20. 11. 2.13
	16 β Capricorni....	E	49.5	52.5	55.2	58.0	3.7	9.6	12.5	15.4	18.3	20. 13. 3.84		3.98	54.20	50.22		20. 13. 54.18	- 1.80
	17 W.B. XX. 465 ..	E	34.6	37.6	40.4	..	48.7	..	57.1	0.0	2.6	20. 18. 48.68		48.85				20. 19. 39.05	- 1.45
	18 ξ Aquarii	E	57.1	0.0	2.8	5.6	11.2	16.8	19.6	22.4	25.3	21. 30. 11.18		11.33	1.45	50.12		21. 31. 1.53	- 2.13
	19 W.B. (2) XXI. 923	E	..	..	..	..	..	22.6	26.0	29.5	21. 37. 12.07			12.30				21. 38. 2.50	- 1.50
	20 Piazzi XXIII. 190	E	59.4	2.2	5.0	7.7	13.4	18.8	21.6	24.4	27.2	23. 41. 13.28		13.43				23. 42. 3.64	- 2.71
	21 ω Piscium.....	E	45.7	48.6	51.4	..	59.6	..	8.0	10.7	13.5	23. 51. 59.61		59.78	50.06	50.28		23. 52. 49.99	- 2.66
	22 30 Piscium.....	E	25.3	28.2	30.9	33.6	39.3	44.8	47.6	50.4	53.1	23. 54. 39.22		39.37				23. 55. 29.58	- 2.77
	23 γ Pegasi	E	39.8	42.8	45.5	48.4	54.1	59.8	2.7	5.4	8.4	0. 5. 54.08		54.26	44.49	50.23	50.21	0. 6. 44.47	- 2.67
	24 δ 1 L.....	E	40.3	43.0	..	..	54.5	0.0	2.7	5.7	8.6	0. 9. 54.34		54.50				0. 11. 53.22	
	25 κ Draconis S.P....	E	..	..	47.3	55.8	12.6	29.5	37.0	..	..	0. 27. 12.49		12.35				12. 28. 2.56	+ 0.45
	26 76 Ursæ Maj. S.P.	E	..	..	51.4	57.6	10.3	22.8	29.2	..	..	0. 35. 10.30		10.24				12. 36. 0.45	+ 0.04
	27 Asia	E	..	41.8	44.2	47.0	52.7	58.4	1.0	3.7	..	0. 48. 52.66		52.83				0. 49. 43.04	
	28 77 Piscium.....	E	13.6	16.6	19.3	22.1	27.6	33.1	36.0	38.6	41.5	0. 58. 27.58		27.75				0. 59. 17.96	- 2.90
	29 Polaris (E&E)	E	..	35.0	27.0	..	16.0	..	..	..	..	1. 12. 6.83		11.10	1.51	50.41		....	
Nov. 2	30 ε Ursæ Majoris ..	AD	11.1	16.0	20.9	25.9	35.9	46.0	51.2	56.0	1.3	12. 47. 35.99	+0.25	36.25			50.07	12. 48. 26.36	- 0.17
	31 α Canum Venat. ..	AD	57.4	1.0	4.5	8.2	15.2	22.4	25.9	29.4	33.0	12. 49. 15.19	(+1.97)	15.39			[0.07]	12. 50. 5.50	- 0.54
	32 Venus 2 L.....	AD	12.1	14.9	17.7	20.4	25.9	31.6	34.3	37.0	39.9	12. 54. 25.96	[+0.65]	26.10				12. 55. 15.79	
	33 Polaris S.P. (E&E)	AD	40.0	38.0	31.5	27.0	..	..	..	..	..	13. 12. 14.21		10.46	1.18	50.72		1. 13. 0.57	- 43.49
	34 ζ Ursæ Maj. (1st Star)	AD	..	..	..	..	..	7.8	12.8	17.6	22.5	13. 17. 58.00		58.25				13. 18. 48.36	+ 0.10
	35 ζ Ursæ Maj. (2nd Star)	AD	..	..	..	..	..	8.7	13.7	18.6	23.4	13. 17. 58.92		59.17				13. 18. 49.28	+ 0.10
	36 Arcturus	AD	47.5	50.6	53.5	56.4	2.1	8.1	11.0	13.9	17.0	14. 9. 2.22		2.38	52.48	50.10		14. 9. 52.49	- 0.35
Nov. 3	37 ☉ 1 L.....	AD	42.6	45.4	48.2	51.0	56.7	2.5	5.5	8.4	11.1	14. 32. 56.80		4.00				14. 34. 54.11	
	38 ☉ 2 L.....	AD	56.6	59.6	2.5	5.2	10.9	16.8	19.6	22.4	25.4	14. 35. 10.98							
	39 β Aquilæ	AD	1.5	4.4	7.0	10.0	15.4	21.0	23.8	26.5	29.4	19. 48. 15.42			15.56	5.76	50.20	19. 49. 5.69	- 1.31
	40 λ Ursæ Min. (E&E)	AD	..	37.0	3.5	28.0	..	..	..	..	..	19. 49. 16.52		21.56	12.40	50.84		19. 50. 11.69	+ 65.00
	41 Saturn 1 L.....	AD	40.9	44.1	47.1	50.0	55.8	1.8	4.8	7.7	10.7	19. 55. 55.86		56.63				19. 56. 46.76	
	42 Saturn 2 L.....	AD	42.4	45.4	48.3	51.3	57.2	3.2	6.2	9.0	12.0	19. 55. 57.20							
	43 57 Camelop. S.P..	AD	56.4	2.5	8.3	14.6	26.7	38.7	44.7	50.9	57.3	20. 7. 26.73			26.66			8. 8. 16.79	- 4.13
	44 W.B. XX. 465 ..	AD	34.8	37.7	40.4	43.3	48.8	54.3	57.3	0.0	2.7	20. 18. 48.79		48.94				20. 19. 39.07	- 1.42
	45 ρ Capricorni.....	E	..	..	..	..	48.0	54.2	57.1	59.9	2.9	20. 20. 48.25		48.36	38.68	50.32	50.29†	....	
	46 ε Delphini	E	5.5	8.5	11.1	14.2	19.6	25.2	28.0	30.8	33.8	20. 26. 19.61		19.76	10.13	50.37		....	

Polaris and other stars very near the pole are observed by eye and ear over the wires P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P.; using the Clock Hardy. The Intervals of the Wires of both systems are given in the Introduction.

Reading of Transit-Micrometer, 32".400.

Corrections to the times by Hardy for reduction to Arnold 1, applied to form Concluded Transit, Nos. 12, 29, 33, and 40, -68".70: -69".20: -68".30: and -69".10.

Corrections for passage of Semidiameter, Nos. 24 and 32, +68".50: and -0".42.

† These clock-errors have been used in the reduction of the observations made with the Altazimuth.

October 31, Arcturus, to November 1. The azimuthal error used is the mean of two determinations (+1".03 and +0".82) by tabular places of λ Ursæ Minoris and α² Capricorni, and of γ Pegasi and Polaris on November 1.

November 2 to 4. The azimuthal error from Polaris S.P. and Polaris on November 2 and 3, allowing 0".08 for change of R.A.

6. Cloudy.

6, 19. A very red star.

17. Mag. = 7. Daylight still strong.

24. Correction to R.A. on true meridian, +0".01.

44. Mag. = 7.

TRANSITS OBSERVED WITH THE TRANSIT-CIRCLE, AND COMPUTATIONS OF APPARENT RIGHT ASCENSION,

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of Collimation. (Level). [Azimuth].	Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock apparent- ly Slow.	Adopted Clock Slow at 0 ^h Sidereal and (Losing Rate).	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873, Jan. 1.
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.								
				s	s	s	s	s	s	s	s	s								
Nov. 3	1	Bradley 2673 ...	AD	55.8	4.7	13.5	22.4	40.4	58.6	7.5	16.4	25.7	20. 29. 40.49	+ 0.25	40.89			50.07	20. 30. 31.02	+ 1.42
	2	α Cygni	AD	56.9	1.1	4.8	8.7	16.6	24.4	28.3	32.0	36.1	20. 36. 16.51	(+ 1.97)	16.73			[0.07]	20. 37. 6.86	- 0.76
	3	δ Ursæ Maj. S.P.	AD	36.9	42.8	48.8	54.8	7.0	19.0	24.7	30.5	36.9	20. 42. 6.87	[+ 0.65]	6.79				8. 42. 56.92	- 3.63
	4	τ Ursæ Maj. S.P.	AD	7.0	13.8	19.7	26.1	38.7	51.4	57.8	3.8	10.5	20. 59. 38.80		38.72				9. 0. 28.85	- 3.51
	5	ζ Cygni	AD	27.0	30.4	33.2	36.6	42.9	49.4	52.5	55.6	59.0	21. 6. 42.93		43.11	33.24	50.13		21. 7. 33.24	- 1.37
	6	γ Ursæ Maj. S.P.	AD	55.5	0.1	4.9	9.8	19.4	28.6	33.4	38.2	43.0	23. 46. 19.25		19.23				11. 47. 9.37	- 0.95
	7	δ Ursæ Maj. S.P.	AD	11.8	15.1	17.7	20.9	26.6	32.4	35.3	38.0	41.0	23. 56. 26.51		26.62	16.80	50.18		23. 57. 16.76	- 2.89
	8	Bradley 6	AD	19.4	31.0	42.4	53.7	17.2	40.5	52.6	3.5	15.4	0. 8. 17.21		17.71			50.14	0. 9. 7.85	- 4.17
	9	Groomb. 1879 S.P.	AD	...	...	...	45.8	39.0	32.4	59.6	25.5	52.4	0. 14. 39.01		38.22				12. 15. 28.36	+ 4.14
	10	α Cassiopeiæ	AD	6.7	11.8	16.6	21.5	31.5	41.4	46.1	51.2	56.2	0. 32. 31.41		31.67				0. 33. 21.81	- 3.18
	11	δ Piscium	AD	4.4	7.2	9.9	12.6	18.3	23.8	26.5	29.4	32.3	0. 41. 18.24		18.39	8.44	50.05		0. 42. 8.53	- 2.84
	12	ϵ Ursæ Maj. S.P.	AD	10.9	15.9	21.0	26.0	36.1	46.2	51.2	56.4	1.4	0. 47. 36.08		36.04				12. 48. 26.18	- 0.19
	13	Polaris (E&E)	AD	35.5	32.0	27.0	25.0	...	...	...	...	...	1. 12. 6.39		10.39	1.10	50.71		1. 13. 0.53	- 43.41
	14	Piazzi I. 123	AD	22.8	25.7	28.3	31.1	36.8	42.4	45.0	48.0	50.6	1. 28. 36.72		36.87				1. 29. 27.01	- 2.98
	15	ϕ Piscium	AD	40.0	42.8	45.6	48.5	54.0	59.6	2.4	5.3	8.1	1. 37. 54.01		54.16	44.30	50.14		1. 38. 44.30	- 3.01
	16	Neptune	AD	49.3	52.3	54.9	57.7	3.3	8.8	11.7	14.4	17.3	1. 41. 3.28		3.43				1. 41. 53.57	- 3.01
	17	δ I. L.	AD	28.9	32.0	34.6	37.5	43.4	49.1	51.8	54.8	58.0	1. 59. 43.33		43.48				2. 1. 43.25	- 3.06
	18	β Ceti	AD	37.8	40.5	43.2	46.2	52.0	57.2	0.2	2.9	5.6	2. 9. 51.72		51.85	41.98	50.13		2. 10. 42.00	- 3.13
	19	α Arietis	AD	55.3	58.2	1.0	3.7	9.5	15.3	18.3	21.2	24.0	2. 25. 9.59		9.75				2. 25. 59.90	- 3.08
	20	Flora	AD	18.4	21.3	24.0	26.8	32.3	37.8	40.5	43.3	46.2	2. 26. 32.27		32.41				2. 27. 22.56	- 3.16
	21	Arg. Zone + 2° No. 400	AD	15.0	17.8	20.5	23.4	28.8	34.3	37.3	39.8	42.7	2. 27. 18.82		28.96				2. 28. 19.11	- 3.16
	22	α Arietis	AD	31.6	34.7	37.3	40.3	45.8	51.6	54.5	57.4	0.1	2. 36. 45.90		46.06				2. 37. 36.21	- 3.16
	23	σ Arietis	AD	27.5	30.5	33.3	36.1	41.8	47.5	50.5	53.0	56.1	2. 43. 41.79		41.95	32.10	50.15		2. 44. 32.10	- 3.16
	24	Aurora	AD	8.8	12.0	15.2	18.3	24.3	30.0	33.4	36.6	39.2	2. 51. 24.17		24.34				2. 52. 14.49	- 3.29
	25	γ Ursæ Min. S.P.	AD	39.4	48.5	57.4	7.0	25.0	43.1	52.2	0.8	10.2	2. 59. 24.92		24.75				15. 0. 14.90	+ 3.29
	26	Thetis	AD	47.7	50.6	53.6	57.7	2.6	7.7	10.6	13.7	16.5	3. 15. 2.28		2.43				3. 15. 52.58	- 0.67
	27	ϵ Virginis	II	...	...	...	...	1.6	7.3	10.0	12.8	15.7	12. 55. 1.55	(+ 2.62)	1.74	51.96	50.22	50.07 [0.19]	12. 55. 51.91	- 0.67
Nov. 4	28	Piazzi XXIII. 229	II	52.3	55.4	58.4	1.5	7.6	13.6	16.7	20.0	22.9	23. 48. 7.57		7.79				23. 48. 58.05	- 2.53
	29	ϕ Piscium	II	45.6	48.6	51.3	54.2	59.6	5.2	8.0	10.7	13.7	23. 51. 59.63		59.81	50.04	50.23		23. 52. 50.07	- 2.64
	30	2 Ceti	L	12.2	15.2	18.0	20.8	26.7	32.6	35.5	38.4	41.3	23. 56. 26.72		26.84	16.80	49.96	49.74†	...	- 2.66
	31	α Andromedæ ...	L	46.4	49.5	52.6	55.7	2.0	8.4	11.5	14.6	17.7	0. 1. 2.02		2.25	52.15	49.90	49.93†	...	- 2.66
	32	γ Pegasi	II	39.6	42.7	...	48.4	54.0	59.6	...	5.6	8.4	0. 5. 54.01		54.21	44.48	50.27	50.26	0. 6. 44.47	- 2.66
	33	χ Pegasi	II	59.5	2.5	5.4	8.4	14.5	19.9	23.2	25.9	28.9	0. 7. 14.23		14.43				0. 8. 4.69	- 2.66
	34	ϵ Ceti	II	55.8	58.6	1.4	4.3	9.8	15.4	18.4	20.9	23.8	0. 12. 9.80		9.95	0.17	50.22		0. 13. 0.21	- 2.83
	35	ρ Andromedæ ...	II	...	...	27.9	31.4	38.5	45.4	...	52.2	55.7	0. 13. 38.36		38.61				0. 14. 28.87	- 2.72
	36	α Arietis	II	58.6	1.7	4.8	7.8	13.6	19.6	22.7	25.6	28.6	1. 59. 13.65		13.86	4.19	50.33		2. 0. 4.14	- 3.17
	37	15 Arietis	II	33.5	36.4	39.3	42.2	48.0	54.0	56.8	59.7	2.6	2. 2. 48.03		48.23				2. 3. 38.51	- 3.14
	38	δ Trianguli	II	14.7	...	21.5	24.8	31.4	38.0	41.5	...	48.0	2. 8. 31.38		31.62				2. 9. 21.90	- 3.42
	39	Piazzi II. 61	II	51.4	55.0	58.6	2.3	9.6	16.7	20.4	24.1	27.8	2. 14. 9.51		9.77				2. 15. 0.05	- 3.54
	40	12 Trianguli	II	40.5	43.8	47.0	50.0	56.3	2.6	5.8	9.0	12.3	2. 19. 56.33		56.56				2. 20. 46.84	- 3.30
	41	Flora	II	21.2	23.6	26.5	29.4	34.7	40.3	43.1	45.6	48.6	2. 25. 34.72		34.92				2. 26. 25.20	- 3.17
	42	ϕ Arietis	II	31.6	34.4	37.3	40.2	45.8	51.6	54.5	57.4	0.1	2. 35. 45.86		46.06				2. 36. 36.34	- 3.18
	43	σ Arietis	II	27.4	30.4	33.2	36.0	41.7	47.5	50.4	53.2	56.0	2. 43. 41.74		41.94	32.12	50.18		2. 44. 32.22	- 3.26
	44	ϵ Arietis	II	55.1	58.3	1.2	4.0	9.8	15.9	18.8	21.7	25.0	2. 51. 9.95		10.15	0.46	50.31		2. 52. 0.43	- 3.26
	45	δ 2 L.	II	6.2	9.2	12.2	15.2	21.2	26.9	29.9	33.0	36.0	2. 59. 21.07		21.27				2. 59. 0.53	- 3.29
	46	τ 1 Arietis	II	51.9	54.9	57.8	0.7	6.7	12.5	15.6	18.4	21.3	3. 13. 6.62		6.82	57.13	50.31		3. 13. 57.11	- 3.29
	47	Piazzi III. 128 ...	II	3.1	6.2	8.8	11.9	17.6	23.7	26.8	29.7	32.6	3. 36. 17.80		18.00				3. 37. 8.29	- 3.30

The observations of transits are usually made by the galvanic or chronographic method, the wires employed being generally P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P. Occasionally the observations are made by eye and ear (E & E); the wires then employed are N, O, P, T, X, Y, Z; in reversed order for stars S.P.

Reading of Transit-Micrometer, 32".400.

Correction to the time by Hardy for reduction to Arnold 1, applied to form Concluded Transit, No. 13, - 69".70.

Corrections for passage of Semidiameter, Nos. 17 and 45, + 69".61: and - 71".03.

† These clock-errors have been used in the reduction of the observations made with the Altazimuth.

9. Faint; very tremulous.
20, 24, 30. Very faint.

13. Very diffused and tremulous.
27, 35. Cloudy.

17. Very tremulous. Correction to R.A. on true meridian, + 0".01.
45. Correction to R.A. on true meridian, + 0".01.

47. Very faint; cloudy.

1875 GUANO

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of		Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at Sidereal and [Loss Rate].	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873, Jan. 1.	
														Collimation. (Level). [Azimuth].								
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.										h	m	s	"
				s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	h	m	s	s
Nov. 5	1	θ Aquilæ	AD	42.1	45.1	47.8	50.5	56.0	1.5	4.3	6.9	10.0	20. 3. 56.00	+0.25		56.14	46.52	50.38	50.17†	....		
	2	α^2 Capricorni.....	AD	57.4	0.1	2.9	5.9	11.6	17.1	20.0	22.7	25.8	20. 10. 11.48	[+1.82]		11.61	2.06	50.45	[0.30]	....		
	3	α Aquarii.....	E	13.2	16.0	18.5	21.4	26.9	32.5	35.3	38.0	40.7	21. 58. 26.92	[+0.94]		27.06	17.66	50.60		....		
	4	θ Aquarii.....	E	5.5	8.3	10.9	13.8	19.4	25.0	27.7	30.6	33.4	22. 9. 19.38			19.51	10.08	50.57		....		
	5	Polaris (E&E)	E	..	..	..	..	21.0	14.0	12.0	5.5	..	1. 12. 6.88			10.04	0.80	50.76		....		
	6	α Arietis.....	E	58.3	1.4	4.3	7.1	13.3	19.3	22.3	25.2	28.3	1. 59. 13.26			13.43	4.20	50.77		....		
Nov. 6	7	44 Piscium.....	WC	23.9	37.8	..	16.5	19.3	33.2	47.0	..	..	0. 18. 5.49	(+1.52)		5.55	56.29	50.74	50.70†	....		
	8	12 Ceti.....	WC	31.6	34.5	37.4	39.9	45.6	51.1	53.7	56.5	59.3	0. 22. 45.49	[-0.67]		45.53	36.19	50.66	[0.22]	....		
	9	δ Piscium.....	L	4.0	6.8	9.6	12.3	17.7	23.5	26.3	29.0	31.8	0. 41. 17.87			17.93	8.43	50.50	50.53	0. 42. 8.47	- 2.83	
	10	μ Andromedæ ...	L	37.5	41.2	44.6	47.9	54.7	2.0	5.5	8.8	12.5	0. 48. 54.94			55.08	45.50	50.42	[0.22]	0. 49. 45.62	- 2.97	
	11	ϵ Piscium.....	L	19.5	22.4	25.0	27.8	33.4	39.0	41.7	44.6	47.5	0. 55. 33.42			33.48	24.07	50.59		0. 56. 24.02	- 2.88	
	12	Polaris (E&E)	L	37.5	37.0	30.0	26.0	15.5	11.0	7.0	4.5	..	1. 12. 4.83			10.04	0.62	50.58		....		
	13	α Arietis.....	L	58.6	1.7	4.5	7.6	13.7	19.5	22.5	25.4	28.5	1. 59. 13.54			13.64	4.20	50.56		2. 0. 4.19	- 3.18	
	14	Flora.....	L	27.4	30.3	32.7	35.7	41.1	46.8	49.5	52.3	55.0	2. 23. 41.18			41.24	..	..		2. 24. 31.80		
	15	χ^1 Tauri.....	L	48.8	51.9	54.8	57.9	4.2	10.2	13.5	16.5	19.5	4. 14. 4.12			4.22	..	..		4. 14. 54.79	- 3.44	
	16	κ^1 Tauri.....	L	45.9	48.9	51.9	54.8	0.8	6.8	9.8	12.6	15.7	4. 17. 0.78			0.88	..	..		4. 17. 51.45	- 3.37	
	17	Aldebaran.....	L	36.4	39.3	41.8	44.7	50.5	56.4	59.2	2.0	4.8	4. 27. 50.55			50.63	41.32	50.69		4. 28. 41.20	- 3.26	
	18	ι Aurigæ.....	L	40.2	43.5	46.5	49.8	56.5	3.0	6.4	9.5	13.0	4. 47. 56.46			56.58	47.10	50.52		4. 48. 47.15	- 3.61	
	19	δ 2 L.....	L	17.4	20.5	23.6	26.5	33.1	39.2	42.4	45.5	48.7	5. 0. 32.96			33.06	..	..		5. 0. 10.22		
Nov. 7	20	β Tauri.....	AD	12.4	15.6	18.8	21.9	28.3	34.5	37.6	40.6	44.0	5. 17. 28.16	(+1.75)		28.30	19.35	51.05	50.98	....		
	21	α Leporis.....	AD	4.9	7.8	10.8	13.5	19.3	25.3	28.1	31.2	34.0	5. 26. 19.41	[0.00]		19.47	10.48	51.01	[0.11]	....		
	22	κ Orionis.....	AD	41.8	44.5	47.3	50.2	55.6	1.2	4.0	6.8	9.7	5. 40. 55.66			55.74	46.72	50.98		....		
	23	136 Tauri.....	AD	17.5	20.5	23.6	26.6	33.0	39.4	42.5	45.4	48.8	5. 44. 33.01			33.15	..	..		5. 45. 24.16	- 3.37	
	24	1 Geminorum....	AD	21.2	24.2	26.8	30.2	36.0	42.2	45.1	48.2	51.2	5. 55. 36.09			36.22	27.23	51.01		....		
	25	δ 2 L.....	AD	28.4	31.4	34.6	37.7	44.2	50.5	53.9	56.9	0.0	6. 2. 44.15			44.29	..	..		6. 2. 21.95		
	26	Polaris S.P. (E&E)	P	43.0	36.5	35.0	32.5	..	..	..	..	..	13. 12. 12.59			8.14	0.25	52.11	50.98	1. 12. 59.16	- 42.56	
Nov. 8	27	δ Sculptoris ...	L	14.8	18.0	21.4	24.5	30.5	37.1	40.1	43.3	46.5	23. 41. 30.66			30.70	21.40	50.70	50.64†	....		
	28	ω Piscium.....	L	45.4	48.3	50.8	53.6	59.0	4.8	7.5	10.3	13.1	23. 51. 59.18			59.28	50.01	50.73		....		
	29	2 Ceti.....	P	11.2	14.2	16.9	19.8	25.7	31.5	34.5	37.4	40.2	23. 56. 25.69			25.75	16.77	51.02	50.98	....		
	30	α Andromedæ ...	P	45.2	48.5	51.6	54.5	1.0	7.2	10.4	13.5	16.6	0. 1. 0.92			1.06	52.12	51.06	51.06	....		
	31	γ Pegasi.....	P	39.0	42.0	44.8	47.6	53.4	59.0	1.9	4.7	7.7	0. 5. 53.33			53.45	44.45	51.00		....		
	32	40 Piscium.....	P	19.8	22.8	25.6	28.4	34.0	39.8	42.7	45.5	48.5	0. 12. 34.10			34.22	..	..		0. 13. 25.28	- 2.66	
	33	16 Cassiopeiaæ ...	P	40.2	47.4	54.0	0.5	14.2	28.0	34.8	41.3	48.4	0. 26. 14.27			14.59	..	..		0. 27. 5.65	- 3.44	
	34	Groombr. 1926 S.P.	P	31.4	37.5	43.5	49.6	2.2	14.7	20.6	26.9	33.3	0. 41. 2.24			2.09	..	..		12. 41. 53.15	- 0.10	
	35	ϵ Piscium.....	P	..	21.7	24.5	27.3	32.8	38.5	41.2	43.9	..	0. 55. 32.82			32.93	24.07	51.14		....		
	36	Polaris.... (E&E)	P	34.0	33.0	27.5	23.0	15.5	..	..	..	..	1. 12. 3.38			7.98	0.10	52.12		1. 12. 59.04	- 42.41	
Nov. 10	37	ϵ Virginis.....	J	46.7	49.5	52.4	55.2	0.8	6.5	9.3	12.0	15.0	12. 55. 0.81	+0.40		0.94	52.10	51.16	51.14	12. 55. 52.09	- 0.81	
	38	Polaris S.P. (E&E)	J	42.0	39.0	33.0	30.0	23.0	..	..	..	..	13. 12. 13.09	(+2.41)		5.55	59.10	53.55	[0.01]	1. 12. 56.70	- 41.41	
	39	Venus 2 L.....	J	9.0	11.7	14.7	17.5	23.0	28.5	31.5	34.3	37.2	13. 31. 23.03	[-0.70]		23.10	..	..		13. 32. 13.85		
	40	η Ursæ Majoris...	J	19.3	23.6	28.0	32.3	40.6	49.4	53.7	57.8	2.4	13. 41. 40.75			41.04	..	..		13. 42. 32.19	- 0.05	
	41	η Boötis.....	J	..	..	39.0	41.8	47.5	53.4	56.3	59.2	2.1	13. 47. 47.55			47.70	38.84	51.14		13. 48. 38.85	- 0.58	
	42	α Draconis.....	J	..	..	..	..	4.2	17.4	23.9	30.4	36.8	14. 0. 4.17			4.63	..	..		14. 0. 55.78	+ 1.14	
	43	θ Boötis.....	J	38.0	42.6	47.0	51.5	0.6	9.5	14.2	18.7	23.3	14. 20. 0.56			0.87	..	..		14. 20. 52.02	+ 0.40	
	44	ρ Boötis.....	J	14.0	17.3	20.6	23.8	30.1	36.8	40.1	43.2	46.5	14. 25. 30.24			30.43	21.66	51.23		14. 26. 21.58	- 0.28	
45	ϵ^2 Boötis.....	J	19.9	23.0	26.0	29.2	35.4	41.6	44.7	47.8	51.0	14. 38. 35.37			35.55	26.73	51.18		14. 39. 26.70	- 0.30		

Polaris and other stars very near the pole are observed by eye and ear over the wires P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P.; using the Clock Hardy. The Intervals of the Wires of both systems are given in the Introduction.

Reading of Transit-Micrometer, 32".400.

Corrections to the times by Hardy for reduction to Arnold 1, applied to form Concluded Transit, Nos. 5, 12, 26, 36, and 38, -73".70: -73".10: -72".70: -72".30: and -71".20.

Corrections for passage of Semidiameter, Nos. 19, 25, and 39, -73".42: -73".35: and -0".42.

† These clock-errors have been used in the reduction of the observations made with the Altazimuth.

November 5. The azimuthal error by tabular places of Polaris and α Arietis, allowing 0".01 for clock rate.

November 6. The azimuthal error by tabular places of ϵ Piscium and Polaris.

November 7 and 8. The azimuthal error from Polaris S.P. and Polaris, allowing 0".15 for change of R.A.

November 10 to November 13, ϵ Tauri. The azimuthal error from four consecutive transits of Polaris S.P. and Polaris.

7, 8, 41, 42. Cloudy.

19. Observed through cloud.

11. Faint; cloudy.

20. Diffused.

13. Very diffused.

TRANSITS OBSERVED WITH THE TRANSIT-CIRCLE, AND COMPUTATIONS OF APPARENT RIGHT ASCENSION,

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire. h m s	Error of Collimation. (Level). [Azimuth]. "	Seconds of Transit Cor- rected. s	Tabular R.A. of Known Stars. s	Clock appa- rently Slow. s	Adopted Clock Slow at 0 ^h Sidereal and [Losing Rate]. s	Apparent R.A. of Center from the Observation. h m s	Correction for Reduction to Mean R.A. 1873, Jan. 1. s
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.								
				s	s	s	s	s	s	s	s	s								
Nov. 10	1	β Ursæ Minoris ..	J	17.4	28.1	38.8	49.0	9.9	30.9	41.6	51.9	2.3	14. 50. 9.89	+0.40	10.63			51.14	14. 51. 1.78	+ 3.91
	2	β Boötis	J	59.8	3.5	7.3	10.7	18.2	25.5	29.3	32.9	36.5	14. 56. 18.16	(+2.41) [-0.70]	18.40			[0.01]	14. 57. 9.55	+ 0.11
Nov. 11	3	$\odot$ 1 L.....	J	43.2	46.1	49.0	52.0	57.8	3.5	6.3	9.3	12.2	15. 4. 57.69	5.80	31.85	18.85	51.16	51.15	15. 6. 56.95	— 0.08
	4	$\odot$ 2 L.....	J	59.3	2.3	5.1	8.1	13.7	19.8	22.5	25.5	28.3	15. 7. 13.83							
	5	δ Boötis	J	15.1	18.5	21.6	25.0	31.7	38.3	41.7	45.0	48.2	15. 9. 31.65	2.04	15. 20. 53.19	+ 3.54				
	6	γ Ursæ Minoris ..	J	15.7	25.3	34.2	43.3	1.6					15. 20. 1.40	44.61	15. 22. 35.76	- 0.13				
	7	β Coronæ	J	28.6	31.8	34.9	38.0						15. 21. 44.43	27.69	15. 29. 18.84	- 0.20				
	8	α Coronæ	J	12.0	15.1	18.3	21.4	27.5	33.7	36.9	40.0	43.0	15. 28. 27.51	44.55	15. 50. 35.70	- 0.38				
	9	γ Serpentis	J	30.0	33.0	35.8							15. 49. 44.41	50.93	16. 7. 42.08	- 0.58				
	10	δ Ophiuchi	J				45.3	50.8	56.4	59.2		4.8	16. 6. 50.85	23.36	16. 22. 14.51	+ 1.86				
	11	η Draconis	J	53.8	59.6	5.4	11.1	23.0	34.6	40.5	46.4	52.5	16. 21. 22.94	38.77	16. 36. 29.92	+ 0.02				
	12	ζ Herculis	J	22.4	25.7		32.1	38.6	45.2		51.6	54.7	16. 35. 38.58	0.75	17. 8. 51.00	- 0.45				
	13	α Herculis	J	46.3	49.3	52.0	54.9	0.6	6.5				17. 8. 0.62	23.16	19. 40. 14.31	- 1.08				
	14	γ Aquilæ	J	9.0	11.7	14.6	17.4	23.0	28.7	31.6	34.3	37.2	19. 39. 23.04	6.19	1. 12. 57.34	-41.18				
	15	Polaris . . . (E&E)	J			21.0	20.0	7.5	2.0				1. 11. 58.53	53.19	1. 24. 44.34	- 2.99				
	16	η Piscium	J	38.7	41.6	44.4	47.4	53.1	58.8	1.7	4.5	7.5	1. 23. 53.06	38.63	1. 28. 29.78	- 5.29				
	17	α Cassiopeiæ ...	J		1.9	10.8	20.4	37.1	56.1	5.7	14.5		1. 27. 37.98	15.79	1. 34. 6.94	- 4.05				
	18	Piazzi I. 139	J			59.0	4.4	15.4	26.4	32.0			1. 33. 15.41	15.10	1. 41. 6.25					
	19	Neptune	J	1.2	4.0	6.5	9.2	15.0	20.6	23.4	26.1	29.0	1. 40. 14.98	51.64	13. 47. 42.79	+ 0.96				
	20	δ Draconis S.P. ...	J			32.0	38.8	52.2	5.0	11.7			1. 46. 51.98	50.95	1. 53. 42.10	- 4.59				
	21	δ Cassiopeiæ ...	J	19.0	25.7	31.8	38.0	50.6	2.8	9.3	15.8	22.0	1. 52. 50.51	13.13	2. 0. 4.28	- 3.20				
	22	α Arietis	J	58.0	1.0	4.0	7.0	12.9	19.0	21.9	25.0	28.1	1. 59. 12.97	10.31	2. 20. 1.46					
	23	Flora	J		59.2	2.0	4.7	10.3	15.7	18.4	21.4		2. 19. 10.21	42.43	2. 20. 33.58	- 3.12				
	24	Arg. Zone + 1° No. 428	J		31.3	34.0	37.0	42.2	48.0	50.7	53.3		2. 19. 42.33	9.18	....					
	25	ϵ Arietis	E	54.3	57.2	0.0	3.2	9.2	15.1	18.0	20.7	23.8	2. 51. 9.03	50.27	....					
	26	α Ceti	E	36.4	39.2	41.8	44.6	50.2	55.7	58.5	1.2	4.0	2. 54. 50.16	57.22	....					
	27	$\odot$ 2 L.....	C					57.0	3.0	6.0	9.1	12.1	9. 46. 57.06	(+2.74)	51.21	9. 46. 43.28				
	28	π Leonis	C	26.7	29.6	32.3	34.9	40.6	46.3	49.0	51.6	54.6	9. 52. 40.61	40.75	9. 53. 31.88	- 1.84				
	29	η Leonis	C	20.5	23.4	26.4	29.2	35.0	40.8	43.7	46.5	49.5	9. 59. 34.98	35.14	10. 0. 26.27	- 1.91				
	30	α 2 Leonis.....	C	56.7	59.6	2.4	5.0	11.0	16.8	19.5	22.5	25.2	10. 14. 10.95	11.11	10. 15. 2.24	- 1.79				
	31	μ Hydræ	C	52.6	55.7	58.4	1.3	7.0	12.6	15.5	18.5	21.4	10. 19. 6.98	7.04	10. 19. 58.17	- 1.33				
	32	Polaris S.P. (E&E)	C						18.5	13.0	8.5	9.0	13. 12. 15.39	7.14	1. 12. 58.25	-40.94				
	33	Venus 2 L.	C	49.3	52.3	55.0	57.6	3.4	8.9	11.6	14.5	17.4	13. 36. 3.32	3.40	13. 36. 54.08					
	34	Arcturus	C	46.7	49.7	52.6	55.5	1.4	7.2	10.3	13.1	16.0	14. 9. 1.37	1.54	14. 9. 52.64	- 0.46				
Nov. 12	35	$\odot$ 1 L.....	C	47.1	50.2	53.0	56.0	2.0	7.6	10.5	13.5	16.4	15. 9. 1.79	10.15	10.37	0.05	49.68	15. 11. 1.24	+77.35	
	36	$\odot$ 2 L.....	C	3.8	6.8	9.8	12.5	18.4	24.3	27.3	30.0	32.9	15. 11. 18.40							
	37	λ Ursæ Min. (E&E)	C				14.5	9.0	8.0				19. 48. 59.71	35.79	20. 1. 26.84	- 0.91				
	38	17 Vulpeculæ ...	C	20.5	23.6	26.6	29.6	35.6	41.7	44.7	47.7	50.7	20. 0. 35.60	55.35	20. 4. 46.40	- 1.39				
	39	θ Aquilæ	C	41.5	44.3	46.9	49.7	55.2	0.8	3.6	6.3	9.1	20. 3. 55.25	26.10	8. 23. 17.15	- 4.82				
	40	A Ursæ Maj. S.P.	C	53.0	59.7	6.4	13.0	26.4	39.8	46.6	52.7	0.0	20. 22. 26.46	18.79	8. 29. 9.84	- 4.65				
	41	π Ursæ Maj. S.P.	C								44.8	51.7	20. 28. 19.14	1.85	8. 36. 52.90	- 9.25				
	42	Groomb. 1463 S.P.	C	38.7	55.9	13.0	29.4	2.7					20. 36. 2.98	6.46	8. 42. 57.51	- 4.20				
	43	b Ursæ Maj. S.P.	C			48.8	54.7	6.8	18.7	24.7			20. 42. 6.77	17.30	8. 51. 8.34	- 4.73				
	44	p Ursæ Mai. S.P.	C	40.4	48.0	55.4	2.9	17.7					20. 50. 17.73	59.24	20. 58. 50.28	- 1.94				
	45	θ Capricorni	C	44.6	47.6	50.5	53.4	59.2	5.0	8.0	10.8	13.8	20. 57. 59.19	44.98	21. 5. 36.02	+ 1.13				
	46	Groombridge 3409	C	1.9	10.6	19.1	27.5	44.4					21. 4. 44.32	6.12	21. 7. 57.16	+ 2.73				
	47	77 Draconis	C	0.6	13.7	26.5	39.3	5.4					21. 7. 5.11							

The observations of transits are usually made by the galvanic or chronographic method, the wires employed being generally P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P. Occasionally the observations are made by eye and ear (E & E); the wires then employed are N, O, P, T, X, Y, Z; in reversed order for stars S.P.

Reading of Transit-Micrometer, 32".400.

Corrections to the times by Hardy for reduction to Arnold 1, applied to form Concluded Transit, Nos. 15, 32, and 37, -70".90: -70".40: and -70".20.

Corrections for passage of Semidiameter, Nos. 27 and 33, -65".08: and -0".42.

† This clock-error has been used in the reduction of the observations made with the Altazimuth.

13, 20. Cloudy.

15. Very tremulous.

27. Correction to R.A. on true meridian, +0".01.

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of Collimation. (Level). [Azimuth].	Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at ^h Sidereal and (Losing Rate).	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873, Jan. 1.				
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.												
				s	s	s	s	s	s	s	s	s												
											h	m	s											
Nov. 12	1	α Cephei	C	..	..	23.6	29.5	41.3	53.2	59.1	..	..	21. 14. 41.31	+0.40	41.78			51.21	21. 15. 32.82	- 0.06				
	2	δ Ursæ Maj. S.P.	C	45.4	53.8	2.1	10.0	26.9	43.0	51.2	59.5	8.0	21. 22. 26.72	(+2.74)	26.23			[-0.19]	9. 23. 17.27	- 4.41				
	3	γ Cephei	C	..	..	22.4	28.2	39.7	51.4	57.0	..	..	21. 33. 39.71	[-0.70]	40.17				21. 34. 31.21	- 0.36				
	4	Bradley 2854....	C	..	..	6.0	14.4	31.2	48.1	56.3	..	..	21. 36. 31.15		31.81				21. 37. 22.85	+ 0.39				
	5	16 Pegasi	C	12.1	15.4	18.3	21.4	27.4	33.5	36.6	39.6	42.6	21. 46. 27.40		27.59	18.63	51.04		21. 47. 18.63	- 1.58				
	6	B. F. 1620 S.P.	C	..	..	1.4	7.2	18.9	30.7	36.4	..	..	23. 24. 18.88		18.58				11. 25. 9.61	- 1.57				
	7	γ Cephei	C	18.5	31.2	43.3	55.2	20.0	..	..	..	..	23. 33. 19.75		20.70				23. 34. 11.72	- 2.56				
	8	6 Cassiopeiæ	C	21.8	27.7	33.3	38.9	50.5	2.2	8.0	13.9	19.7	23. 41. 50.62		51.08				23. 42. 42.10	- 2.44				
	9	α Piscium	C	45.0	47.7	50.5	53.2	58.8	4.4	7.2	9.9	12.7	23. 51. 58.80		58.93	49.98	51.05		23. 52. 49.95	- 2.58				
	10	16 Cassiopeiæ	C	..	..	53.7	0.4	14.2	27.8	34.4	..	..	0. 26. 14.06		14.60			51.02	0. 27. 5.62	- 3.34				
	11	Polaris ....(E&E)	C	28.5	27.5	23.0	17.0	9.0	..	..	..	..	1. 12. 0.07		8.25	58.39	50.14		1. 12. 59.26	-40.70				
	12	ν Piscium	C	47.4	50.3	53.0	55.7	1.2	6.7	9.5	12.3	15.1	1. 34. 1.23		1.36	52.36	51.00		1. 34. 52.37	- 3.00				
	13	Neptune	C	55.4	58.3	0.9	3.7	9.3	15.0	17.8	20.6	23.4	1. 40. 9.35		9.49				1. 41. 0.50	..				
	14	Arg. Zone + 1 ^o . No. 417	C	40.4	43.5	46.3	48.9	54.2	59.9	2.7	5.4	8.3	2. 14. 54.38		54.49				2. 15. 45.49	- 3.11				
	15	Flora	C	5.4	8.1	11.0	13.7	19.4	25.0	27.6	30.2	33.1	2. 18. 19.25		19.36				2. 19. 10.36	..				
	16	Arg. Zone + 1 ^o . No. 428	C	..	..	34.0	36.7	42.3	48.0	51.0	..	..	2. 19. 42.38		42.49				2. 20. 33.49	- 3.12				
	17	ϵ Tauri	HC	56.8	59.6	2.4	5.3	10.7	16.4	19.4	22.0	24.8	3. 17. 10.81		10.95	2.09	51.14	51.15†	...	..				
	18	ϵ Tauri	HC	9.7	12.6	15.4	..	24.4	..	33.0	36.0	39.0	4. 20. 24.27		24.43	15.52	51.09	[-0.19]	...	..				
19	δ 2 L.	E	..	..	9.8	12.7	15.5	21.4	27.2	30.0	32.9	10. 34. 21.33	(+3.18)	21.50			51.32	10. 34. 9.63	..					
20	ι Leonis	E	31.0	34.0	36.8	..	44.9	..	53.5	56.2	59.1	10. 41. 45.04		45.21	36.41	51.20	[-0.25]	...	..					
21	δ Leonis	E	16.6	19.5	22.4	25.2	31.1	37.0	40.1	43.0	46.2	11. 6. 31.22		31.42	22.63	51.21		...	..					
Nov. 13	22	α Aquarii	L	..	..	19.0	21.6	27.0	32.7	35.5	38.3	41.0	21. 58. 27.15		27.27	17.56	50.29	50.63	...	..				
	23	β Arietis	L	35.5	38.5	41.4	44.3	50.0	56.0	58.9	2.0	4.9	1. 46. 50.15		50.35	40.70	50.35	50.38	...	..				
	24	α Arietis	L	58.6	1.6	4.5	7.6	13.6	19.5	22.7	25.5	28.6	1. 59. 13.54		13.75	4.23	50.48	[-0.25]	...	..				
	25	Flora	L	16.2	19.1	21.7	24.5	30.0	35.6	38.4	41.2	43.8	2. 17. 30.04		30.17				2. 18. 20.53	..				
	26	γ Tauri	AD	32.2	35.3	38.0	40.9	46.6	52.4	55.3	58.1	1.0	4. 11. 46.62		46.80	37.42	50.62	50.65†	...	..				
	27	ϵ Tauri	AD	10.2	13.2	16.0	19.0	24.7	30.5	33.6	36.5	39.3	4. 20. 24.76		24.95	15.54	50.59	[-0.25]	...	..				
	28	π Virginis	H	18.4	21.2	23.8	26.7	32.3	37.7	40.6	43.4	46.3	11. 53. 32.25	(+2.78)	32.40	23.06	50.66	50.74	...	..				
	29	σ Virginis	H	..	..	..	..	54.7	..	3.3	..	8.8	11. 57. 54.77	[-0.43]	54.92	45.54	50.62	[-0.20]	...	..				
	30	Polaris S.P. (E&E)	G	41.5	39.0	34.0	30.8	23.5	..	..	..	7.0	13. 12. 14.85		7.00	57.69	50.69		...	..				
	31	Venus 2 L.	H	..	..	..	..	..	32.1	34.9	37.7	40.5	13. 45. 26.47		26.56				13. 46. 16.77	..				
Nov. 14	32	δ Virginis	AD	8.7	11.6	14.4	17.2	22.6	28.3	30.8	33.7	36.7	12. 48. 22.65	(+2.28)	22.76	13.30	50.54	50.58	12. 49. 13.31	- 0.90				
Nov. 15	33	$\odot$ 1 L.	AD	5.4	8.4	11.4	14.2	19.8	25.8	28.9	31.7	34.6	15. 21. 20.00		28.59				15. 23. 19.14	..				
	34	$\odot$ 2 L.	AD	22.4	25.4	28.3	31.3	..	..	..	..	..	15. 23. 37.06							..				
	35	κ Ophiuchi	AD	35.0	38.2	40.8	43.7	49.3	54.8	57.5	0.4	3.4	16. 50. 49.21		49.34	39.90	50.56		16. 51. 39.88	- 0.48				
	36	Mercury 1 L.	AD	19.6	22.9	26.0	29.0	35.2	41.4	44.3	47.4	50.4	16. 53. 35.11		35.15				16. 54. 25.96	..				
	37	α^1 Herculis	AD	46.7	49.8	52.6	55.4	1.1	6.7	9.6	12.6	15.4	17. 8. 1.08		1.22	51.84	50.62		17. 8. 51.76	- 0.44				
	38	β Draconis	AD	..	..	..	..	..	51.2	55.7	0.1	4.6	17. 26. 41.99		42.28				17. 27. 32.82	+ 1.04				
	39	β Ophiuchi	AD	8.0	10.9	13.6	16.3	21.9	27.5	30.4	33.2	35.8	17. 36. 21.94		22.06	12.55	50.49		17. 37. 12.60	- 0.65				
	40	λ Ursæ Min. (E&E)	AD	..	..	..	..	9.0	4.0	33.0	..	..	19. 48. 56.78		5.69	56.27	50.58		...	..				
	41	Saturn 1 L.	AD	53.3	56.2	59.0	2.2	8.1	14.0	17.0	19.8	22.9	19. 59. 8.03		8.68				19. 59. 59.22	..				
	42	Saturn 2 L.	AD	54.4	57.5	0.4	3.4	9.2	15.3	18.3	21.0	24.0	19. 59. 9.23							..				
	43	α^2 Capricorni	AD	57.0	0.0	2.8	5.7	11.3	17.1	..	..	..	20. 10. 11.30		11.37	1.93	50.56		20. 11. 1.91	- 1.57				
	44	Bradley 2636....	AD	1.2	9.0	16.4	23.6	38.7	54.0	1.6	9.0	16.6	20. 18. 38.84		39.34				20. 19. 29.88	+ 1.75				
	45	ζ Cygni	AD	26.3	29.6	32.7	35.9	42.3	48.7	52.0	54.9	58.3	21. 6. 42.27		42.45	33.02	50.57		21. 7. 32.99	- 1.15				
	46	α Cephei	AD	12.3	18.4	24.0	29.9	41.5	53.7	59.6	5.2	11.4	21. 14. 41.73		42.12				21. 15. 32.66	+ 0.06				

Polaris and other stars very near the pole are observed by eye and ear over the wires P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P.; using the Clock Hardy. The Intervals of the Wires of both systems are given in the Introduction.

Reading of Transit-Micrometer, 32^h. 400.

Corrections to the times by Hardy for reduction to Arnold 1, applied to form Concluded Transit, Nos. 11, 30, and 40, -70^h. 10: -69^h. 80: -70^h. 40.

Corrections for passage of Semidiameter, Nos. 19, 31, and 36, -63^h. 09: -0^h. 42: and +0^h. 27.

† These clock-errors have been used in the reduction of the observations made with the Altazimuth.

November 13, π Virginis to Venus 2 L. The azimuthal error by tabular places of π Virginis and Polaris S.P., allowing -0^h. 03 for clock-rate.

November 14 and 15. The azimuthal error by tabular places of λ Ursæ Minoris and α^2 Capricorni on November 15.

19. Correction to R.A. on true meridian, +0^h. 01.
33, 34, 40, 43. Cloudy.

20. Very faint.
36. Very faint and tremulous.

23. Faint; cloudy.

28. Only just visible.
41, 42. Very tremulous.

TRANSITS OBSERVED WITH THE TRANSIT-CIRCLE, AND COMPUTATIONS OF APPARENT RIGHT ASCENSION,

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of Collimation. (Level). [Azimuth].	Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at 0 ^h Sidereal and (Lossing Rate).	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873, Jan. 1.
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.								
				s	s	s	s	s	s	s	s	s								
Nov. 15	1	θ Ursæ Maj. S.P.	AD	11 ⁰	15 ⁶	20 ⁴	24 ⁷	34 ²	43 ¹	47 ⁵	52 ⁰	56 ⁵	21. 23. 33 ⁹ 3	+0 ⁴⁰	33 ⁷⁸			50 ⁵⁸	9. 24. 24 ³²	- 3 ⁰⁹
	2	27 Ursæ Maj. S.P.	AD	40 ⁶	50 ⁴	59 ³	8 ⁶	27 ⁶	46 ³	55 ⁸	4 ⁷	14 ⁵	21. 30. 27 ⁶¹	(+2 ²⁸)	27 ¹⁴			[-0 ⁰⁵]	9. 31. 17 ⁶⁸	- 4 ⁸⁹
	3	28 Ursæ Maj. S.P.	AD	49 ⁴	55 ⁷	2 ¹	8 ⁴	21 ²	33 ⁹	40 ²	46 ⁴	53 ⁰	21. 35. 21 ²⁰	[-0 ⁴⁹]	20 ⁹²				9. 36. 11 ⁴⁵	- 3 ⁷³
	4	υ Ursæ Maj. S.P.	AD	42 ¹	47 ⁶	52 ⁹	58 ⁵	9 ³	20 ⁵	25 ⁹	31 ³	36 ⁶	21. 41. 9 ⁴⁶		9 ²⁴				9. 41. 59 ⁷⁷	- 3 ²⁰
	5	Groombridge 3616	AD	12 ⁰	18 ⁰	23 ⁴	29 ⁰	40 ⁴	52 ⁰	57 ⁵	3 ⁰	8 ⁹	21. 49. 40 ⁴²		40 ⁷⁹				21. 50. 31 ³²	- 0 ⁵³
	6	Groombridge 3621	AD	..	19 ⁸	25 ¹	30 ⁶	42 ²	53 ⁷	59 ³	4 ⁷	..	21. 50. 42 ¹⁴		42 ⁵²				21. 51. 33 ⁰⁵	- 0 ⁵⁴
	7	α Aquarii	AD	13 ²	16 ⁰	18 ⁶	21 ⁴	27 ⁰	32 ⁵	35 ³	38 ¹	40 ⁹	21. 58. 26 ⁹⁸		27 ⁰⁷	17 ⁵³	50 ⁴⁶		21. 59. 17 ⁶⁰	- 1 ⁹⁸
	8	32 Ursæ Maj. S.P.	AD	26 ⁶	33 ⁴	40 ⁰	47 ¹	0 ¹	13 ⁴	20 ³	26 ⁶	33 ⁸	22. 8. 0 ²¹		59 ⁹¹				10. 8. 50 ⁴⁴	- 3 ²⁴
Nov. 19	9	ε Piscium	AD	19 ⁵	22 ⁴	25 ¹	27 ⁸	33 ⁴	39 ¹	42 ⁰	44 ⁶	47 ³	0. 55. 33 ⁴⁵	+0 ²⁹	33 ⁵¹	24 ⁰³	50 ⁵²	50 ⁵²	....	....
	10	β Andromedæ	AD	33 ⁰	36 ⁵	39 ⁸	43 ³	50 ²	56 ⁷	0 ⁰	3 ⁴	6 ⁸	1. 1. 49 ⁹⁴	(+1 ⁷⁵)	50 ⁰⁷	40 ⁵⁸	50 ⁵¹	[0 ⁰¹]	....	....
	11	Polaris (E&E)	AD	..	6 ⁵	0 ⁰	55 ⁰	47 ⁰	..	..	..	..	1. 11. 59 ⁰⁷	[-1 ¹⁰]	5 ⁶⁴	55 ⁴⁵	49 ⁸¹		1. 12. 56 ¹⁷	- 37 ⁷⁶
	12	Polaris S.P. (E&E)	P	14 ⁰	14 ⁵	7 ⁵	5 ⁵	59 ⁰	..	..	..	..	13. 12. 10 ⁶⁰		4 ⁰⁷	55 ²⁶	51 ¹⁹	50 ⁶⁷	1. 12. 54 ⁷⁵	- 37 ⁵⁷
	13	Spica	P	26 ⁴	29 ³	32 ⁰	34 ⁷	40 ⁵	46 ¹	48 ⁹	51 ⁷	54 ⁵	13. 17. 40 ⁴⁴		40 ⁴⁵	31 ¹⁰	50 ⁶⁵	[0 ⁰¹]	13. 18. 31 ¹³	- 0 ⁸⁸
	14	η Boötis	P	..	..	..	..	..	..	57 ⁰	59 ⁹	2 ⁹	13. 47. 48 ²⁰		48 ²⁹	39 ⁰¹	50 ⁷²		13. 48. 38 ⁹⁷	- 0 ⁷⁵
	15	Arcturus	P	47 ³	50 ⁴	53 ²	56 ²	2 ⁰	7 ⁹	10 ⁹	13 ⁷	16 ⁸	14. 9. 2 ⁰³		2 ¹²	52 ⁷²	50 ⁶⁰		14. 9. 52 ⁸⁰	- 0 ⁵⁹
	16	Venus 2 L.	P	41 ¹	44 ²	47 ⁰	49 ⁷	55 ³	..	..	..	..	14. 13. 55 ³⁸		55 ³⁸				14. 14. 45 ⁶⁴	- 0 ⁴¹
	17	ε ² Boötis	P	20 ⁵	23 ⁷	26 ⁶	29 ⁹	36 ¹	42 ⁴	45 ⁵	48 ⁵	51 ⁷	14. 38. 36 ⁰⁷		36 ¹⁸	26 ⁸⁴	50 ⁶⁶		14. 39. 26 ⁸⁶	- 0 ⁴¹
	18	β Ursæ Minoris ..	P	..	29 ²	39 ⁴	49 ⁷	10 ⁹	31 ⁶	42 ³	52 ⁴	..	14. 50. 10 ⁶⁹		11 ²⁸				14. 51. 1 ⁹⁶	+ 3 ⁸³
	19	γ Draconis	P	46 ⁸	52 ⁴	58 ⁰	3 ³	14 ³	25 ⁰	30 ⁵	36 ⁰	41 ⁵	15. 21. 14 ¹⁵		14 ⁴⁴				15. 22. 5 ¹²	+ 1 ²⁸
	20	α Serpentis	P	..	..	..	5 ⁰	10 ⁶	16 ²	19 ⁰	21 ⁷	24 ⁵	15. 37. 10 ⁵⁸		10 ⁶⁴	1 ³³	50 ⁶⁹		15. 38. 1 ³²	- 0 ⁵⁵
Nov. 20	21	θ Draconis	P	11 ⁵	16 ⁹	22 ³	27 ⁴	38 ³	49 ¹	54 ⁴	59 ⁶	4 ⁹	15. 58. 38 ²²		38 ⁵¹				15. 59. 29 ¹⁹	+ 1 ⁵³
	22	η Draconis	P	54 ⁴	0 ⁶	6 ³	12 ⁰	23 ⁷	35 ³	41 ³	47 ⁰	53 ⁰	16. 21. 23 ⁶⁸		24 ⁰⁰				16. 22. 14 ⁶⁸	+ 1 ⁹⁵
	23	α Ophiuchi	P	..	..	..	12 ⁰	17 ⁸	20 ⁶	23 ⁵	26 ³	17. 28. 12 ⁰⁸		12 ¹⁴	2 ⁸³	50 ⁶⁹			17. 29. 2 ⁸²	- 0 ⁵⁰
	24	μ Herculis	P	..	..	..	..	45 ⁰	48 ⁰	51 ¹	54 ³	17. 40. 38 ⁶³		38 ⁷⁴	29 ⁴⁵	50 ⁷¹			17. 41. 29 ⁴²	- 0 ¹²
	25	γ Draconis	P	25 ³	29 ⁹	34 ³	38 ⁷	47 ⁶	56 ⁴	1 ⁰	5 ⁴	9 ⁸	17. 52. 47 ⁵⁶		47 ⁷⁸				17. 53. 38 ⁴⁶	+ 0 ⁹⁹
	26	γ Cephei	P	9 ²	19 ⁷	30 ¹	40 ²	1 ⁷	22 ⁴	33 ⁰	43 ²	54 ⁰	23. 3. 1 ⁴¹		2 ⁰³				23. 3. 52 ⁷¹	- 1 ⁰⁰
	27	Groomb. 1782 S.P.	P	22 ⁷	42 ⁶	1 ⁸	21 ¹	0 ⁵	39 ⁸	58 ⁷	17 ⁶	38 ⁰	23. 22. 0 ⁴⁸		59 ³⁸				11. 22. 50 ⁰⁶	- 2 ⁶³
	28	γ Cephei	P	18 ⁴	30 ⁸	42 ⁹	54 ⁹	19 ⁵	44 ⁴	56 ⁶	8 ⁵	20 ⁷	23. 33. 19 ⁵³		20 ²³				23. 34. 10 ⁹¹	- 1 ⁹⁷
	29	γ Ursæ Maj. S.P.	P	55 ⁸	0 ⁴	5 ³	10 ¹	19 ⁵	29 ⁰	33 ⁷	38 ⁴	43 ³	23. 46. 19 ⁵⁴		19 ³³				11. 47. 10 ⁰¹	- 1 ⁶¹
	30	α Andromedæ ...	P	45 ⁵	48 ⁶	51 ⁶	55 ⁰	1 ²	7 ⁵	10 ⁶	13 ⁸	17 ⁰	0. 1. 1 ¹⁷		1 ²⁸	52 ⁰¹	50 ⁷³	50 ⁶⁸	0. 1. 51 ⁹⁶	- 2 ⁴⁷
	31	Polaris (E&E)	P	..	..	56 ⁰	55 ⁵	45 ⁰	37 ⁵	36 ⁰	..	..	1. 11. 56 ⁸⁷		3 ⁴⁴	55 ⁰⁷	51 ⁶³		1. 12. 54 ¹²	- 37 ³⁸
	32	Polaris S.P. (E&E)	L	..	..	..	5 ⁰	57 ⁰	52 ⁰	..	40 ⁵	41 ⁰	13. 12. 10 ²⁰		3 ⁶⁷	54 ⁸⁸	51 ²¹	50 ⁴²	1. 12. 54 ⁰⁴	- 37 ¹⁹
	33	Arcturus	L	47 ⁵	50 ⁶	53 ⁵	56 ⁵	2 ⁴	8 ²	11 ²	14 ⁰	16 ⁹	14. 9. 2 ²⁹		2 ³⁸	52 ⁷⁴	50 ³⁶	[-0 ¹⁰]	....	....
	34	Venus 2 L.	L	29 ⁶	32 ⁵	35 ³	38 ⁰	43 ⁶	49 ⁴	52 ⁴	55 ⁰	58 ⁰	14. 18. 43 ⁷⁴		43 ⁷⁴				14. 19. 33 ⁶⁸	- 2 ⁶³
	35	β Ursæ Minoris ..	L	18 ⁶	29 ⁷	39 ⁶	50 ³	11 ¹	32 ⁰	42 ⁶	53 ⁰	3 ⁸	14. 50. 11 ¹¹		11 ⁷⁰				14. 51. 2 ⁰⁶	+ 3 ⁸¹
Nov. 21	36	⊙ 1 L.	L	3 ⁵	6 ⁴	9 ⁴	12 ³	18 ⁰	24 ¹	27 ¹	30 ⁰	33 ⁰	15. 46. 18 ¹⁸		} 27 ³⁸				15. 48. 17 ⁷³	
	37	⊙ 2 L.	L	21 ⁹	24 ⁹	27 ⁶	30 ⁷	36 ⁶	42 ⁵	45 ⁵	48 ⁴	51 ⁴	15. 48. 36 ⁵⁹							
Nov. 22	38	60 Pegasi	C	35 ⁶	38 ⁹	41 ⁸	44 ⁸	51 ¹	57 ⁴	0 ⁴	3 ⁴	6 ⁵	23. 4. 51 ⁰⁷	(+0 ⁸⁵)	51 ¹²			50 ⁵⁴	23. 5. 41 ⁴⁴	- 2 ⁰⁰
	39	χ Aquarii	C	14 ¹	16 ⁹	19 ⁶	22 ³	28 ¹	33 ⁶	36 ⁴	39 ²	42 ¹	23. 9. 28 ⁰³		28 ⁰²			[-0 ²³]	23. 10. 18 ³⁴	- 2 ³⁹
	40	κ Piscium	C	23 ⁵	26 ⁴	29 ⁰	31 ⁷	37 ⁴	42 ⁹	45 ⁶	48 ⁴	51 ¹	23. 19. 37 ³¹		37 ³¹	27 ⁶²	50 ³¹		....	....
	41	14 Andromedæ ..	C	56 ⁹	0 ⁶	4 ⁰	7 ⁶	14 ⁷	21 ⁷	25 ³	28 ⁸	32 ⁴	23. 24. 14 ⁶⁴		14 ⁷¹				23. 25. 5 ⁰³	- 2 ⁰⁸
	42	15 Andromedæ ..	C	18 ⁷	22 ⁵	26 ⁰	29 ⁵	36 ⁷	43 ⁹	47 ⁵	51 ⁰	54 ⁶	23. 27. 36 ⁶⁸		36 ⁷⁶				23. 28. 27 ⁰⁷	- 2 ⁰⁹
	43	χ Ursæ Maj. S.P.	C	11 ⁰	15 ¹	19 ²	23 ³	31 ⁷	40 ⁰	44 ²	48 ²	52 ⁵	23. 38. 31 ⁷²		31 ⁵⁶				11. 39. 21 ⁸⁷	- 1 ⁷⁶
	44	υ Piscium	C	45 ⁷	48 ⁵	51 ²	54 ³	59 ⁶	5 ¹	8 ⁰	10 ⁸	13 ⁵	23. 51. 59 ⁶¹		59 ⁶²	49 ⁹⁰	50 ²⁸		....	....
	45	Bradley 3192	C	..	..	..	..	..	12 ⁵	15 ⁷	18 ⁵	21 ⁶	23. 53. 6 ²⁶		6 ³¹				23. 53. 56 ⁶²	- 2 ³⁸

The observations of transits are usually made by the galvanic or chronographic method, the wires employed being generally P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P. Occasionally the observations are made by eye and ear (E & E); the wires then employed are N, O, P, T, X, Y, Z; in reversed order for stars S.P.

Reading of Transit-Micrometer, 32^r.400.

Corrections to the times by Hardy for reduction to Arnold 1, applied to form Concluded Transit, Nos. 11, 12, 31, and 32, - 49⁰⁰: - 48⁶⁰: - 48⁴⁰: and - 48¹⁰.

Corrections for passage of Semidiameter, Nos. 16 and 34, - 0⁴²: and - 0⁴².

November 19 to 22. The azimuthal error from four consecutive transits of Polaris and Polaris S.P. on November 19 and 20.

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire	Error of Collimation. (Level). [Azimuth].	Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at 0 ^h Sidereal and (Losing Rate).	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873, Jan. 1.
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.								
				s	s	s	s	s	s	s	s	s								
Nov. 22	1	Bradley 18.....	C	17 ⁰	24 ³	31 ⁴	38 ⁴	52 ⁶	6 ⁷	14 ⁰	21 ⁰	28 ¹	0. 13. 52.55	+0 ²⁹	52 ⁷⁹			50 ³¹	0. 14. 43 ¹⁰	- 2 ⁸⁵
	2	12 Ceti.....	C	32 ⁰	34 ⁸	37 ⁶	40 ³	45 ⁷	51 ⁴	54 ²	56 ⁸	59 ⁶	0. 22. 45.80	(+0 ⁸⁵)	45 ⁷⁹	36 ¹⁰	50 ³¹	[-0 ²³]	....	
	3	δ Ceti.....	C	57 ⁵	0 ⁴	3 ⁰	5 ⁷	11 ³	16 ⁸	19 ⁶	22 ⁴	25 ¹	2. 32. 11 ²⁹	[-1 ¹⁰]	11 ²⁹	1 ⁶³	50 ³⁴		....	
	4	μ Arietis.....	C	10 ⁷	13 ⁹	16 ⁶	19 ⁶	25 ⁴	31 ⁴	34 ³	37 ³	40 ²	2. 34. 25 ⁴⁷		25 ⁵⁰				2. 35. 15 ⁷⁹	- 2 ³³
Nov. 24	5	μ Andromedæ...	AD	37 ⁹	41 ⁶	45 ⁰	48 ⁴	55 ⁴	2 ⁴	6 ⁰	9 ⁴	12 ⁸	0. 48. 55 ⁴⁰	+0 ⁴³	55 ⁵⁰	45 ³⁷	49 ⁸⁷	49 ⁹⁴	0. 49. 45 ⁴⁴	- 2 ⁸⁴
	6	ε Piscium.....	AD	20 ⁰	22 ⁹	25 ⁶	28 ⁴	..	..	..	..	..	0. 55. 33 ⁹⁶	(+0 ⁷⁷)	34 ⁰⁴	24 ⁰¹	49 ⁹⁷	[-0 ¹⁴]	0. 56. 23 ⁹⁷	- 2 ⁸²
	7	β Andromedæ...	AD	33 ⁵	37 ⁰	40 ⁴	43 ⁷	50 ⁵	57 ⁴	0 ⁶	4 ⁰	7 ⁴	1. 1. 50 ⁴⁷	[+0 ¹⁷]	50 ⁵⁶	40 ⁵³	49 ⁹⁷		1. 2. 40 ⁴⁹	- 2 ⁹⁴
	8	Polaris....(E&E)	AD	..	6 ⁵	59 ⁵	55 ⁰	49 ⁰	..	..	..	..	1. 12. 1 ²²		3 ⁸⁵	53 ¹⁰	49 ²⁵		....	
	9	θ Ceti.....	AD	..	..	..	..	59 ⁰	2 ⁰	4 ⁶	7 ⁴	..	1. 16. 53 ⁴³		53 ⁵⁰	43 ⁴⁴	49 ⁹⁴		1. 17. 43 ⁴³	- 2 ⁹⁵
	10	40 Cassiopeiæ...	AD	53 ⁶	3 ⁰	12 ²	21 ²	39 ⁵	57 ⁶	7 ²	16 ³	25 ³	1. 27. 39 ⁴⁶		39 ⁷¹				1. 28. 29 ⁶⁴	- 5 ⁰⁰
	11	ν Piscium.....	AD	48 ⁴	51 ⁴	54 ⁰	..	..	..	..	..	..	1. 34. 2 ³⁴		2 ⁴²	52 ³⁵	49 ⁹³		1. 34. 52 ³⁵	- 2 ⁹⁹
	12	ξ Ceti.....	AD	15 ³	18 ¹	20 ⁹	23 ⁸	29 ²	35 ⁰	37 ⁷	40 ⁵	43 ⁴	2. 5. 29 ³⁰		29 ³⁸	19 ³⁶	49 ⁹⁸		2. 6. 19 ³¹	- 3 ¹³
	13	ν Ceti.....	AD	12 ⁰	14 ⁵	17 ⁴	20 ⁴	25 ⁸	31 ⁴	34 ⁴	37 ⁰	39 ⁹	2. 28. 25 ⁸⁵		25 ⁹³	15 ⁷⁷	49 ⁸⁴		2. 29. 15 ⁸⁶	- 3 ¹⁹
	14	Aurora.....	AD	..	..	..	..	15 ⁷	22 ⁰	24 ⁸	28 ⁴	31 ⁷	2. 33. 16 ⁰¹		16 ¹⁰				2. 34. 6 ⁰³	
	15	τ Persei.....	AD	7 ⁶	12 ⁵	16 ⁶	21 ⁰	30 ²	39 ³	43 ⁷	48 ¹	52 ⁷	2. 44. 30 ¹⁵		30 ²⁹				2. 45. 20 ²¹	- 4 ³¹
	16	β Persei.....	AD	50 ⁴	54 ⁰	57 ⁷	1 ⁴	8 ⁶	15 ⁸	19 ⁵	23 ⁰	26 ⁸	2. 59. 8 ⁵⁴		8 ⁶⁵				2. 59. 58 ⁵⁷	- 3 ⁹⁰
	17	ζ Arietis.....	AD	35 ¹	38 ⁰	40 ⁹	43 ⁸	49 ⁷	55 ⁷	58 ⁶	1 ⁶	4 ⁵	3. 6. 49 ⁷⁴		49 ⁸³				3. 7. 39 ⁷⁵	- 3 ⁴⁷
	18	α Persei.....	AD	9 ⁰	13 ⁶	17 ⁵	21 ⁷	30 ⁴	38 ⁷	42 ⁹	47 ⁰	51 ⁵	3. 14. 30 ²²		30 ³⁴				3. 15. 20 ²⁶	- 4 ³⁹
	19	γ Ursæ Min. S.P.	AD	17 ⁷	27 ⁰	35 ⁸	44 ⁸	3 ⁴	21 ⁵	30 ⁶	39 ⁴	48 ⁸	3. 20. 3 ³⁰		3 ¹⁴				15. 20. 53 ⁰⁶	+ 3 ⁵¹
	20	δ Persei.....	AD	47 ³	51 ⁵	55 ⁵	59 ⁶	7 ⁷	15 ⁸	20 ⁰	24 ⁰	28 ¹	3. 33. 7 ⁶⁹		7 ⁸¹				3. 33. 57 ⁷³	- 4 ⁴¹
	21	η Tauri.....	AD	54 ⁷	57 ⁹	0 ⁸	3 ⁸	9 ⁹	15 ⁸	18 ⁹	22 ⁰	25 ⁰	3. 39. 9 ⁸⁴		9 ⁹³	59 ⁸⁹	49 ⁹⁶		3. 39. 59 ⁸⁹	- 3 ⁶³
	22	ζ Ursæ Min. S.P.	AD	33 ⁷	47 ⁵	0 ⁴	14 ⁵	41 ⁹	8 ⁵	22 ¹	35 ⁴	49 ³	3. 47. 41 ⁵⁹		41 ³³				15. 48. 31 ²⁵	+ 6 ⁸⁴
	23	Groombr. 2320 S.P.	AD	29 ⁴	36 ⁵	43 ⁸	51 ⁵	6 ¹	21 ⁰	28 ⁵	35 ⁷	43 ²	4. 5. 6 ²⁵		6 ¹³				16. 5. 56 ⁰⁵	+ 3 ⁰¹
	24	μ Eridani.....	AD	8 ⁶	11 ⁵	14 ²	16 ⁸	22 ⁵	28 ⁰	31 ⁰	33 ³	36 ²	4. 38. 22 ⁴⁴		22 ⁵¹	12 ⁴⁶	49 ⁹⁵		4. 39. 12 ⁴²	- 3 ²⁹
	25	Alceste.....	AD	50 ⁸	54 ³	..	0 ²	5 ¹	..	..	17 ⁰	19 ⁹	4. 47. 5 ⁵⁰		5 ⁵⁹				4. 47. 55 ⁵⁰	
Nov. 25	26	⊙ 1 L.....	E	58 ⁴	1 ⁴	4 ⁴	7 ³	13 ³	19 ²	22 ³	25 ²	28 ⁰	16. 3. 13 ²⁶	(+1 ¹⁵)	22 ⁹⁸			50 ⁰⁹	16. 5. 13 ⁰¹	
	27	⊙ 2 L.....	E	17 ⁸	20 ⁸	23 ⁷	26 ⁶	32 ⁴	38 ⁵	41 ⁴	44 ⁴	47 ⁵	16. 5. 32 ⁵⁵					[-0 ⁰⁹]	....	
	28	α Herculis.....	E	..	50 ⁴	53 ²	56 ⁰	1 ⁸	7 ⁴	10 ³	13 ²	..	17. 8. 1 ⁷³			1 ⁸³	51 ⁸⁵	50 ⁰²	....	
	29	α Ophiuchi.....	E	58 ⁶	1 ⁴	4 ³	..	12 ⁶	..	21 ³	24 ²	26 ⁸	17. 28. 12 ⁷¹		12 ⁸¹	2 ⁸⁴	50 ⁰³		....	
	30	γ Draconis.....	E	..	30 ⁵	34 ⁷	39 ⁴	48 ¹	57 ⁰	1 ⁵	5 ⁷	..	17. 52. 48 ⁰⁷		48 ²⁴				17. 53. 38 ²⁶	+ 1 ⁰⁶
Nov. 26	31	ξ Ceti.....	AD	23 ⁷	26 ⁸	29 ⁴	32 ³	37 ⁸	43 ⁴	46 ³	49 ⁰	51 ⁹	2. 20. 37 ⁸²	(+0 ⁹⁶)	37 ⁹¹	27 ⁶⁶	49 ⁷⁵	49 ⁷⁴	....	
	32	ν Ceti.....	AD	12 ¹	15 ⁰	17 ⁷	20 ⁴	25 ⁰	31 ⁶	34 ⁴	37 ⁰	40 ⁰	2. 28. 26 ⁰⁰		26 ⁰⁹	15 ⁷⁷	49 ⁶⁸	[-0 ¹⁷]	....	
	33	α Ceti.....	L	38 ⁴	41 ³	43 ⁸	46 ⁸	52 ²	57 ⁸	0 ⁶	3 ⁴	6 ²	2. 54. 52 ²⁶		52 ³⁴	41 ⁷⁷	49 ⁴³		....	
	34	Polaris S.P.(E&E)	C	..	48 ⁰	43 ⁰	40 ⁵	34 ⁰	27 ⁰	..	..	..	13. 12. 46 ⁹⁰	[-15 ²¹]	2 ⁶⁷	51 ⁴⁴	48 ⁷⁷	[-0 ¹⁷]	....	
	35	Venus 2 L.....	C	39 ⁷	42 ⁷	45 ⁴	48 ⁴	54 ⁰	59 ⁷	2 ⁷	5 ⁵	8 ⁴	14. 47. 54 ⁰⁴		55 ¹³				14. 48. 44 ³¹	
Nov. 27	36	⊙ 2 L.....	C	50 ⁴	53 ⁴	56 ⁴	59 ⁴	5 ⁴	11 ⁴	14 ⁴	17 ³	20 ³	16. 14. 5 ³⁶	+0 ⁴³	5 ⁴²				16. 13. 45 ⁰⁹	
	37	γ Draconis.....	C	26 ⁴	31 ⁰	35 ⁴	39 ⁶	48 ⁵	57 ⁶	1 ⁹	6 ⁴	10 ⁸	17. 52. 48 ⁵⁸		48 ⁷³				17. 53. 38 ⁰⁵	+ 1 ⁰⁹
	38	Arcturus.....	AD	48 ⁵	51 ⁶	54 ⁵	57 ⁵	3 ⁴	9 ¹	12 ²	15 ⁰	18 ¹	14. 9. 3 ³⁰		3 ⁴⁰	52 ⁸⁸	49 ⁴⁸	49 ⁴⁶	14. 9. 52 ⁷⁹	- 0 ⁷⁵
Nov. 28	39	Groombridge 4005	AD	31 ⁸	38 ⁹	45 ⁷	52 ⁶	..	20 ⁴	27 ⁵	34 ²	41 ⁴	23. 4. 6 ⁴⁹		6 ⁷¹				23. 4. 56 ⁰⁵	- 1 ⁰⁵
	40	ψ ² Aquarii.....	AD	17 ⁰	20 ⁰	22 ⁶	25 ⁴	31 ¹	36 ⁶	39 ⁴	42 ⁴	45 ¹	23. 10. 31 ⁰⁵		31 ¹²				23. 11. 20 ⁴⁶	- 2 ³⁵
	41	κ Piscium.....	AD	24 ³	27 ³	29 ⁹	32 ⁵	38 ³	43 ⁷	46 ⁴	49 ³	52 ¹	23. 19. 38 ¹⁸		38 ²⁶	27 ⁵⁶	49 ³⁰		23. 20. 27 ⁶⁰	- 2 ²⁹
	42	Piazzi XXIII. 126	AD	58 ⁰	0 ⁸	3 ⁵	6 ⁴	11 ⁹	17 ⁵	20 ³	23 ²	25 ⁸	23. 28. 11 ⁹²		11 ⁹⁹				23. 29. 1 ³³	- 2 ⁴²
	43	δ Sculptoris.....	AD	16 ⁰	19 ³	22 ⁴	25 ⁴	32 ⁰	38 ²	41 ⁴	44 ⁴	47 ⁵	23. 41. 31 ⁸²		31 ⁸⁷	21 ¹⁷	49 ³⁰		23. 42. 21 ²¹	- 2 ⁷⁶
	44	δ 1 L.....	AD	25 ⁶	28 ⁷	31 ⁴	34 ³	39 ⁹	45 ⁶	48 ⁵	51 ⁵	54 ³	23. 49. 39 ⁹⁵		40 ⁰²				23. 51. 36 ⁹⁰	

Polaris and other stars very near the pole are observed by eye and ear over the wires P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P.; using the Clock Hardy. The Intervals of the Wires of both systems are given in the Introduction.

Reading of Transit-Micrometer, 32¹.400; November 26, Polaris S.P. and Venus 2 L., 31¹.400.

Corrections to the times by Hardy for reduction to Arnold 1, applied to form Concluded Transit, Nos. 8 and 34, -47³.30: and -47³.40.

Corrections for passage of Semidiameter, Nos. 35, 36, and 44, -6⁸.41: -69⁸.91: and +67⁸.54.

† This clock-error has been used in the reduction of the observations made with the Altazimuth.

November 24 to 29. The azimuthal error used is the mean of three determinations (+0⁰.57, -0⁰.19, and +0⁰.14) by tabular places of Polaris and θ Ceti on November 24, of α Ceti and Polaris S.P. on November 26, and of Polaris and ν Piscium on November 28, allowing -0⁰.03 for clock-rate in the second case.

3, 6, 9, 11. Cloudy.
40. Very tremulous.

4. Cloudy; faint.
42. Faint; cloudy.

18. Diffused.
43. Faint and tremulous.

25. Very faint.

TRANSITS OBSERVED WITH THE TRANSIT-CIRCLE, AND COMPUTATIONS OF APPARENT RIGHT ASCENSION,

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of Collimation. (Level). [Azimuth].	Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at ϕ^h Sideral and (Losing Rate).	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873, Jan. 1.
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.								
				s	s	s	s	s	s	s	s	s								
Nov. 28	1	2 Ceti	L	12.7	15.9	18.7	21.7	27.4	33.4	36.2	39.1	42.0	23.56.27.43	+0.43	27.49	16.58	49.09	49.23†	....	
	2	α Andromedæ ...	L	47.0	50.2	53.4	56.4	2.7	9.0	12.1	15.1	18.5	0. 1. 2.68	(+0.96)	2.79	51.92	49.13	49.11†	....	
	3	γ Pegasi	AD	40.6	43.5	46.4	49.2	55.0	0.6	3.5	6.4	9.3	0. 5. 54.92	[+0.17]	55.01	44.29	49.28	49.34	0. 6. 44.35	- 2.47
	4	Bradley 6.	AD	18.6	30.5	41.8	53.4	16.6	40.0	51.6	3.4	15.0	0. 8. 16.66		17.01			[+0.12]	0. 9. 6.35	- 2.71
	5	10 Ceti	AD	5.9	8.7	11.5	14.2	19.8	25.4	28.0	30.7	33.6	0. 19. 19.73		19.81				0. 20. 9.15	- 2.63
	6	52 Piscium	AD	54.6	57.5	0.3	3.3	9.3	15.1	18.0	21.0	23.9	0. 25. 9.20		9.30				0. 25. 58.64	- 2.59
	7	15 Ceti	AD	34.4	37.2	40.0	42.8	48.3	53.7	56.5	59.4	2.2	0. 30. 48.25		48.33				0. 31. 37.67	- 2.69
	8	Polaris (E&E)	AD	...	...	...	...	...	39.5	36.0	32.0	29.5	1. 11. 58.06		1.10	50.44	49.34		....	
	9	ν Piscium	AD	49.1	52.0	54.7	57.4	2.9	8.6	11.3	14.0	16.9	1. 34. 2.97		3.05	52.34	49.29		1. 34. 52.38	- 2.98
	10	Neptune	AD	35.0	38.1	40.8	43.4	49.2	54.6	57.3	0.2	3.0	1. 38. 49.04		49.13				1. 39. 38.46	
	11	α Ceti	AD	38.6	41.4	44.0	46.8	52.4	57.9	0.7	3.5	6.3	2. 54. 52.38		52.46	41.78	49.32		2. 55. 41.79	- 3.27
	12	A Draconis S.P.	AD	43.2	50.8	58.5	6.2	21.5	36.6	44.8	52.4	0.1	4. 27. 21.63		21.49				16. 28. 10.81	+ 3.43
	13	μ Eridani	AD	9.2	12.1	14.8	17.5	23.0	28.6	31.4	34.1	36.8	4. 38. 23.04		23.12	12.51	49.39		4. 39. 12.46	- 3.34
	14	Alcestitis	AD	...	...	...	...	...	21.7	24.4	28.0	30.9	4. 43. 16.03		16.13				4. 44. 5.45	
	15	β Camelopardali	AD	56.3	2.2	7.5	12.9	24.3	35.3	41.0	46.5	52.0	4. 51. 24.17		24.36				4. 52. 13.68	- 6.00
	16	ϵ Ursæ Min. S.P.	AD	18.4	39.2	59.6	19.6	0.9	41.9	2.4	22.9	43.6	4. 58. 1.12		0.64				16. 58. 49.96	+ 13.32
	17	Capella	AD	14.1	18.2	22.0	26.0	33.9	41.8	46.0	49.9	53.9	5. 6. 33.95		34.08				5. 7. 23.39	- 4.73
Nov. 29	18	μ Pegasi	C	...	...	...	...	...	11.0	14.0	17.0	20.1	22. 43. 4.92	(+0.52)	4.99	54.26	49.27	49.29†	....	
	19	λ Aquarii	C	58.2	1.1	3.8	6.7	12.1	17.9	20.5	23.4	26.2	22. 45. 12.19		12.25	1.37	49.12	[+0.10]	....	
	20	10 Ceti	E	...	...	11.5	14.3	20.0	...	28.1	30.8	33.6	0. 19. 19.88		19.94			49.44	0. 20. 9.38	- 2.63
	21	μ Andromedæ ...	E	...	...	...	...	...	...	6.4	9.8	13.5	0. 48. 55.86		55.94	45.33	49.39	[+0.10]	0. 49. 45.38	- 2.80
	22	Hera	E	...	17.6	20.5	23.4	28.9	34.6	37.6	40.6	...	4. 8. 29.00		29.07				4. 9. 18.49	
	23	γ Tauri	E	33.8	36.7	39.6	42.4	48.2	53.9	56.8	59.4	2.6	4. 11. 48.13		48.20	37.64	49.44		4. 12. 37.62	- 3.60
	24	ϵ Tauri	E	11.7	14.8	17.6	20.4	26.4	32.2	35.0	38.0	41.0	4. 20. 26.32		26.39	15.77	49.38		4. 21. 15.81	- 3.67
	25	Aldebaran	E	37.7	40.8	43.6	46.4	52.3	57.9	0.9	3.7	6.7	4. 27. 52.00		52.27	41.69	49.42		4. 28. 41.69	- 3.63
	26	ϵ^1 Tauri	E	3.5	6.4	9.3	12.1	17.7	23.3	26.2	29.0	32.0	4. 30. 17.70		17.77				4. 31. 7.19	- 3.57
	27	Alcestitis	E	2.5	5.6	8.4	11.2	17.1	23.0	26.0	...	...	4. 42. 17.12		17.19				4. 43. 6.61	
	28	Bradley 686	E	...	5.0	7.8	10.7	16.4	22.3	25.2	28.0	...	4. 49. 16.46		16.53				4. 50. 5.95	- 3.66
	29	m Tauri	E	56.2	59.3	2.2	5.0	11.0	16.9	19.8	22.6	25.6	4. 59. 10.94		11.01				5. 0. 0.43	- 3.74
	30	Rigel	E	...	28.7	31.5	34.1	39.8	45.5	48.2	50.9	...	5. 7. 39.79		39.85	29.34	49.49		5. 8. 29.27	- 3.27
Nov. 30	31	α Delphini	AD	...	44.8	47.7	50.5	56.2	1.9	4.8	7.6	...	20. 32. 56.18	[-1.05]	56.20	45.37	49.17	49.21†	....	
	32	16 Pegasi	AD	13.9	17.0	20.0	23.2	29.2	35.4	38.5	41.6	44.5	21. 46. 29.22		29.25	18.35	49.10	[+0.20]	....	
	33	δ Piscium	L	5.6	8.5	11.3	13.8	19.6	25.1	28.0	30.6	33.5	0. 41. 19.53		19.54	8.30	48.76	48.79	....	
	34	ϵ Piscium	L	21.3	24.1	26.8	29.5	35.1	40.7	43.5	46.3	49.0	0. 55. 35.12		35.13	23.97	48.84	[+0.20]	....	
	35	f Piscium	L	15.0	18.0	20.6	23.4	29.0	34.6	37.2	40.0	42.8	1. 10. 28.93		28.93				1. 11. 17.71	- 2.86
	36	Polaris (E&E)	L	57.5	59.0	53.0	49.5	...	35.0	34.0	30.0	...	1. 11. 55.78		59.90	49.25	49.35		1. 12. 48.68	- 31.56
	37	μ Piscium	L	32.2	35.0	37.7	40.4	46.0	51.5	54.3	57.2	59.7	1. 22. 45.98		45.98				1. 23. 34.76	- 2.94
	38	δ^1 L.	L	3.8	6.8	9.5	12.4	18.0	24.0	26.6	29.4	32.4	1. 35. 18.08		18.09				1. 37. 14.96	
	39	Piazzi I. 223	L	38.1	41.0	43.8	46.6	52.5	58.0	0.8	3.7	6.4	1. 51. 52.30		52.31				1. 52. 41.08	- 3.08
	40	α Arietis	L	0.4	3.6	6.5	9.4	15.5	21.4	24.5	27.5	30.5	1. 59. 15.46		15.49	4.23	48.74		....	
	41	ξ Arietis	L	0.9	3.9	6.6	9.4	15.0	20.7	23.5	26.4	29.2	2. 17. 15.05		15.06				2. 18. 3.83	- 3.19
	42	Polaris S.P. (E&E)	C	8.0	6.0	0.5	56.5	49.0	...	...	...	...	13. 12. 5.62	+0.22	59.72	48.98	49.26	48.98	1. 12. 48.61	- 31.29
	43	Venus 2 L.	C	30.7	33.7	36.6	39.4	45.2	51.1	54.0	56.8	59.7	15. 7. 45.22	(+1.59)	45.21			[+0.16]	15. 8. 33.68	
	44	α Coronæ	C	14.6	17.7	20.8	24.0	30.2	36.3	39.4	42.5	45.6	15. 28. 30.10		30.20	19.05	48.85		15. 29. 19.08	- 0.40
Dec. 1	45	ξ^1 Ceti	C	16.6	19.5	22.2	25.0	30.6	36.2	39.0	41.7	44.6	2. 5. 30.58		30.62	19.35	48.73	48.82	2. 6. 19.43	- 3.12
	46	ξ Arietis	C	1.0	4.0	6.5	9.4	15.0	20.6	23.6	26.4	29.2	2. 17. 15.06		15.10				2. 18. 3.90	- 3.18

The observations of transits are usually made by the galvanic or chronographic method, the wires employed being generally P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P. Occasionally the observations are made by eye and ear (E & E); the wires then employed are N, O, P, T, X, Y, Z; in reversed order for stars S.P.

Reading of Transit-Micrometer, $32'' \cdot 400$.

Corrections to the times by Hardy for reduction to Arnold 1, applied to form Concluded Transit, Nos. 8, 36, and 42, $-47'' \cdot 10$: $-46'' \cdot 20$: and $-45'' \cdot 70$.

Correction for passage of Semidiameter, Nos. 38 and 43, $+68'' \cdot 09$: and $-0'' \cdot 41$.

† These clock-errors have been used in the reduction of the observations made with the Altazimuth.

November 30 to December 2. The azimuthal error from Polaris and Polaris S.P. on November 30, allowing $+0'' \cdot 17$ for clock-rate and change of R.A.

14. Very faint.

16, 20. Cloudy.

17, 18, 19. Very cloudy.

35. Tremulous and ill-defined.

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of Collimation. (Level). [Azimuth].	Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at 0 ^h Sidereal and [Loss Rate].	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873, Jan. 1.
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.								
				s	s	s	s	s	s	s	s	s								
Dec. 1	1	♂ 1 L.....	C	50.1	53.2	56.0	58.8	4.7	10.7	13.6	16.5	19.5	2. 30. 4.77	+0.22	4.84			48.82	2. 32. 3.13	
	2	η Tauri.....	C	56.1	59.2	2.0	5.0	11.1	17.2	20.2	23.3	26.2	3. 39. 11.12	(+1.59)	11.20	59.95	48.75	[−0.16]	3. 39. 59.99	− 3.69
	3	Bradley 686....	C	2.6	5.6	8.5	11.4	17.1	22.9	25.7	28.5	31.5	4. 49. 17.07	[−1.05]	17.14				4. 50. 5.93	− 3.69
	4	ε Leporis.....	C	4.5	7.5	10.5	13.4	19.4	25.4	28.5	31.4	34.5	4. 59. 19.43		19.41	8.30	48.89		5. 0. 8.20	− 3.20
	5	β Eridani.....	C	37.0	39.8	42.6	45.4	50.8	56.4	59.2	2.0	4.7	5. 0. 50.86		50.87				5. 1. 39.66	− 3.34
Dec. 2	6	δ Arietis.....	AD	22.3	25.2	27.8	31.0	36.9	42.6	45.5	48.5	51.5	3. 3. 36.79		36.87	25.66	48.79	48.78	....	
	7	γ Arietis.....	L	54.2	57.1	59.9	2.9	9.0	14.7	17.6	20.6	23.7	3. 13. 8.83		8.91	57.38	48.47	48.51†	....	
	8	♂ Tauri.....	L	59.6	2.5	5.4	8.4	13.7	19.4	22.0	24.7	27.6	3. 17. 13.68		13.72	2.24	48.52	[−0.06]	....	
	9	f Tauri.....	AD	52.2	55.3	58.0	..	6.5	..	14.9	17.7	20.6	3. 23. 6.43		6.50	55.24	48.74	48.78	....	
	10	♂ 1 L.....	AD	11.2	14.4	17.4	20.2	26.4	32.5	35.6	38.5	41.6	3. 27. 26.40		26.48				3. 29. 26.48	
Dec. 5	11	β Cancri.....	E	37.9	40.8	43.7	46.3	52.0	57.6	0.5	3.4	6.0	8. 8. 52.00	[−1.07]	52.04	40.79	48.75	48.93†	....	
	12	Regulus.....	E	36.0	38.9	41.7	44.4	50.1	55.7	58.6	1.5	4.4	10. 0. 50.13		50.19	38.99	48.80	[−0.40]	....	
Dec. 6	13	γ Piscium.....	AD	34.7	37.6	40.4	43.3	48.8	54.2	57.0	59.7	2.6	23. 9. 48.68		48.71	37.00	48.29	48.77	23. 10. 37.00	− 2.17
	14	64 Pegasi.....	AD	40.5	43.6	46.9	50.2	..	3.0	6.3	9.5	12.8	23. 14. 56.57		56.68			[−0.50]	23. 15. 44.97	− 1.84
	15	κ Piscium.....	P	..	..	..	..	39.3	44.7	47.5	50.4	53.2	23. 19. 39.26		39.28	27.48	48.20	48.76†	....	
	16	ι Piscium.....	AD	25.2	..	30.8	33.6	39.0	44.6	47.4	..	52.9	23. 32. 39.05		39.08	27.34	48.26	48.77	23. 33. 27.36	− 2.26
	17	ω Piscium.....	AD	47.7	50.5	53.3	55.9	1.4	7.2	9.9	12.7	15.4	23. 52. 1.54		1.58	49.76	48.18	48.77	23. 52. 49.85	− 2.36
	18	ι Ceti.....	AD	57.6	0.5	3.2	6.0	11.6	..	..	..	..	0. 12. 11.61		11.61	59.92	48.31	48.27	0. 12. 59.88	− 2.58
	19	γ Cassiopeiae.....	AD	..	..	..	..	18.2	29.3	35.0	40.3	45.9	0. 48. 18.20		18.46				0. 49. 6.73	− 2.92
	20	Polaris....(E&E)	AD	48.5	49.0	44.0	37.5	..	..	..	..	..	1. 11. 51.63		57.60	45.80	48.20		....	
	21	θ Ceti.....	P	41.1	44.0	46.5	49.5	55.0	0.8	3.6	6.3	9.0	1. 16. 55.07		55.07	43.37	48.30	48.26†	....	
	22	η Piscium.....	AD	41.6	44.7	47.4	50.4	55.9	1.7	4.6	7.4	10.4	1. 23. 55.99		56.06	44.27	48.21	48.27	1. 24. 44.30	− 2.91
	23	40 Cassiopeiae...	AD	54.7	4.3	13.3	22.5	40.5	58.7	8.5	17.1	26.2	1. 27. 40.57		41.03				1. 28. 29.27	− 4.59
	24	Neptune.....	AD	3.1	6.0	8.8	11.5	17.0	22.6	25.5	28.2	31.1	1. 38. 17.07		17.11				1. 39. 5.35	
	25	η Ursae Maj. S.P.	AD	23.2	27.5	31.6	36.1	..	52.8	57.4	1.6	6.0	1. 41. 44.58		44.42				13. 42. 32.65	− 0.73
	26	Groomb. 2066 S.P.	AD	..	37.5	52.6	8.1	38.7	9.2	24.5	39.3	..	1. 49. 38.62		37.85				13. 50. 26.08	+ 3.21
	27	α Draconis S.P.	AD	36.0	42.6	48.7	55.5	9.2	22.0	28.5	34.6	41.5	2. 0. 8.78		8.49				14. 0. 56.72	+ 0.34
	28	67 Ceti.....	AD	39.6	42.5	45.5	48.2	53.8	59.4	2.1	4.8	7.6	2. 9. 53.70		53.71	42.01	48.30		2. 10. 41.94	− 3.09
	29	θ Boötis S.P.	AD	41.9	46.4	50.7	55.4	4.5	13.6	18.0	22.5	27.1	2. 20. 4.50		4.33				14. 20. 52.55	− 0.16
	30	♂ 2 L.....	AD	54.0	57.3	0.3	3.3	9.9	16.0	19.5	22.5	25.7	7. 35. 9.80		9.90				7. 34. 46.51	
Dec. 8	31	⊙ 1 L.....	H	13.5	..	19.4	22.5	..	34.7	37.6	40.5	43.6	16. 59. 28.52	+0.40	39.22			48.14	17. 1. 27.05	
	32	⊙ 2 L.....	H	..	..	40.8	..	49.9	55.9	59.0	1.8	4.9	17. 1. 49.85	(+2.00)				[−0.44]		
	33	μ Herculis.....	H	26.0	29.3	32.3	..	41.5	..	51.0	54.0	57.2	17. 40. 41.58	[−0.60]	41.73	29.45	47.72		17. 41. 29.55	− 0.12
	34	μ Pegasi.....	H	51.0	54.3	57.2	0.2	6.4	12.4	15.4	18.4	21.4	22. 43. 6.27		6.41	54.13	47.72		22. 43. 54.13	− 1.65
	35	λ Aquarii.....	H	59.6	2.2	5.1	8.2	13.4	19.2	21.9	24.7	27.4	22. 45. 13.50		13.57	1.27	47.70		22. 46. 1.29	− 2.08
	36	Piazzi XXII. 241	H	..	49.6	52.5	55.5	1.2	7.0	9.7	12.5	..	22. 46. 1.11		1.24				22. 46. 48.94	− 1.78
	37	Fomalhaut.....	H	..	..	42.6	45.9	52.4	58.7	1.9	5.0	8.4	22. 49. 52.27		52.27	40.07	47.80		22. 50. 39.99	− 2.41
	38	α Andromedæ...	H	59.8	3.8	7.3	11.0	18.5	25.9	29.6	33.3	37.1	22. 55. 18.45		18.66				22. 56. 6.38	− 1.43
	39	β Aquarii.....	H	32.6	35.6	38.4	41.0	46.7	52.2	55.0	57.8	0.7	22. 57. 46.64		46.71				22. 58. 34.43	− 2.16
	40	60 Pegasi.....	H	38.0	41.2	44.2	47.4	53.6	59.6	2.5	5.5	8.7	23. 4. 53.38		53.53				23. 5. 41.25	− 1.78
	41	ψ ¹ Aquarii.....	H	14.5	17.5	20.3	23.0	..	34.2	37.0	39.7	42.7	23. 8. 28.58		28.64				23. 9. 16.36	− 2.25
	42	Bradley 3094....	H	37.2	41.4	45.5	49.5	57.7	5.8	10.0	13.8	18.2	23. 12. 57.65		57.89				23. 13. 45.61	− 1.51
	43	66 Pegasi.....	H	..	..	46.0	48.9	54.4	0.0	2.9	5.6	8.6	23. 15. 54.41		54.52				23. 16. 42.23	− 2.05
	44	κ Piscium.....	H	25.8	28.8	31.4	34.1	39.6	45.2	48.0	50.8	53.5	23. 19. 39.66		39.75	27.46	47.71		23. 20. 27.46	− 2.19
	45	q Pegasi.....	H	43.9	..	49.7	52.5	58.1	3.7	6.7	..	12.4	23. 21. 58.12		58.23				23. 22. 45.94	− 2.08

Polaris and other stars very near the pole are observed by eye and ear over the wires P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P.; using the Clock Hardy.
The Intervals of the Wires of both systems are given in the Introduction.

Reading of Transit-Micrometer, 32nd 400.

Correction to the time by Hardy for reduction to Arnold 1, applied to form Concluded Transit, No. 20, −40th 20.

Corrections for passage of Semidiameter, Nos. 1, 10, and 30, +69th 49; +71th 23; and −71th 50.

† These clock-errors have been used in the reduction of the observations made with the Altazimuth.

December 5 and 6. The azimuthal error by tabular places of Polaris and η Piscium on December 6.

December 8. The azimuthal error by tabular places of ι Piscium and Polaris, allowing −0th 03 for clock-rate.

9, 16. Faint; cloudy.
25, 29. Very unsteady.

10, 18. Cloudy.
27. Tremulous.

19, 20. Very diffused.
30, 31, 32. Very cloudy.

24. Very faint.

TRANSITS OBSERVED WITH THE TRANSIT-CIRCLE, AND COMPUTATIONS OF APPARENT RIGHT ASCENSION,

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of Collimation. (Level). [Azimuth].	Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at Sidereal and [Leaving Rate].	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873, Jan. 1.
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.								
				s	s	s	s	s	s	s	s	s								
Dec. 8	1	14 Andromedæ...	H	59.3	3.0	6.4	..	17.0	..	27.5	31.0	34.6	23. 24. 16.94	+0.40	17.13			48.14	23. 25. 4.84	- 1.82
	2	♈ Piscium	H	25.7	28.5	31.3	34.0	39.6	45.2	48.0	50.7	53.4	23. 32. 39.58	(+2.00)	39.67	27.32	47.65	[-0.44]	23. 33. 27.38	- 2.24
	3	Polaris (E&E)	H	..	..	..	..	30.5	21.0	17.0	14.5	12.0	1. 11. 50.05	[-0.60]	56.63	44.28	47.65	47.70	....	....
	4	Piazzi I. 110	H	57.4	0.4	3.4	6.2	11.7	17.6	20.6	23.5	26.4	1. 27. 11.89		12.02				1. 27. 59.69	- 2.94
	5	♈ Piscium	AD	50.6	53.5	56.2	59.0	4.5	10.1	12.8	15.6	18.4	1. 34. 4.50		4.59	52.29	47.70	47.77†	....	....
	6	Neptune	H	56.5	59.3	2.0	4.8	10.2	15.8	18.8	21.3	24.2	1. 38. 10.31		10.41			47.70	1. 38. 58.08	....
	7	♈ Arietis	H	38.1	40.7	44.0	47.0	52.7	58.8	1.7	4.6	7.6	1. 46. 52.78		52.91	40.64	47.73		1. 47. 40.58	- 3.06
	8	Bradley 282	H	..	..	30.5	40.0	59.6	19.2	29.0	..	..	2. 0. 59.61		0.09				2. 1. 47.75	- 5.73
	9	Arg. Zone + 1°. No. 417	H	44.0	46.8	49.3	..	57.6	..	5.8	8.6	11.4	2. 14. 57.61		57.70				2. 15. 45.36	- 3.12
	10	Arg. Zone + 2°. No. 428	H	..	..	37.3	40.1	45.7	51.3	54.0	56.5	59.5	2. 19. 45.62		45.71				2. 20. 33.37	- 3.14
	11	Arg. Zone + 2°. No. 400	H	17.7	20.5	23.3	26.0	..	..	39.7	..	45.4	2. 27. 31.51		31.60				2. 28. 19.25	- 3.18
	12	Arg. Zone + 2°. No. 410	H	34.8	..	40.4	43.2	48.6	54.3	..	57.1	2.5	2. 32. 48.68		48.77				2. 33. 36.42	- 3.20
	13	Arg. Zone + 2°. No. 412	H	..	16.1	18.9	21.7	..	..	35.5	38.1	..	2. 33. 27.14		27.23				2. 34. 14.88	- 3.20
	14	Bradley 382	H	20.4	28.5	35.6	43.4	58.1	13.6	20.5	28.0	35.9	2. 39. 58.16		58.61				2. 40. 46.26	- 5.76
	15	6 Ursæ Min. S.P.	H	..	..	..	3.6	21.5	40.4	49.7	58.5	..	2. 44. 21.95		21.50				14. 45. 9.15	+ 2.47
	16	♈ Ursæ Min. S.P.	H	22.7	33.1	43.4	53.7	15.1	..	..	..	..	2. 50. 14.96		14.44				14. 51. 2.09	+ 3.26
	17	♈ Ceti	AD	40.1	43.0	45.6	48.4	53.8	59.6	2.4	5.1	7.8	2. 54. 53.96		54.05	41.80	47.75	47.77†	....	....
	18	Uranus	C	47.4	50.3	53.1	56.0	1.8	7.7	10.6	13.4	15.5	8. 51. 1.85		1.98			47.79	8. 51. 49.55	....
	19	♈ Cancri	C	19.1	22.2	25.3	28.2	34.3	40.5	43.5	46.5	49.6	8. 54. 34.33		34.27			[-0.59]	8. 55. 21.84	- 3.43
	20	♈ Cancri	C	..	..	..	..	19.0	24.8	27.9	30.9	34.0	9. 1. 18.91		19.05				9. 2. 6.62	- 3.33
	21	83 Cancri	C	54.5	57.4	0.2	3.2	8.8	14.8	17.7	20.5	23.6	9. 11. 8.94		9.07	56.56	47.49		....	....
	22	♈ 2 L.	C	11.4	14.6	17.5	20.4	26.4	32.7	35.7	38.6	41.7	9. 25. 26.53		26.63				9. 25. 7.72	....
	23	♈ Leonis	C	23.4	26.2	28.8	31.0	37.4	43.0	45.8	48.5	51.5	9. 33. 37.37		37.47	25.10	47.63		....	....
	24	♈ Leonis	C	25.0	28.0	30.8	33.6	39.5	45.4	48.3	51.0	54.0	9. 59. 39.49		39.62				10. 0. 27.16	- 2.84
	25	Piazzi X. 23	C	21.4	24.4	27.3	30.2	36.0	41.8	44.7	47.5	50.5	10. 8. 35.96		36.09				10. 9. 23.63	- 2.81
Dec. 9	26	♈ 1 L.	G	..	40.4	43.1	46.3	52.0	58.4	1.2	4.0	..	17. 3. 52.17	(+3.52)				47.99	17. 5. 50.42	....
	27	♈ 2 L.	G	58.5	1.7	4.6	7.6	13.7	19.7	22.8	25.8	29.0	17. 6. 13.69	[+0.33]				[-0.87 ]	....	....
	28	♈ Piscium	G	26.4	29.1	31.9	34.6	40.4	45.9	48.5	51.2	54.0	23. 19. 40.21		40.41	27.45	47.04		....	....
	29	B. F. 1620 S.P.	G	..	1.0	7.0	..	..	..	..	..	..	23. 24. 24.53		24.31				11. 25. 11.45	- 3.07
	30	Bradley 3166	G	..	..	43.2	50.8	4.8	19.2	26.4	..	..	23. 41. 4.84		5.49				23. 41. 52.62	- 1.39
	31	♈ Piscium	G	48.5	51.2	54.0	56.8	2.4	8.0	10.7	13.7	16.2	23. 52. 2.36		2.58	49.73	47.15		....	....
	32	Polaris (E&E)	G	..	..	..	..	58.5	49.5	51.0	45.0	..	1. 11. 47.90		56.29	43.47	47.18	47.12	....	....
	33	♈ Eridani	G	..	..	48.1	50.7	56.3	1.8	4.6	7.4	10.4	4. 4. 56.30		56.47	43.35	46.88		....	....
	34	♈ Tauri	G	52.9	55.8	58.9	2.0	8.3	14.2	17.2	20.3	23.4	4. 14. 8.08		8.36				4. 14. 55.33	- 3.91
	35	Aldebaran	G	40.4	43.0	45.7	48.7	54.4	0.3	3.2	6.0	8.6	4. 27. 54.46		54.70	41.81	47.11		....	....
Dec. 10	36	Polaris (E&E)	J	..	..	..	..	23.0	22.0	17.5	14.5	..	1. 11. 42.90	(+3.79)	56.75	42.65	45.90		....	....
	37	♈ Piscium	J	44.0	46.9	49.6	52.5	58.2	4.0	6.8	9.5	12.6	1. 23. 58.21	[-2.55]	58.35	44.24	45.89		....	....
	38	♈ Geminorum	E	26.1	29.0	31.8	34.6	40.6	46.2	49.2	52.0	54.9	6. 29. 40.47		40.62	26.24	45.62	46.08†	....	....
	39	♈ Geminorum	E	13.2	16.3	18.8	21.8	27.4	33.3	36.0	39.0	41.7	6. 37. 27.48		27.61	13.37	45.76	[-1.42 ]	....	....
	40	♈ 2 L.	L	..	..	..	..	5.6	8.5	11.4	14.3	..	11. 0. 59.86	[-0.80]	0.05			45.59	11. 0. 42.51	....
	41	♈ Virginis	L	47.5	50.4	53.0	55.8	1.6	7.1	9.7	12.6	15.5	11. 58. 1.45		1.63	46.37	44.74	[-1.70 ]	....	....
Dec. 11	42	♈ Andromedæ	HC	53.0	56.4	59.5	2.5	8.7	15.3	18.4	21.5	24.7	0. 31. 8.86		9.14	53.34	44.20	44.22	....	....
	43	♈ Andromedæ	HC	43.2	46.8	50.3	53.8	0.6	7.7	11.2	14.5	18.2	0. 49. 0.67		0.99	45.18	44.19	[-1.60 ]	....	....
	44	♈ Andromedæ	HC	39.0	42.5	45.8	49.3	56.0	2.7	6.0	9.4	13.0	1. 1. 55.94		56.25	40.37	44.12		....	....
	45	Polaris (E&E)	HC	..	..	..	38.0	31.0	26.0	..	..	..	1. 11. 46.81		57.72	41.83	44.11		....	....

The observations of transits are usually made by the galvanic or chronographic method, the wires employed being generally P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P. Occasionally the observations are made by eye and ear (E & E); the wires then employed are N, O, P, T, X, Y, Z; in reversed order for stars S.P.

Reading of Transit-Micrometer, 32".400.

Corrections to the times by Hardy for reduction to Arnold 1, applied to form Concluded Transit, Nos. 3, 32, 36, and 45, -37".50 : -10".00 : -47".00 : and -44".40.

Corrections for passage of Semidiameter, Nos. 22, and 40, -66".47 : and -62".36.

† These clock-errors have been used in the reduction of the observations made with the Altazimuth.

December 9. The azimuthal error by tabular places of ♈ Piscium and Polaris, allowing -0".03 for clock-rate.

December 10 to ♈ Geminorum. The azimuthal error by tabular places of Polaris and ♈ Piscium.

December 10, ♈ 2 L., to December 12. The azimuthal error by tabular places of ♈ Andromedæ and Polaris.

6, 15, 43. Very faint.

16. Diffused.

32. Extremely faint and diffused.

41, 44. Faint and diffused.

7. The time at wire II. is also used as the 5th wire of an Altazimuth transit, Aldebaran, Face Right.

22, 40. Correction to R.A. on true meridian, +0".01.

36. Image blurred from fog.

45. Very faint and tremulous.

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of Collimation. (Level). [Azimuth].	Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at 0 ^h Sideral and (Loss Rate).	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873. Jan. 1.
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.								
				s	s	s	s	s	s	s	s	s								
Dec. 12	1	⊙ 2 L.....	P	16.2	19.4	22.4	25.3	31.4	37.5	40.4	43.4	46.4	17. 19. 31.36	+0.40 (+3.12) [-0.80]	31.39			44.22 [-1.60]	17. 19. 3.44	
Dec. 16	2	γ Piscium.....	E	45.9	48.7	51.4	54.2	59.5	5.2	8.0	10.7	13.5	23. 9. 59.65	+0.21	59.58	36.90	37.32	38.83	23. 10. 36.97	- 2.07
	3	ω Piscium.....	E	58.5	1.4	4.1	6.7	12.4	17.7	20.7	23.5	26.4	23. 52. 12.36	(-0.43)	12.30	49.66	37.36	37.34	23. 52. 49.65	- 2.26
	4	γ Pegasi.....	E	52.5	55.6	58.3	1.2	6.8	12.6	15.4	18.3	21.2	0. 6. 6.86	[-1.13]	6.80	44.11	37.31		0. 6. 44.13	- 2.29
	5	θ Andromedæ ...	E	34.7	38.6	42.0	..	..	..	3.2	6.6	10.1	0. 9. 52.49		52.45				0. 10. 29.78	- 2.15
	6	Polaris ....(E&E)	E	..	..	..	43.0	35.5	28.0	27.0	..	19.5	1. 11. 59.40		0.94	38.18	37.24		..	
	7	α Cassiopeia.....	E	..	..	2.7	10.1	24.3	38.6	46.1	..	..	1. 32. 24.32		24.34				1. 33. 1.59	- 3.87
	8	Piazzi XIII. 184 S.P.	E	..	..	..	42.8	56.0	9.3	16.0	..	..	1. 36. 56.06		55.90				13. 37. 33.14	- 0.60
	9	ι Draconis S.P. ...	E	..	..	46.5	53.2	6.5	19.8	26.4	..	..	1. 47. 6.52		6.36				13. 47. 43.59	- 0.39
	10	54 Cassiopeia.....	E	..	..	14.8	23.4	40.4	57.5	5.8	..	..	1. 57. 40.33		40.37				1. 58. 17.59	- 4.95
	11	α Draconis S.P. ...	E	..	..	59.9	6.6	20.0	33.0	39.6	..	..	2. 0. 19.86		19.70				14. 0. 56.92	- 0.11
	12	67 Ceti.....	E	50.9	53.9	56.5	59.4	4.9	10.5	13.2	15.9	18.8	2. 10. 4.87		4.79	41.97	37.18		2. 10. 42.00	- 3.05
	13	Arg. Zone + 1°. No. 417	E	54.4	57.2	59.8	2.6	8.4	13.8	16.4	19.3	22.1	2. 15. 8.2c		8.13				2. 15. 45.33	- 3.09
	14	Arg. Zone + 1°. No. 428	E	42.4	45.5	48.0	50.8	56.4	1.9	4.6	7.4	10.0	2. 19. 56.31		56.24				2. 20. 33.44	- 3.11
	15	Arg. Zone + 2°. No. 400	E	..	..	..	36.6	42.2	47.8	50.4	53.1	56.0	2. 27. 42.13		42.06				2. 28. 19.25	- 3.15
	16	Arg. Zone + 2°. No. 410	E	45.6	48.2	50.9	53.7	59.4	..	..	..	..	2. 32. 59.29		59.22				2. 33. 36.40	- 3.17
	17	Arg. Zone + 2°. No. 412	E	..	..	..	37.7	43.1	46.0	48.7	51.4	..	2. 33. 37.61		37.54				2. 34. 14.72	- 3.18
	18	σ Arietis.....	E	40.9	43.8	46.6	..	55.2	..	3.7	6.6	9.5	2. 43. 55.16		55.10	32.26	37.16		2. 44. 32.27	- 3.32
	19	ζ Draconis S.P. ...	E	..	..	24.8	31.7	45.4	58.9	5.5	..	..	5. 7. 45.30		45.14				17. 8. 22.16	+ 2.97
	20	17 Camelopardali	E	..	..	22.4	28.5	40.5	52.6	59.0	..	..	5. 17. 40.56		40.56				5. 18. 17.57	- 6.94
	21	δ Orionis.....	E	43.8	46.6	49.4	52.3	57.7	3.3	6.0	8.8	11.6	5. 24. 57.70		57.63	34.70	37.07		5. 25. 34.64	- 3.59
	22	ε Orionis.....	E	59.0	1.7	4.5	7.1	12.7	18.4	21.0	23.8	26.6	5. 29. 12.74		12.67	49.71	37.04		5. 29. 49.67	- 3.58
Dec. 17	23	⊙ 1 L.....	C	9.7	12.7	15.7	18.7	25.0	30.8	34.0	36.9	40.0	17. 39. 24.80		35.96			37.08	17. 41. 11.95	
	24	⊙ 2 L.....	C	..	35.3	38.0	41.3	47.3	53.4	56.3	59.4	..	17. 41. 47.26					[-1.48]	17. 53. 38.21	+ 1.16
	25	γ Draconis.....	P	40.0	44.6	48.8	53.4	2.3	11.3	15.6	20.3	24.4	17. 53. 2.26		2.23				..	
	26	α Lyrae.....	C	44.4	48.0	51.5	55.2	2.3	9.1	12.8	16.3	19.7	18. 32. 2.12		2.08	38.02	35.94		..	
	27	ζ Virginis.....	L	26.6	29.5	32.4	34.7	40.5	45.8	48.7	51.5	54.2	13. 27. 40.42		40.35	15.00	34.65		..	
	28	α Coronæ.....	E	..	32.2	35.2	38.3	44.6	50.8	53.9	..	0.1	15. 28. 44.53		44.49	19.38	34.89	35.85	..	
	29	α Serpentis.....	E	13.0	15.8	18.6	21.4	26.9	32.4	35.3	38.0	41.0	15. 37. 26.91		26.85	1.81	34.96	[-1.42]	..	
	30	θ Draconis.....	E	..	33.4	38.5	44.0	54.6	5.3	10.7	15.8	..	15. 58. 54.56		54.55				15. 59. 29.45	+ 1.20
	31	Venus 2 L.....	E	29.9	32.9	35.9	38.8	44.8	50.7	53.7	56.7	59.7	16. 35. 44.77		44.70				16. 36. 19.17	
Dec. 19	32	δ Virginis.....	L	28.7	31.6	34.2	37.0	42.5	48.0	50.7	53.5	56.4	12. 48. 42.49	(+0.25)	42.46	14.33	31.87	32.68	12. 49. 14.26	- 1.93
	33	ε Virginis.....	L	7.4	10.3	12.8	15.8	21.5	27.3	30.0	33.0	35.6	12. 55. 21.50	[-0.94]	21.48	53.21	31.73	[-1.65]	12. 55. 53.27	- 1.92
	34	Polaris S.P.(E&E)	L	..	5.5	0.5	56.0	49.0	43.0	..	35.0	35.5	13. 12. 6.75		3.94	35.70	31.76		1. 12. 35.71	- 18.01
	35	Spica.....	L	46.4	49.0	51.7	54.9	0.2	5.8	8.7	11.4	14.3	13. 18. 0.25		0.21	31.98	31.77		13. 18. 31.97	- 1.76
	36	ζ Virginis.....	L	29.5	32.5	34.9	37.8	43.3	48.8	51.6	54.4	57.2	13. 27. 43.32		43.29	15.06	31.77		13. 28. 15.05	- 1.71
	37	ζ Herculis.....	L	..	..	..	..	..	..	8.2	11.7	14.8	16. 35. 58.52		58.34	30.24	31.70		16. 36. 30.08	- 0.26
	38	Venus 2 L.....	L	..	..	..	..	..	..	37.3	40.2	43.2	16. 46. 28.25		28.22				16. 46. 59.35	
Dec. 20	39	⊙ 1 L.....	L	33.6	36.7	39.9	42.7	48.8	54.7	57.8	0.9	3.8	17. 52. 48.73		59.91				17. 54. 31.36	
	40	⊙ 2 L.....	L	56.2	59.1	2.2	5.0	11.2	17.3	20.3	23.3	26.3	17. 55. 11.19						..	
	41	12 Ceti.....	L	51.0	53.9	56.7	59.3	4.8	10.4	13.2	16.0	18.9	0. 23. 4.89		4.86	35.84	30.98	31.03	0. 23. 35.86	- 2.46
	42	ε Andromedæ.....	L	6.5	9.7	12.9	15.8	22.3	28.7	31.7	35.0	38.1	0. 31. 22.27		22.28	53.23	30.95		0. 31. 53.28	- 2.35
	43	W.B. (2) 0. 1057	L	16.0	19.7	23.2	26.9	34.3	41.4	..	..	..	0. 41. 34.16		34.18				0. 42. 5.16	- 2.44
	44	W.B. (2) 0. 1062	L	..	..	..	..	48.6	55.9	59.3	2.8	6.7	0. 41. 48.47		48.49				0. 42. 19.47	- 2.44
	45	ε Piscium.....	L	39.0	41.8	44.4	47.3	52.9	58.4	1.5	4.1	7.0	0. 55. 52.92		52.90	23.80	30.90		0. 56. 23.87	- 2.61

Polaris and other stars very near the pole are observed by eye and ear over the wires P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P.; using the Clock Hardy.
The Intervals of the Wires of both systems are given in the Introduction.

Reading of Transit-Micrometer, 32".400.

Corrections to the times by Hardy for reduction to Arnold 1, applied to form Concluded Transit, Nos. 6 and 34, -35".60: and -44".40.

Corrections for passage of Semidiameter, Nos. 1, 31, and 38, -71".02: -0".40: and -0".40.

December 16 and 17. The azimuthal error by tabular places of γ Pegasi and Polaris on December 16, allowing -0".07 for clock-rate.

December 19 to December 21, η Aquarii. The azimuthal error from Polaris S.P. and Polaris on December 19 and 20, allowing -0".35 for clock-rate and change of R.A.

14. Very faint.

38. Image diffused; light cloud.

TRANSITS OBSERVED WITH THE TRANSIT-CIRCLE, AND COMPUTATIONS OF APPARENT RIGHT ASCENSION,

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of Collimation. (Level). [Azimuth].	Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at 0 ^h Sidereal and [Lossing Rate].	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873, Jan. 1.
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.								
				s	s	s	s	s	s	s	s	s								
Dec. 20	1	Polaris (E&E)	L	2'0	2'0	55'5	53'0	46'5	41'5	37'0	..	..	1. 12. 1'54	+0'21	4'28	35'30	30'02	31'03	1. 12. 35'23	-17'61
	2	Neptune	L	39'4	42'3	45'0	47'7	53'5	59'0	2'0	4'3	7'2	1. 37. 53'36	(+0'25)	53'34	..	..	[-0'65]	1. 38. 24'26	..
	3	α Arietis	L	18'3	21'4	24'3	27'3	33'3	39'3	42'4	45'3	48'3	1. 59. 33'30	[-0'94]	33'29	4'13	30'84	..	2. 0. 4'18	-3'11
Dec. 21	4	η Aquarii	C	8'3	11'0	13'8	16'4	22'0	27'6	30'2	33'0	36'0	22. 28. 22'02	..	21'99	51'53	29'54	..	..	..
	5	α Coronæ	AD	35'3	38'4	41'5	44'6	50'8	56'9	0'1	3'0	6'3	15. 28. 50'74	+0'53	50'85	19'48	28'63	29'45	15. 29. 19'44	-0'83
	6	ε Serpentis	AD	47'8	50'6	53'2	56'0	1'6	7'0	10'1	12'8	15'6	15. 44. 1'62	(+0'70)	1'72	30'27	28'55	[-1'34]	15. 44. 30'29	-1'12
	7	γ Serpentis	AD	53'0	56'1	58'9	1'8	7'5	13'2	16'1	19'0	22'0	15. 50. 7'49	[+0'53]	7'59	36'20	28'61	..	15. 50. 36'15	-0'94
Dec. 22	8	ε Piscium	AD	41'7	44'6	47'3	50'0	55'7	1'4	4'3	6'6	9'5	0. 55. 55'66	..	55'75	23'78	28'03	28'11	0. 56. 23'81	-2'59
	9	Polaris (E&E)	AD	0'0	2'5	56'0	53'5	..	..	..	..	..	1. 12. 3'36	..	5'51	33'52	28'01	..	..	..
	10	η Piscium	AD	1'6	4'8	7'4	10'2	16'0	21'9	24'8	27'6	30'3	1. 24. 16'04	..	16'14	44'15	28'01	..	1. 24. 44'17	-2'79
	11	40 Cassiopeiæ . . .	AD	14'6	23'9	32'8	42'0	0'3	18'5	28'0	36'8	46'2	1. 28. 0'27	..	0'50	..	..	..	1. 28. 28'53	-3'79
	12	Neptune	AD	37'9	..	43'6	46'4	51'9	57'4	0'3	3'1	..	1. 37. 51'90	..	51'99	..	..	..	1. 38. 20'01	..
	13	ν Ceti	AD	33'7	36'7	39'4	42'2	47'8	53'2	56'1	58'8	1'4	2. 28. 47'68	..	47'78	15'71	27'93	..	2. 29. 15'75	-3'13
	14	Arg. Zone + 2° No. 407	AD	40'1	43'9	47'0	..	..	0'5	3'5	6'6	..	2. 31. 54'96	..	55'06	..	..	..	2. 32. 23'03	-3'14
	15	h ¹ Draconis S.P..	AD	16'2	23'3	29'8	36'4	..	2'9	9'3	15'9	22'9	4. 54. 49'65	..	49'60	..	..	..	16. 55. 17'43	+2'69
	16	h ² Draconis S.P..	AD	..	..	..	..	..	30'8	37'2	43'8	50'2	4. 55. 17'44	..	17'39	..	..	..	16. 55. 45'22	+2'65
	17	Piazzi XVII. 61 S.P.	AD	26'4	32'3	38'3	44'5	56'9	9'1	15'2	21'0	27'3	5. 10. 56'83	..	56'78	..	..	..	17. 11. 24'60	+2'37
	18	β Tauri	AD	36'4	39'9	42'8	45'8	52'2	58'7	1'9	5'1	8'0	5. 17. 52'28	..	52'39	20'20	27'81	..	5. 18. 20'20	-4'32
	19	Groombridge 966	AD	34'7	45'6	55'5	6'9	28'1	49'0	0'0	10'2	21'3	5. 22. 27'83	..	28'09	..	..	..	5. 22. 55'90	-10'92
	20	β Draconis S.P..	AD	42'6	46'7	51'1	55'8	4'9	13'7	18'3	22'8	27'4	5. 27. 4'85	..	4'83	..	..	..	17. 27. 32'64	+1'11
	21	α Columbæ	AD	21'8	25'1	28'4	31'9	38'5	45'1	48'7	51'9	55'2	5. 34. 38'48	..	38'56	6'41	27'85	..	5. 35. 6'36	-3'30
	22	31 Camelopardali.	AD	46'4	52'1	57'5	3'1	14'2	25'0	30'5	36'1	41'6	5. 43. 14'01	..	14'16	..	..	..	5. 43. 41'95	-6'67
	23	γ Draconis S.P..	AD	48'1	52'8	57'1	1'7	10'6	19'3	23'9	28'1	32'5	5. 53. 10'50	..	10'48	..	..	..	17. 53. 38'26	+1'13
	24	β Canis Majoris..	AD	27'6	30'3	33'2	36'1	42'0	47'8	50'7	53'7	56'5	6. 16. 41'97	..	42'06	9'83	27'77	..	6. 17. 9'82	-3'41
	25	Sirius	AD	54'0	57'0	59'9	2'8	8'4	14'2	17'2	20'1	23'0	6. 39. 8'49	..	8'58	..	..	..	6. 39. 36'32	-3'36
	26	Arg. Zone + 26° No. 1410	AD	..	47'8	50'9	53'8	59'8	6'3	9'2	12'3	..	6. 50. 59'98	..	0'09	..	..	..	6. 51. 27'82	-4'32
	27	40 Geminorum ..	AD	..	..	..	..	..	20'0	23'1	26'2	29'0	6. 51. 13'77	..	13'88	..	..	..	6. 51. 41'61	-4'32
	28	γ Cancri	AD	17'2	20'2	23'2	26'1	32'2	38'1	41'1	44'1	47'0	8. 35. 32'12	..	32'22	59'89	27'67	..	8. 35. 59'85	-3'88
	29	ε Hydræ	AD	24'8	27'7	30'3	33'1	38'8	44'2	47'1	49'9	52'8	8. 39. 38'72	..	38'81	6'42	27'61	..	8. 40. 6'44	-3'49
	30	Uranus	AD	39'1	42'2	45'0	48'1	53'9	59'6	2'7	5'4	8'3	8. 49. 53'79	..	53'89	..	..	..	8. 50. 21'51	..
Dec. 23	31	Polaris (E&E)	C	..	..	..	..	44'0	36'0	..	..	..	1. 12. 2'41	..	..	..	..	..	..	..
Dec. 24	32	α Lyrae	E	54'2	57'9	1'2	4'8	12'0	19'1	22'6	26'1	29'7	18. 32. 11'93	(+1'06)	12'05	38'06	26'01	27'09	18. 32. 38'11	+0'23
	33	β 1 L.	E	52'3	55'2	58'2	1'1	7'1	12'9	15'7	18'7	21'6	22. 40. 6'96	[-0'35]	7'01	..	..	27'09	22. 41. 41'94	..
	34	α Pegasi	E	..	50'7	53'3	56'3	2'0	7'8	10'5	13'4	..	22. 58. 1'98	..	2'07	27'83	25'76	[-1'33]	22. 58. 27'89	-1'72
	35	ψ ¹ Aquarii	E	36'4	39'4	42'1	44'9	50'3	56'0	59'0	1'5	4'4	23. 8. 50'43	..	50'49	..	..	..	23. 9. 16'30	-2'08
	36	4 Cassiopeiæ . . .	E	..	..	29'6	35'4	46'9	58'3	4'4	..	..	23. 18. 46'89	..	47'12	..	..	..	23. 19. 12'92	-0'58
	37	ω Piscium	AD	10'1	13'0	15'8	18'7	24'1	29'7	32'4	35'2	38'0	23. 52. 24'09	..	24'16	49'57	25'41	26'77†	..	..
	38	2 Ceti	AD	36'3	39'2	42'0	45'0	50'8	56'6	59'6	2'3	5'3	23. 56. 50'77	..	50'82	16'28	25'46	..	..	..
	39	Bradley 3221 . . .	E	..	..	..	..	..	41'6	47'1	52'2	57'9	0. 3. 30'87	..	31'09	..	..	25'76	0. 3. 56'85	-1'57
	40	Groomb. 1909 S.P.	E	..	..	..	..	..	53'2	28'5	46'4	3'0	0. 29. 53'36	..	52'71	..	..	..	12. 30. 18'44	-3'41
	41	76 Ursæ Maj. S.P.	E	..	..	..	..	..	49'8	55'9	..	..	0. 35. 37'42	..	37'22	..	..	..	12. 36. 2'95	-2'53
	42	δ Piscium	E	28'4	31'2	34'0	36'8	42'3	47'8	50'8	53'4	56'3	0. 41. 42'32	..	42'39	8'08	25'69	..	0. 42. 8'11	-2'48
	43	B. F. 1774 S.P..	E	..	..	..	..	..	55'5	1'2	..	..	0. 42. 44'10	..	43'93	..	..	..	12. 43. 9'65	-2'35
	44	γ Cassiopeiæ . . .	E	..	..	..	..	..	..	..	..	2'3	0. 48. 40'19	..	40'41	..	..	..	0. 49. 6'12	-2'41
	45	9 Draconis S.P..	E	..	14'9	21'8	28'8	43'1	57'3	4'8	11'9	..	0. 54. 43'30	..	43'07	..	..	..	12. 55. 8'78	-2'06

The observations of transits are usually made by the galvanic or chronographic method, the wires employed being generally P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P. Occasionally the observations are made by eye and ear (E & E); the wires then employed are N, O, P, T, X, Y, Z; in reversed order for stars S.P.

Reading of Transit-Micrometer, 32" 400.

Corrections to the times by Hardy for reduction to Arnold 1, applied to form Concluded Transit, Nos. 1, 9, and 31, -44" 30: -42" 00: and -40" 40.

Correction for passage of Semidiameter, No. 33, +69" 10.

† This clock-error has been used in the reduction of the observations made with the Altazimuth.

December 21, α Coronæ, to December 22, Uranus. The azimuthal error by tabular places of ε Piscium and Polaris, allowing -0" 02 for clock-rate.

December 24. The azimuthal error by tabular places of δ Piscium and Polaris, allowing -0" 04 for clock-rate.

12. Faint and tremulous.
19. Tremulous.

14. Very faint.
31. Exceedingly faint; cloudy.

17, 30. Very tremulous.

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of Collimation. (Level). [Azimuth].	Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at Sidereal and [Loss Rate].	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873, Jan. 1.
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.								
				s	s	s	s	s	s	s	s	s								
Dec. 24	1	Polaris (E&E)	E	..	..	..	..	41.5	34.5	..	27.0	..	1. 12. 1.53	+0.53	5.96	31.62	25.66	25.76	....	
	2	Neptune	E	..	39.9	42.6	45.3	50.9	56.7	59.2	2.1	..	1. 37. 50.93	(+1.06)	51.00				1. 38. 16.67	
	3	Groomb. 2066 S.P.	E	..	..	17.3	32.7	3.1	33.3	48.5	..	..	1. 50. 3.06	[-0.35]	2.50				13. 50. 28.16	+ 1.38
	4	Bradley 282	E	..	..	52.1	1.9	21.2	40.8	50.6	..	..	2. 1. 21.37		21.04				2. 1. 46.69	- 5.04
	5	ξ ¹ Ceti	E	39.5	42.3	45.0	47.9	53.4	59.0	2.0	4.7	7.4	2. 5. 53.45		53.52	19.24	25.72		2. 6. 19.16	- 3.01
	6	ν Ceti	E	36.1	39.0	41.9	44.5	50.0	55.6	58.4	1.1	4.0	2. 28. 50.05		50.12	15.70	25.58		2. 29. 15.74	- 3.12
	7	Arg. Zone + 2° No. 407	E	43.8	46.6	49.2	52.0	57.6	3.0	6.0	8.7	11.5	2. 31. 57.58		57.65				2. 32. 23.27	- 3.13
	8	Amalthæa	E	46.0	49.1	51.8	54.8	..	6.5	9.4	12.2	15.4	5. 6. 0.62		0.71				5. 6. 26.19	
	9	β Tauri	E	38.8	42.0	45.1	48.1	54.5	1.0	4.1	7.1	10.4	5. 17. 54.54		54.64	20.22	25.58		5. 18. 20.11	- 4.34
Dec. 26	10	11 Tauri	AD	37.0	40.4	43.2	46.2	52.3	58.6	1.5	4.5	7.9	3. 32. 52.37	(+1.73)	52.52	15.04	22.52	22.78	....	
	11	η Tauri	AD	22.2	25.4	28.4	31.2	37.3	43.3	46.5	49.4	52.5	3. 39. 37.32	[-0.21]	37.46	0.02	22.56	[-1.43]	....	
	12	ε Persei	AD	43.8	47.3	51.2	54.0	..	..	..	..	..	3. 49. 1.62		1.82				3. 49. 24.37	- 4.28
	13	α ¹ Tauri	AD	37.6	40.5	43.4	46.6	52.4	58.4	1.3	4.3	7.4	3. 56. 52.42		52.56	15.15	22.59		....	
	14	γ Tauri	AD	..	3.7	6.7	9.5	15.1	20.7	23.8	26.6	..	4. 12. 15.13		15.26	37.80	22.54		....	
Dec. 27	15	ω Piscium	L	15.0	17.4	20.1	22.8	28.3	34.0	36.9	39.5	42.2	23. 52. 28.44		28.55	49.54	20.99	22.65†	....	
	16	α Andromedæ ...	L	14.6	17.9	20.8	24.0	30.4	36.6	39.8	42.8	45.9	0. 1. 30.29		30.44	51.55	21.11	21.05†	....	
	17	Bradley 3221	J	8.1	13.7	19.0	24.3	34.9	45.7	51.0	56.1	1.9	0. 3. 34.93		35.22			21.33	0. 3. 56.55	- 1.48
	18	ι Ceti	J	24.2	27.2	30.0	32.8	38.3	44.0	46.7	49.7	52.4	0. 12. 38.34		38.43	59.69	21.26	[-1.60]	0. 12. 59.75	- 2.35
	19	Bradley 34	J	29.0	40.2	52.2	4.0	27.0	51.1	2.8	14.1	26.0	0. 22. 27.27		27.89				0. 22. 49.20	- 1.06
	20	Groombridge 120 ..	J	..	..	..	..	..	24.2	30.5	37.4	44.1	0. 34. 10.69		11.05				0. 34. 32.34	- 1.94
	21	ε Piscium	J	48.3	..	54.0	56.8	2.2	8.0	10.8	..	16.2	0. 56. 2.31		2.42	23.73	21.31		0. 56. 23.69	- 2.54
	22	77 Piscium (1st Star)	J	..	45.2	48.0	50.8	56.2	1.9	4.7	7.2	..	0. 58. 26.26		56.37				0. 59. 17.63	- 2.57
	23	Bradley 125	J	44.6	47.2	50.0	..	58.5	..	6.8	9.5	12.2	0. 58. 58.37		58.48				0. 59. 19.74	- 2.57
	24	f Piscium	J	42.3	45.1	47.9	50.6	56.1	1.9	4.5	7.2	10.1	1. 10. 56.17		56.28				1. 11. 17.53	- 2.64
	25	Polaris (E&E)	J	..	52.0	46.0	43.0	..	..	..	..	..	1. 12. 1.96		7.66	28.94	21.28		....	
	26	δ ¹ L.	J	55.4	58.3	1.2	4.0	9.8	15.5	18.2	21.1	24.1	1. 18. 9.71		9.82				1. 19. 38.17	
	27	Neptune	J	36.8	39.7	42.3	45.1	..	..	..	..	..	1. 37. 50.74		50.86				1. 38. 12.08	
	28	ο Piscium	J	8.9	11.7	14.3	17.1	22.8	28.2	31.1	33.9	36.7	1. 38. 22.73		22.85	44.11	21.26		1. 38. 44.07	- 2.82
	29	54 Ceti	J	35.0	38.0	40.9	43.7	49.1	54.9	57.9	0.2	3.1	1. 43. 49.18		49.30				1. 44. 10.52	- 2.85
	30	ξ ¹ Ceti	J	43.9	46.7	49.5	52.2	57.7	3.3	6.2	8.9	11.9	2. 5. 57.79		57.91	19.21	21.30		2. 6. 19.10	- 2.98
	31	α Orionis	J	46.6	49.6	52.1	55.0	0.6	6.2	9.0	11.8	14.7	5. 48. 0.61		0.72	21.63	20.91		5. 48. 21.66	- 3.86
	32	γ Draconis S.P. ...	J	..	59.8	4.2	8.8	17.5	26.3	30.9	35.1	..	5. 53. 17.56		17.44				17. 53. 38.38	+ 1.08
	33	μ Geminorum ..	J	..	..	..	..	..	6.1	9.0	11.9	14.8	6. 14. 59.94		0.08	20.90	20.82		6. 15. 20.99	- 4.28
	34	14 Monocerotis ..	J	22.5	25.4	28.1	31.0	36.2	42.0	44.9	47.7	50.4	6. 27. 36.44		36.55				6. 27. 57.42	- 3.89
	35	17 Monocerotis ..	J	55.0	58.0	0.3	3.2	8.9	14.7	17.2	20.1	22.9	6. 40. 8.90		9.02				6. 40. 29.91	- 3.91
	36	ζ Geminorum ...	J	2.8	6.0	8.8	11.8	17.8	23.6	26.7	29.4	32.7	6. 56. 17.71		17.85	38.76	20.91		6. 56. 38.72	- 4.22
	37	γ Cancri	J	24.2	27.2	30.4	33.2	39.2	45.0	48.2	51.0	54.3	8. 35. 39.16		39.31	0.03	20.72		8. 36. 0.07	- 4.02
	38	Uranus	J	6.8	9.7	12.6	15.4	21.2	27.1	30.2	33.0	35.9	8. 49. 21.31		21.45				8. 49. 42.19	
Dec. 28	39	κ Orionis	AD	..	16.8	19.8	22.7	28.3	33.8	36.8	39.8	..	5. 41. 28.26		28.35	47.53	19.18	19.65†	....	
	40	α Orionis	AD	48.2	51.3	54.0	56.9	2.4	8.0	10.6	13.4	16.2	5. 48. 2.32		2.43	21.64	19.21	[-1.86]	....	
	41	Venus 2 L.	L	..	..	14.9	17.9	23.6	29.8	32.8	35.7	..	17. 35. 23.75	+0.35	23.62			19.22	17. 35. 41.09	
	42	μ Herculis	L	56.2	59.3	2.4	5.3	11.8	17.9	21.1	24.2	27.3	17. 41. 11.72	(+1.61)	11.78	29.66	17.88	[-1.84]	17. 41. 29.65	- 0.31
Dec. 29	43	⊙ 1 L.	L	45.8	48.9	51.7	54.8	0.6	6.8	9.9	12.8	15.8	18. 33. 0.76						18. 34. 29.53	
	44	⊙ 2 L.	L	7.8	11.0	14.0	16.9	23.0	29.0	32.0	35.1	38.1	18. 35. 22.96							
	45	β Lyræ	L	49.4	52.6	55.8	59.0	5.6	12.2	15.8	18.9	22.3	18. 45. 5.70		5.78	23.50	17.72		18. 45. 23.56	- 0.05

Polaris and other stars very near the pole are observed by eye and ear over the wires P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P.; using the Clock Hardy. The Intervals of the Wires of both systems are given in the Introduction.

Reading of Transit-Micrometer, 32".400.

Corrections to the times by Hardy for reduction to Arnold 1, applied to form Concluded Transit, Nos. 1 and 25, -39".00: and -33".60.

Corrections for passage of Semidiameter, Nos. 26 and 41, +67".11: and -0".40.

† These clock-errors have been used in the reduction of the observations made with the Altazimuth.

December 26 to December 28, α Orionis. The azimuthal error by tabular places of ε Piscium and Polaris on December 27, allowing -0".02 for clock-rate.

December 28, Venus 2 L., to December 29, μ Geminorum. The azimuthal error by tabular places of ε Piscium and Polaris on December 29, allowing -0".02 for clock-rate.

12, 14. Cloudy.

38. Image very blurred.

TRANSITS OBSERVED WITH THE TRANSIT-CIRCLE, AND COMPUTATIONS OF APPARENT RIGHT ASCENSION,

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of Collimation. (Level). [Azimuth].	Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at o ^h Sidereal and (Losing Rate).	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873, Jan. 1.
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.								
				s	s	s	s	s	s	s	s	s								
Dec. 29	1	γ Piscium.....	C	..	8.2	11.0	13.8	19.1	24.8	27.6	30.2	..	23. 10. 19.21	+0.35	19.16	36.77	17.61	19.36†	....	
	2	δ Piscium.....	C	55.6	58.7	1.2	4.0	9.6	15.1	18.0	20.8	23.8	23. 33. 9.62	(+1.61)	9.58	27.11	17.53	[-1.84]	....	
	3	ω Piscium.....	L	18.2	21.1	23.9	26.6	32.2	37.9	40.7	43.4	46.1	23. 52. 32.22	[-2.71]	32.19	49.52	17.33	19.22	23. 52. 49.58	- 2.12
	4	44 Piscium.....	L	24.7	27.7	30.3	33.0	38.7	44.0	46.8	49.6	52.3	0. 18. 38.54		38.49	55.84	17.35	17.38	0. 18. 55.84	- 2.31
	5	Bradley 47.....	L	31.2	34.4	37.1	40.0	46.0	51.9	54.8	57.7	0.6	0. 26. 45.94		45.96				0. 27. 3.31	- 2.26
	6	ϵ Piscium.....	L	52.4	55.2	58.1	0.9	6.2	12.0	14.8	17.5	20.3	0. 56. 6.36		6.33	23.71	17.38		0. 56. 23.64	- 2.52
	7	Polaris....(E&E)	L	45.5	44.0	38.5	37.5	30.5	25.0	..	..	..	1. 12. 0.89		10.06	27.39	17.33		....	
	8	ν Piscium.....	L	21.0	24.0	26.8	29.4	35.0	40.6	43.2	46.1	48.9	1. 34. 34.98		34.95	52.13	17.18		1. 34. 52.21	- 2.77
	9	Neptune.....	L	38.8	41.7	44.4	47.1	52.8	58.2	1.1	3.9	6.6	1. 37. 52.72		52.70				1. 38. 39.96	
	10	α Arietis.....	L	5.1	8.0	10.7	13.6	19.3	25.0	27.9	30.8	33.6	2. 37. 19.31		19.31				2. 37. 36.49	- 3.21
	11	σ Arietis.....	L	..	..	..	9.2	15.1	20.9	23.8	26.4	29.3	2. 44. 15.05		15.05	32.19	17.14		2. 44. 32.22	- 3.25
	12	δ 1 L.....	L	38.0	41.1	44.0	47.0	52.9	58.9	1.9	4.8	7.8	3. 5. 52.92		52.93				3. 7. 19.76	
	13	τ 1 Arietis.....	L	25.6	28.5	31.2	34.3	40.1	46.0	49.0	52.0	55.0	3. 13. 40.17		40.20	57.36	17.16		3. 13. 57.33	- 3.52
	14	13 Tauri.....	L	..	34.4	37.2	40.1	46.0	52.0	54.8	57.9	..	3. 34. 46.03		46.05				3. 35. 3.16	- 3.63
	15	β Eridani.....	L	9.1	12.0	14.7	17.2	22.9	28.4	31.1	34.0	36.8	5. 1. 22.89		22.82				5. 1. 39.81	
	16	η Geminorum....	L	44.9	48.0	51.1	53.9	59.9	5.9	8.9	12.0	14.8	6. 6. 59.91		59.95	16.96	17.01		6. 7. 16.86	- 4.28
	17	μ Geminorum...	L	49.0	52.0	55.0	57.9	4.0	9.9	12.8	15.9	18.9	6. 15. 3.92		3.96	20.92	16.96		6. 15. 20.86	- 4.30
	18	δ Ophiuchi.....	AD	12.3	15.3	17.8	20.8	26.3	31.9	34.7	37.2	40.1	16. 7. 26.24	(+2.42)	26.27	42.75	16.48	17.70	....	
	19	ζ Draconis.....	AD	32.0	38.9	45.5	52.1	5.9	19.4	25.9	32.8	39.7	17. 8. 5.74	[-1.54]	6.25			[-1.84]	17. 8. 22.64	+ 2.78
	20	β Draconis.....	AD	53.4	58.0	2.6	7.0	16.2	25.1	29.8	34.1	38.9	17. 27. 16.08		16.39				17. 27. 32.75	+ 1.01
	21	α Ophiuchi.....	AD	32.4	35.3	38.2	41.1	46.8	52.3	55.2	58.0	0.9	17. 28. 46.67		46.75	3.18	16.43		....	
	22	α Lyræ.....	AD	3.9	7.5	11.0	14.7	21.7	28.8	32.3	35.9	39.2	18. 32. 21.64		21.84	38.09	16.25		....	
Dec. 30	23	$\odot$ 1 L.....	AD	12.7	16.0	18.9	21.8	27.9	34.0	36.9	40.0	42.9	18. 37. 27.87						18. 38. 55.16	
	24	$\odot$ 2 L.....	AD	..	38.0	41.0	44.0	50.0	56.0	59.1	1.9	..	18. 39. 49.97						....	
	25	δ Draconis.....	AD	34.8	42.2	49.0	56.2	10.9	25.1	32.7	39.8	47.0	19. 12. 16.80		11.33				19. 12. 27.56	+ 3.78
	26	δ Cygni.....	AD	23.9	27.9	31.8	35.6	43.4	51.1	55.1	59.0	2.9	19. 40. 43.38		43.62				19. 40. 59.81	+ 0.55
	27	α Aquilæ.....	AD	5.9	8.8	11.5	14.4	20.0	25.6	28.3	31.1	34.0	19. 44. 19.94		20.01	36.12	16.11		....	
Dec. 31	28	α Andromedæ...	E	19.5	22.9	25.8	28.9	35.1	41.6	44.6	47.6	50.9	0. 1. 35.18		35.33	51.51	16.18	16.18†	....	
	29	$\odot$ 2 L.....	C	2.2	5.2	8.2	11.1	17.1	23.2	26.2	29.1	32.2	18. 44. 17.13	(+1.06)	17.15			16.08	18. 43. 20.51	
	30	κ Piscium.....	J	59.3	2.2	4.8	7.8	13.2	18.8	21.5	24.1	27.0	23. 20. 13.17	[-0.36]	13.21	27.22	14.01	16.08†	....	
	31	ι Piscium.....	J	59.0	2.0	4.8	7.6	12.0	18.6	21.2	24.2	27.0	23. 33. 13.03		13.08	27.09	14.01	[-2.12]	....	
	32	Polaris....(E&E)	C	50.0	..	43.0	40.0	33.0	..	24.5	..	..	1. 12. 8.07		12.02	25.86	13.84	13.96	....	
	33	η Piscium.....	C	16.0	18.8	21.6	24.4	30.1	36.0	38.9	41.6	44.4	1. 24. 30.18		30.25	44.06	13.81		1. 24. 44.09	- 2.70
	34	Piazzi I. 104.....	C	28.8	32.1	35.6	39.0	45.9	52.8	56.2	59.5	3.1	1. 26. 45.86		45.97				1. 26. 59.80	- 2.77
	35	Neptune.....	C	40.3	43.1	45.9	48.7	54.2	59.8	2.7	5.3	8.2	1. 37. 54.23		54.28				1. 38. 8.10	
	36	η Ursæ Maj. S.P..	C	58.6	2.9	7.0	11.4	20.1	28.5	33.0	37.1	41.7	1. 42. 20.08		19.98				13. 42. 33.79	- 1.72
	37	ξ 2 Ceti.....	C	59.7	2.8	5.2	8.0	13.8	19.2	22.1	24.9	27.8	2. 21. 13.70		13.75	27.52	13.77		2. 21. 27.50	- 3.04
	38	27 Arietis.....	C	26.8	29.9	32.7	35.6	41.2	47.0	50.0	52.9	55.7	2. 23. 41.29		41.36				2. 23. 55.11	- 3.12
	39	Groomb. z132 S.P.	C	8.4	15.1	21.8	28.9	42.2	..	..	..	..	2. 30. 42.34		42.15				14. 30. 55.89	- 0.15
	40	Aldebaran.....	C	13.9	16.8	19.6	22.4	28.2	34.1	37.0	39.9	42.7	4. 28. 28.27		28.34	41.90	13.56		4. 28. 41.90	- 3.84
	41	τ Tauri.....	C	13.0	16.0	19.0	22.0	27.8	34.0	36.9	39.8	42.9	4. 34. 27.91		28.00	41.42	13.42		4. 34. 41.56	- 4.02
	42	κ Tauri.....	C	58.4	1.6	4.7	7.6	13.8	19.8	22.9	25.9	28.9	4. 50. 13.71		13.80				4. 50. 27.33	- 4.15
	43	δ 1 L.....	C	27.0	30.2	33.5	36.5	42.9	49.1	52.2	55.3	58.7	5. 3. 42.79		42.88				5. 5. 9.09	
	44	β Tauri.....	C	51.0	54.1	57.1	0.3	6.7	12.9	16.1	19.2	22.3	5. 18. 6.60		6.70	20.27	13.57		5. 18. 20.19	- 4.39
	45	κ Orionis.....	C	20.0	23.0	25.5	28.3	34.0	39.7	42.4	45.2	48.1	5. 41. 34.00		34.03	47.55	13.52		5. 41. 47.49	- 3.58

The observations of transits are usually made by the galvanic or chronographic method, the wires employed being generally P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P. Occasionally the observations are made by eye and ear (E & E); the wires then employed are N, O, P, T, X, Y, Z; in reversed order for stars S.P.

Reading of Transit-Micrometer, $32'' \cdot 400$.

Corrections to the times by Hardy for reduction to Arnold 1, applied to form Concluded Transit, Nos. 7 and 32, $-28'' \cdot 50$: and $-25'' \cdot 00$.

Corrections for passage of Semidiameter, Nos. 12, 29, and 43, $+69'' \cdot 69$: $-71'' \cdot 07$: and $+72'' \cdot 70$.

† These clock-errors have been used in the reduction of the observations made with the Altazimuth.

December 29, δ Ophiuchi, to December 30. The azimuthal error used is the mean of the preceding and following determinations.

December 31. The azimuthal error by tabular places of Polaris and η Piscium, allowing $-0'' \cdot 02$ for clock-rate.

7. Very tremulous.

21, 27. Tremulous.

41. The second and brighter of two stars.

1835 JAN . 35A . . 1A

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	Observer.	Seconds of Transit over the Wires.									Concluded Transit over the Center Wire.	Error of		Seconds of Transit Cor- rected.	Tabular R.A. of Known Stars.	Clock appa- rently Slow.	Adopted Clock Slow at oh Sidereal and [Losing Rate].	Apparent R.A. of Center from the Observation.	Correction for Reduction to Mean R.A. 1873, Jan. 1.
				I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.		Collimation. (Level).	Azimuth.						
s	s	s	s	s	s	s	s	s	h m s	"	s	s	s	s	h m s	s					
Dec. 31	1	136 Tauri	C	56.0	59.2	2.2	5.3	11.6	17.9	20.9	24.1	27.1	5. 45. 11.56	+0.35		11.65			13.96	5. 45. 25.10 — 4.44	
	2	θ Canis Majoris . .	C	53.3	56.2	59.0	1.9	7.6	13.2	16.0	18.9	21.8	6. 48. 7.52	(+1.06)		7.55	20.91	13.36	[−2.12]	6. 48. 20.91 — 3.56	
	3	Arg. Zone + 26°. No. 1410	C	59.2	2.4	5.3	8.4	14.7	21.0	..	..	..	6. 51. 14.63	[−0.36]		14.72				6. 51. 28.07 — 4.47	
	4	40 Geminorum . .	C	..	..	..	22.4	28.6	34.8	37.8	40.8	44.0	6. 51. 28.55			28.64				6. 51. 41.99 — 4.47	
	5	α Ophiuchi	E	36.7	39.3	42.2	..	50.7	..	59.2	2.0	5.0	17. 28. 50.70			50.76	3.21	12.45	14.10	17. 29. 3.22 — 0.88	
	6	Venus 2 L.	E	37.9	41.0	43.9	46.9	53.0	58.9	2.0	5.0	8.1	17. 51. 52.94			52.96			[−2.25]	17. 52. 4.99	

Polaris and other stars very near the pole are observed by eye and ear over the wires P, Q, R, S, T, U, V, W, X; in reversed order for stars S.P.; using the Clock Hardy.
The Intervals of the Wires of both systems are given in the Introduction.

Reading of Transit-Micrometer, 32".400.
Correction for passage of Semidiameter, No. 6, −0".40.

6. Very faint.