

1845G0AMM...5A...1A

ROYAL OBSERVATORY, GREENWICH.

TRANSITS AS OBSERVED,
AND
CALCULATION
OF
APPARENT RIGHT ASCENSIONS.

1843.

B

[2]

TRANSITS OBSERVED AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1843.

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	I.	II.	III.	IV.	V.	VI.	VII. WIRE.	Correction to Mean of Wires Observed.	Concluded Transit over Mean of the Seven Wires.	Observer.
			m s	m s	m s	m s	m s	m s	h m s			
Jan. 2	1*	Polaris	...	...	...	...	...	18. 42.0	1. 26. 49.0	-20. 12.36	1. 2. 33.14	P
	2	γ Ceti	1.2	13.9	26.5	39.7	52.7	5.5	2. 35. 18.6		2. 34. 39.73	H
	3	47 Arietis	55.6	9.0	22.7	36.7	50.2	3.7	2. 49. 17.7		2. 48. 36.52	H
	4	α Ceti	55.7	8.8	21.6	34.6	47.6	0.2	2. 54. 13.0		2. 53. 34.50	H
	5	α Persei	39.8	59.8	19.7	39.6	59.3	18.7	3. 13. 38.6		3. 12. 39.36	H
	6	η Tauri	57.7	11.8	25.8	39.7	54.1	7.9	3. 38. 21.7		3. 37. 39.82	H
	7*	γ Eridani	32.7	45.6	59.0	12.6	25.8	38.8	3. 50. 52.1		3. 50. 12.37	H
	8	Mars 2 L.	16.6	30.0	42.8	56.2	9.3	22.6	14. 6. 35.7		14. 5. 56.17	E
	9	Arcturus	17.6	31.1	45.0	58.5	12.1	26.0	14. 8. 39.5		14. 7. 58.55	E
Jan. 4	10	Polaris	...	...	...	...	10. 41.0	18. 43.0	1. 26. 48.0	-16. 10.61	1. 2. 33.39	H
	11	γ Ceti	1.5	14.0	27.1	39.7	52.6	5.6	2. 35. 18.7		2. 34. 39.89	H
	12	β Ursæ Min. S.P.	...	...	49. 50.1	50. 39.5	51. 28.6	...	2.	+ 0.13	2. 50. 39.53	H
	13	α Ceti	55.7	8.8	21.7	34.6	47.5	0.0	2. 54. 13.1		2. 53. 34.49	H
	14	α Persei	40.0	59.8	19.7	39.5	59.0	18.5	3. 13. 38.5		3. 12. 39.29	H
	15	η Tauri	57.7	11.7	25.8	39.7	54.0	7.7	3. 38. 21.7		3. 37. 39.76	H
	16	ζ Ursæ Min. S.P.	46. 1.5	47. 5.0	48. 7.5	...	...	...	...	+ 2. 6.48	3. 49. 11.15	H
	17	γ Eridani	32.6	45.8	59.0	12.5	25.6	38.7	3. 50. 52.0		3. 50. 12.31	H
	18	Vesta	...	...	...	5.5	18.7	31.8	10. 6. 45.2	- 20.18	10. 6. 5.12	H
	19	Polaris, S. P. ...	...	...	...	2. 37.0	10. 43.0	18. 48.0	13. 26. 54.0	-12. 7.98	13. 2. 37.52	E
	20	Spica	45.0	58.1	11.2	24.4	37.6	50.0	13. 17. 3.2		13. 16. 24.21	E
	21	η Ursæ Majoris..	48.8	9.0	29.0	49.1	9.2	29.2	13. 41. 49.3		13. 40. 49.09	E
	22	η Bootis	59.8	13.7	27.1	41.0	54.6	8.1	13. 47. 21.6		13. 46. 40.84	E
	23	Arcturus	17.2	31.0	44.5	58.2	12.0	25.8	14. 8. 39.3		14. 7. 58.29	E
	24	Mars 2 L.	40.3	53.5	6.6	19.8	33.1	46.2	14. 10. 59.3		14. 10. 19.83	E
Jan. 5	25	α Cygni	37.2	55.5	13.2	31.6	49.8	7.4	20. 36. 25.8		20. 35. 31.50	E
	26	ζ Pegasi	27.0	39.8	52.8	5.9	18.8	31.8	22. 33. 45.0		22. 33. 5.87	E
	27	δ 1 L.	24.4	37.8	50.8	4.2	17.3	30.5	22. 38. 43.8		22. 38. 4.11	E
	28	Polaris	...	...	...	2. 32.0	10. 39.0	18. 41.0	1. 26. 46.0	-12. 8.41	1. 2. 31.09	E
	29	θ Ceti	...	...	26.5	39.3	52.2	5.1	1. 16. 18.0	- 13.03	1. 15. 39.19	E
	30	α Arietis	7.4	21.3	35.2	49.2	3.1	17.0	1. 58. 31.0		1. 57. 49.18	E
	31	γ Ceti	0.6	13.7	26.7	39.7	52.6	5.3	2. 35. 18.1		2. 34. 39.53	E
	32	47 Arietis	55.0	8.7	22.4	36.0	49.8	3.3	2. 49. 17.1		2. 48. 36.04	E
	33	α Ceti	55.3	8.1	21.0	33.9	46.8	59.6	2. 54. 12.5		2. 53. 33.88	E
	34	α Persei	39.3	59.2	19.1	38.6	58.4	18.1	3. 13. 37.7		3. 12. 38.63	E
	35*	η Tauri	57.7	11.1	25.5	39.3	53.3	7.0	3. 38. 21.2		3. 37. 39.30	E
	36	γ Eridani	32.2	45.5	58.6	12.2	25.2	38.0	3. 50. 51.7		3. 50. 11.91	E
	37	Vesta	11.8	25.4	38.9	52.6	6.0	19.2	10. 6. 32.6		10. 5. 52.35	E
	38	Arcturus	17.0	30.8	44.6	58.5	12.0	25.7	14. 8. 39.5		14. 7. 58.30	H
Jan. 6	39*	Mars 2 L.	52.5	5.0	18.5	31.6	44.7	57.7	14. 13. 10.9		14. 12. 31.55	H
	40	ζ Aquilæ	58.8	12.0	25.1	38.4	51.6	4.8	18. 58. 18.0		18. 57. 38.39	E
Jan. 7	41	$\odot$ 1 L.	39.7	53.8	7.8	21.8	35.8	49.7	19. 11. 3.6		19. 10. 21.74	E
	42	$\odot$ 2 L.	1.3	15.3	29.2	43.3	57.2	11.1	19. 13. 25.1		19. 12. 43.21	E
	43	α Andromedæ...	1.0	15.8	30.1	44.8	59.4	13.7	0. 0. 28.4		23. 59. 44.74	E
	44	γ Pegasi	57.4	10.4	24.1	37.3	50.6	3.8	0. 5. 17.2		0. 4. 37.26	E
	45	δ 1 L.	57.3	10.8	23.8	37.0	50.3	3.4	0. 7. 16.8		0. 6. 37.06	E
Jan. 8	46	β Ceti	...	...	56.7	10.5	23.7	37.4	0. 36. 51.0	- 13.60	0. 36. 10.26	H
	47	δ Piscium	21.7	34.6	47.7	0.6	13.6	26.5	0. 40. 39.5		0. 40. 0.60	H
	48*	δ 1 L.	14.7	28.5	41.7	55.0	8.6	21.6	0. 52. 35.6		0. 51. 55.10	H

ILLUMINATED END OF AXIS WEST. Order of Wires for Stars above the Pole, G, F, E, D, C, B, A.

1. Faint, and observed with difficulty. 7. Very tremulous: the observations this evening are considered to be bad.
35, 39, 48. The intervals irregular. 48. Cloudy.

CALCULATION OF APPARENT RIGHT ASCENSIONS.

[3]

No. for 1843...	Error of Collimation.	Level Error.	Seconds of Transit cor. for two Errors.	Azimuthal Error.	Seconds of Transit Corrected.	Tabular R.A. of Known Stars.	Clock apparently Slow.	Adopted Losing Rate.	Clock Slow at 0 ^h Sidereal.	Correction for Duration of Passage of Semidiameter.	Apparent R.A. of Center from the Observation.	NAME OF OBJECT.	Correction to Mean R.A. 1843, Jan. 1.
#	#	#	#	#	#	#	#	#	#	m s	h m s		#
1	-0.23	+1.22	35.00	-0.74	36.13	67.23	31.10	0.40	32.03		....	Polaris.	
2					39.72	11.94	32.22				2. 35. 11.79	γ Ceti.	- 1.71
3					36.53						2. 49. 8.60	47 Arietis.	- 1.88
4			34.53		34.49	6.52	32.03				2. 54. 6.56	α Ceti.	- 1.82
5					39.46						3. 13. 11.54	α Persei.	- 2.66
6					39.84	11.91	32.07				3. 38. 11.93	η Tauri.	- 2.23
7					12.33	44.31	31.98				3. 50. 44.42	γ Eridani.	- 2.00
8					56.15			0.00	32.00	- 0.17	14. 6. 27.98	Mars.	
9					58.57	30.57	32.00				....	Arcturus.	
10			35.25	-0.53	36.05	65.48	29.43	0.00	32.04		1. 3. 8.09	Polaris.	- 5.14
11					39.89	11.94	32.05				2. 35. 11.93	γ Ceti.	- 1.69
12					39.30						14. 51. 11.34	β Ursæ Min. S.P.	+ 2.41
13					34.49	6.50	32.01				2. 54. 6.53	α Ceti.	- 1.80
14					39.40						3. 13. 11.44	α Persei.	- 2.63
15					39.79	11.90	32.11				3. 38. 11.83	η Tauri.	- 2.22
16					10.84						15. 49. 42.88	ζ Ursæ Min. S.P.	+ 5.25
17					12.29	44.29	32.00				3. 50. 44.33	γ Eridani.	- 1.98
18					5.15						10. 6. 37.19	Vesta.	
19			35.76		34.91	65.05	30.14	0.20	32.24		1. 3. 7.26	Polaris S.P.	- 4.71
20					24.20	56.67	32.47				13. 16. 56.55	Spica.	- 0.97
21					49.20						13. 41. 21.56	η Ursæ Majoris.	- 0.51
22					40.87	13.21	32.34				13. 47. 13.23	η Bootis.	- 0.72
23					58.32	30.64	32.32				14. 8. 30.68	Arcturus.	- 0.57
24					19.82					- 0.17	14. 10. 52.01	Mars.	
25					31.58						20. 36. 3.99	α Cygni.	+ 1.04
26					5.89	38.19	32.30				22. 33. 38.31	ζ Pegasi.	- 0.27
27					4.11					+ 1. 1.20	22. 39. 37.74	δ	
28			32.95		33.75	64.63	30.88		32.44		1. 3. 6.20	Polaris.	- 4.29
29					39.18	11.77	32.59				1. 16. 11.63	θ Ceti.	- 1.21
30					49.22	21.57	32.35				1. 58. 21.68	α Arietis.	- 1.57
31					39.53	11.91	32.38				2. 35. 11.99	γ Ceti.	- 1.68
32					36.07						2. 49. 8.53	47 Arietis.	- 1.86
33					33.88	6.49	32.61				2. 54. 6.34	α Ceti.	- 1.79
34					38.73						3. 13. 11.20	α Persei.	- 2.61
35					39.34	11.89	32.55				3. 38. 11.81	η Tauri.	- 2.21
36					11.89	44.29	32.40				3. 50. 44.36	γ Eridani.	- 1.98
37					52.38						10. 6. 24.91	Vesta.	
38					58.33	30.67	32.34	0.27	32.18		....	Arcturus.	
39					31.54					- 0.17	14. 13. 3.71	Mars.	
40					38.42	11.21	32.79	0.27	32.60		....	ζ Aquilæ.	
41					32.44						19. 12. 5.26	$\odot$	
42					44.78	17.58	32.80				....	α Andromedæ.	
43					37.29	10.13	32.84		32.87		....	γ Pegasi.	
44					37.07					+ 1. 1.31	0. 8. 11.25	δ	
45											....	β Ceti.	
46					10.23	43.19	32.96	0.20	32.96		0. 40. 33.58	δ Piscium.	- 0.99
47					0.61						0. 53. 30.51	δ	
48					55.12					+ 1. 2.42			

Jan. 2, 0^h. The Transit instrument was reversed, and the illuminated end of the axis left West.Jan. 2. The azimuthal error by tabular places of Polaris and α Ceti, allowing 0^s.06 for clock-rate.

Jan. 4 and 5. The azimuthal error by Polaris, Polaris S. P., and Polaris.

Jan. 6, 21^h. The Transit instrument was levelled.

[4]

TRANSITS OBSERVED AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1843.

MONTH and DAY.	No. for Reference	NAME OF OBJECT.	I.	II.	III.	IV.	V.	VI.	VII. WIRE.	Correction to Mean of Wires Observed.	Concluded Transit over Mean of the Seven Wires.	Observer.
			m s	m s	m s	m s	m s	m s	h m s	m s	h m s	
Jan. 8	1	Arcturus.....	16.3	30.2	43.8	57.2	11.2	24.5	14. 8. 38.1		14. 7. 57.33	E
	2	Mars 2 L.....	26.0	39.1	52.3	5.7	18.9	32.1	14. 19. 45.3		14. 19. 5.63	E
	3	Venus 2 L.	7.2	20.8	34.3	47.7	1.3	14.8	17. 15. 28.3		17. 14. 47.77	E
	4	β Draconis	...	36.1	57.1	18.3	39.4	0.3	17. 27.	— 0.01	17. 26. 18.23	E
	5	γ Draconis	20.8	41.3	2.1	23.0	43.8	4.1	17. 53. 24.8		17. 52. 22.84	E
	6	α Lyræ	13.8	30.1	46.7	3.3	19.8	36.1	18. 31. 52.6		18. 31. 3.20	E
Jan. 9	7*	α Ophiuchi	...	38.7	52.0	5.4	18.7	31.4	17. 27.	— 0.01	17. 27. 5.23	H
Jan. 10	8*	α Cygni.....	36.0	54.1	12.4	...	48.6	...	20. 35.	+ 22.62	20. 35. 30.40	H
	9*	27 Arietis.....	0.5	13.7	27.2	40.7	...	...	2. 21.	+ 20.17	2. 21. 40.70	H
	10*	δ 1 L.	51.5	5.5	19.3	33.3	47.4	0.9	2. 30. 14.8		2. 29. 33.24	H
	11*	γ Ceti	59.8	12.8	25.7	38.6	51.4	4.0	2. 35. 16.7		2. 34. 38.43	H
	12*	ϵ Arietis	...	15.7	29.5	43.0	56.7	10.6	2. 50.	— 0.01	2. 49. 43.09	H
	13	Arcturus.....	15.9	29.8	43.1	57.1	10.7	24.0	14. 8. 38.0		14. 7. 56.94	E
	14*	Mars 2 L.....	...	...	15.2	28.1	41.1	54.2	14. 24. 7.1	— 13.22	14. 23. 27.92	E
	15	α Herculis.....	15.8	29.0	42.1	55.3	8.7	22.0	17. 7. 35.1		17. 6. 55.43	E
	16	Venus 2 L.....	45.9	59.2	12.9	26.4	40.0	53.2	17. 16. 6.9		17. 15. 26.36	E
	17	β Draconis	...	36.0	56.8	18.1	39.1	0.1	17. 27.	— 0.01	17. 26. 18.01	E
	18	γ Draconis	20.1	41.0	1.7	22.2	43.0	3.4	17. 53. 24.0		17. 52. 22.20	E
	19	α Lyræ	13.1	29.5	46.0	2.7	19.1	35.5	18. 31. 52.0		18. 31. 2.55	E
	20	β Lyræ	56.2	11.8	26.8	42.2	57.8	13.0	18. 44. 28.3		18. 43. 42.30	E
	21	ζ Aquilæ.....	57.8	11.0	24.1	37.3	50.7	3.8	18. 58. 17.0		18. 57. 37.39	E
Jan. 11	22	$\odot$ 1 L.	5.8	19.8	33.7	47.5	1.4	15.2	19. 28. 29.0		19. 27. 47.49	E
	23	$\odot$ 2 L.	26.5	40.4	54.5	8.3	22.2	36.0	19. 30. 49.8		19. 30. 8.25	E
	24	γ Aquilæ.....	34.8	47.5	0.7	13.6	26.8	39.7	19. 38. 52.9		19. 38. 13.71	E
	25	α Aquilæ.....	54.4	7.5	20.4	33.4	46.5	59.5	19. 43. 12.6		19. 42. 33.47	E
	26	α Cygni.....	...	53.5	11.8	30.0	48.0	6.1	20. 36.	— 0.01	20. 35. 29.87	E
Jan. 12	27	γ Ceti	59.1	11.8	24.8	37.7	50.7	3.7	2. 35. 16.5		2. 34. 37.76	H
	28	47 Arietis.....	53.5	7.0	20.7	34.6	48.2	1.7	2. 49. 15.5		2. 48. 34.46	H
	29	α Ceti	53.8	6.7	19.8	32.6	45.6	58.1	2. 54. 11.0		2. 53. 32.51	H
	30	η Tauri.....	55.7	9.7	23.8	38.0	51.8	6.0	3. 38. 19.7		3. 37. 37.82	H
	31	γ Eridani	30.7	43.8	57.0	10.5	23.7	36.7	3. 50. 50.0		3. 50. 10.34	H
	32	δ 1 Tauri	11.7	25.8	39.7	53.6	7.6	21.0	3. 55. 35.0		3. 54. 53.48	H
	33	δ 1 L.	20.0	34.7	49.5	3.7	18.5	32.7	4. 21. 47.0		4. 21. 3.73	H
	34	Aldebaran.....	43.1	56.7	9.9	23.6	36.7	50.0	4. 27. 3.6		4. 26. 23.37	E
	35	δ Tauri.....	29.7	43.4	57.3	11.3	25.2	38.8	4. 53. 52.8		4. 53. 11.21	E
	36	Aldebaran.....	42.9	56.1	9.4	23.0	36.4	49.6	4. 27. 3.0		4. 26. 22.91	E
Jan. 13	37	Rigel.....	48.5	1.6	14.4	27.4	40.5	...	5. 6.	+ 12.99	5. 6. 27.47	E
	38	β Tauri.....	6.8	21.2	36.0	50.7	5.2	19.8	5. 16. 34.4		5. 15. 50.58	E
	39*	δ 1 L.	1.7	16.1	30.2	45.4	0.0	14.5	5. 22. 29.1		5. 21. 45.29	E
	40	α Ophiuchi.....	24.6	38.0	51.5	4.6	17.7	30.7	17. 27. 44.0		17. 27. 4.44	H
Jan. 15	41	ζ Geminorum ...	34.1	48.0	1.8	15.4	29.3	43.0	6. 54. 56.8		6. 54. 15.49	E
	42	δ Geminorum ...	...	...	58.7	12.7	26.6	40.4	7. 10. 54.1	— 13.90	7. 10. 12.60	E
	43	Castor.....	17.2	32.2	47.3	2.5	17.9	33.0	7. 24. 48.2		7. 24. 2.61	E
	44	δ 1 L.	41.4	55.8	10.0	24.2	38.4	52.8	7. 27. 7.0		7. 26. 24.23	E
	45	Procyon.....	53.8	6.7	19.6	32.5	45.4	58.3	7. 31. 11.2		7. 30. 32.50	E
	46	Pollux.....	26.4	41.1	55.6	10.2	24.8	39.3	7. 35. 53.8		7. 35. 10.17	E
	47*	α Aquilæ.....	...	...	...	32.4	45.2	37.6	19. 43. 11.1	— 19.51	19. 42. 32.07	H
ILLUMINATED END OF AXIS WEST. Order of Wires for Stars above the Pole, G, F, E, D, C, B, A.												
Jan. 8. Between the observations of γ Draconis and α Lyræ the Transit clock tripped in winding. 7, 39, 47. The intervals irregular.							7, 8, 9, 10, 11, 12, 14. Cloudy. Jan. 13. A heavy gale: the beats of the clock were scarcely 47. Very cloudy: the observation not good.					

CALCULATION OF APPARENT RIGHT ASCENSIONS.

[5]

No. for Reference.	Error of Collimation.	Level Error.	Seconds of Transit cor. for two Errors.	Azimuthal Error.	Seconds of Transit Corrected.	Tabular R.A. of Known Stars.	Clock apparently Slow.	Clock Slow at 0 ^h Sidereal.	Adopted Losing Rate.	Correction for Duration of Passage of Semidiameter.	Apparent R.A. of Center from the Observation.	NAME OF OBJECT.	Correction to Mean R.A. 1843, Jan. 1.
"	"	"	"	"	"	"	"	"	"	m s	h m s	"	"
1	-0.23	+1.22		-0.53	57.36	30.76	33.40	0.20	33.29		....	Arcturus.	
2					5.62					- 0.18	14. 19. 38.85	Mars.	
3					47.74					- 1.79	17. 15. 19.38	Venus.	
4					18.33						17. 26. 51.76	β Draconis.	+ 1.46
5					22.95						17. 52. 56.39	γ Draconis.	+ 1.52
6					3.27	36.29	33.02	...	...		....	α Lyræ.	
7		+1.00			5.24	38.64	33.40	0.20	33.24		....	α Ophiuchi.	
8					30.46						20. 36. 3.89	α Cygni.	+ 1.06
9					40.72				33.44		2. 22. 14.18	27 Arietis.	- 1.63
10					33.26					+ 1. 6.37	2. 31. 13.09	δ	
11					38.42	11.86	33.44				....	γ Ceti.	
12					43.11						2. 50. 16.57	ϵ Arietis.	- 1.84
13					56.96	30.83	33.87	0.20	33.60		14. 8. 30.68	Arcturus.	- 0.76
14					27.90					- 0.18	14. 24. 1.44	Mars.	
15					55.45	29.24	33.79			- 1.74	17. 7. 29.19	α Herculis.	+ 0.13
16					26.33						17. 15. 58.33	Venus.	
17					18.09						17. 26. 51.84	β Draconis.	+ 1.42
18					22.29						17. 52. 56.04	γ Draconis.	+ 1.49
19					2.60	36.32	33.72				18. 31. 36.35	α Lyræ.	+ 0.93
20					42.35	16.22	33.87				18. 44. 16.11	β Lyræ.	+ 0.76
21					37.40	11.26	33.86				18. 58. 11.16	ζ Aquilæ.	+ 0.34
22													
23					57.85						19. 29. 31.61	$\odot$	
24					13.72	47.34	33.62				19. 38. 47.48	γ Aquilæ.	+ 0.29
25					33.48	7.02	33.54				19. 43. 7.24	α Aquilæ.	+ 0.26
26					29.93						20. 36. 3.70	α Cygni.	+ 1.06
27					37.75	11.84	34.09	0.25	33.93		2. 35. 11.70	γ Ceti.	- 1.61
28					34.48						2. 49. 8.44	47 Arietis.	- 1.81
29					32.51	6.41	33.90				2. 54. 6.47	α Ceti.	- 1.73
30					37.84	11.84	34.00				3. 38. 11.81	η Tauri.	- 2.16
31					10.32	44.23	33.91				3. 50. 44.29	γ Eridani.	- 1.92
32					53.50						3. 55. 27.47	Δ^1 Tauri.	- 2.22
33					3.76					+ 1. 10.90	4. 22. 48.63	δ	
34					23.39	57.34	33.95				4. 26. 57.36	Aldebaran.	- 2.31
35					11.23						4. 53. 45.21	ι Tauri.	- 2.50
36					22.93	57.34	34.41	0.25	34.31		....	Aldebaran.	
37					27.45	1.88	34.43				....	Rigel.	
38					50.61	24.97	34.36				....	β Tauri.	
39					45.32					+ 1. 12.33	5. 23. 32.01	δ	
40					4.45	38.73	34.28	...	...		....	α Ophiuchi.	
41				+0.55	15.55			0.28	34.68		6. 54. 50.31	ζ Geminorum.	- 2.83
42					12.66	47.31	34.65				7. 10. 47.42	δ Geminorum.	- 2.86
43					2.67	37.55	34.88				7. 24. 37.44	Castor.	- 3.12
44					24.29					+ 1. 12.10	7. 28. 11.16	δ	
45					32.56	7.31	34.75				7. 31. 7.33	Procyon.	- 2.60
46					10.24	45.02	34.78				7. 35. 45.01	Pollux.	- 3.01
47					32.13	7.07	34.94	0.40	34.49		....	α Aquilæ.	

 Jan. 13, 21^b. The Transit instrument was levelled.

[6]

TRANSITS OBSERVED AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1843.

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	I.	II.	III.	IV.	V.	VI.	VII. WIRE.	Correction to Mean of Wires Observed.	Concluded Transit over Mean of the Seven Wires.		Observer.
			m s	m s	m s	m s	m s	m s	h m s		m s	h m s	
Jan. 16	1*	☉ 2 L.	59.8	13.6	27.5	41.2	55.0	8.7	19.52.22.7	— 8. 5.78	19.51.41.21	H	
	2*	Polaris	...	...	...	2.23.0	10.30.0	18.29.0	1.		1. 2.21.55	H	
	3*	θ Ceti	57.6	10.6	23.8	36.7	49.8	2.7	1.16.15.7		1.15.36.70	H	
	4*	η Tauri	54.7	8.7	22.8	37.0	51.0	5.0	3.38.19.0		3.37.36.89	H	
	5	δ 2 L.	...	1.2	15.0	28.8	42.7	56.2	8.30.10.1		8.29.28.76	R	
	6	α Hydræ	40.5	53.4	6.2	19.5	32.4	45.2	9.19.58.3		9.19.19.36	R	
Jan. 17	7*	δ 2 L.	13.8	27.1	40.7	54.1	7.4	20.8	9.28.34.2		9.27.54.01	E	
Jan. 18	8*	δ Orionis	46.5	59.6	12.3	25.2	38.1	50.8	5.24. 3.8		5.23.25.19	R	
	9*	ε Orionis	2.2	15.0	28.0	40.8	53.6	6.5	5.28.19.3		5.27.40.77	R	
	10*	α Orionis	27.5	40.2	53.5	6.5	19.4	32.4	5.46.45.2		5.46. 6.39	R	
	11*	μ Geminorum ...	12.0	26.2	40.2	54.1	8.2	22.0	6.13.35.9		6.12.54.09	R	
	12*	δ 2 L.	33.6	47.0	0.2	13.7	26.8	39.8	10.24.53.2		10.24.13.67	R	
Jan. 24	13*	η Bootis	53.3	7.0	20.4	34.2	47.8	1.2	13.47.14.9		13.46.34.11	G	
	14*	Arcturus	10.4	24.2	37.9	51.4	5.2	18.9	14. 8.32.4		14. 7.51.48	G	
	15*	α Ophiuchi	19.5	32.7	46.0	59.1	12.4	25.5	17.27.38.7		17.26.59.13	H	
	16*	γ Draconis	...	35.5	56.1	17.0	37.7	57.9	17.52.	— 0.01	17.52.16.83	H	
	17*	α Lyrae	7.5	23.7	40.4	56.8	13.4	29.7	18.31.46.3		18.30.56.83	H	
Jan. 28	18*	6 Camelopardali, ...	...	28.4	51.3	14.2	37.1	59.9	4.43.	— 0.01	4.43.14.17	E	
	19*	14 Camelopardali, ...	53.8	21.4	49.6	17.2	45.2	...	4.58.	+	4.58.17.25	E	
	20*	Capella	...	49.1	7.7	26.1	44.8	3.1	5. 5.	— 0.01	5. 4.26.15	E	
	21	Rigel	39.6	52.5	5.4	18.3	31.3	44.2	5. 6.57.1		5. 6.18.35	E	
	22	β Tauri	57.8	12.2	27.0	41.7	56.4	10.8	5.16.25.3		5.15.41.60	E	
	23	δ Orionis	...	52.4	5.2	18.1	31.1	43.8	5.23.56.6	— 6.43	5.23.18.10	E	
	24	α Leporis	...	...	53.8	7.1	20.7	34.2	5.25.	— 6.77	5.25. 7.18	E	
	25	ε Orionis	55.1	8.0	21.0	33.8	46.8	59.4	5.28.12.2		5.27.33.76	E	
	26	α Orionis	20.8	33.7	46.4	59.3	12.2	25.1	5.46.38.0		5.45.59.36	E	
Jan. 29	27	α Aquilæ	43.9	57.0	10.0	23.0	36.1	49.1	19.43. 2.0		19.42.23.01	H	
	28*	β Aquilæ	12.8	25.8	38.7	51.8	4.8	17.6	19.47.	+ 6.46	19.46.51.71	H	
	29	α Cygni	25.5	43.6	1.6	19.6	37.7	55.7	20.36.13.7		20.35.19.63	H	
Jan. 30	30	☉ 1 L.	20.7	34.1	47.8	1.5	14.7	28.5	20.48.41.7		20.48. 1.28	H	
	31	☉ 2 L.	37.7	51.4	4.8	18.5	32.0	45.5	20.50.59.0		20.50.18.42	H	
	32	α Cephei	...	8.7	36.3	3.7	31.0	57.7	21.14.	— 0.01	21.14. 3.47	H	
	33	α Arietis	55.3	9.0	22.8	37.0	51.0	4.7	1.58.18.7		1.57.36.93	H	
	34	Aldebaran	32.6	45.8	59.5	12.8	26.5	39.7	4.26.53.0		4.26.12.84	H	
	35	14 Camelopardali, ...	...	...	48.0	16.0	44.0	...	4.58.	— 0.07	4.58.15.93	H	
	36	Capella	...	47.7	6.5	24.7	43.4	1.6	5. 5.	— 0.01	5. 4.24.77	H	
	37	Rigel	...	51.5	4.5	17.5	30.6	43.5	5. 6.	— 0.01	5. 6.17.51	H	
	38	β Tauri	56.5	11.5	25.7	40.6	55.5	9.7	5.16.24.6		5.15.40.58	H	
	39	α Leporis	25.6	39.0	52.5	6.0	19.6	33.0	5.25.46.6		5.25. 6.04	H	
	40*	ε Orionis	54.1	7.0	19.3	32.7	45.8	58.5	5.28.11.5		5.27.32.70	H	
	41	132 Tauri	58.7	13.0	27.2	41.4	55.5	9.5	5.39.23.6		5.38.41.27	H	
	42	α Orionis	19.5	32.5	45.6	58.5	11.6	24.6	5.46.37.6		5.45.58.56	H	
	43*	δ Ursæ Min. S.P. ...	10.57.5	14.34.5	18. 8.0	...	...	...	6.	+ 7.12.53	6.21.45.86	H	
	44*	Ceres	25.2	40.2	55.3	10.3	25.5	40.2	8.23.55.0		8.23.10.24	H	
	45	Polaris S.P.	...	...	...	2. 4.0	10. 8.0	18.13.0	13.26.19.0	—12. 7.92	13. 2. 3.08	E	
	46	Spica	33.5	46.4	59.5	12.7	25.6	38.5	13.16.51.8		13.16.12.57	E	
	47	Mars, center....	0.2	13.4	27.0	40.4	53.6	7.0	15. 7.20.3		15. 6.40.27	E	

ILLUMINATED END OF AXIS WEST. Order of Wires for Stars above the Pole, G, F, E, D, C, B, A.

- 1, 2, 3, 12, 16, 17, 18, 19, 20. Cloudy.
 4. Clouded and tremulous.
 7. Very cloudy.
 8, 9, 10, 11. Tremulous.

- 13, 14. The stars variable through clouds.
 15. Very tremulous. 28, 44. Very faint.
 40. The intervals irregular.
 43. Cloudy: not visible after the transit of the 3rd wire.

1845389MM...5A...1A

No. for Reference.	Error of Collimation.	Level Error.	Seconds of Transit cor. for two Errors.	Azimuthal Error.	Seconds of Transit Corrected.	Tabular R.A. of Known Stars.	Clock apparently Slow.	Adopted Losing Rate.	Clock Slow at 0 ^h Sidereal.	Correction for Duration of Passage of Semidiameter.	Apparent R.A. of Center from the Observation.	NAME OF OBJECT.	Correction to Mean R.A. 1843, Jan. 1.
	"	"	s	"	s	s	s	s	s	m s	h m s		s
1	-0.23	+1.00		+0.55	41.24			0.40	34.49	-1. 9.94	19. 51. 6.10	⊙	
2			22.97		22.14	56.31	34.17		34.89		....	⊙ Polaris.	
3			36.71		36.74	11.64	34.90				....	θ Ceti.	
4					36.95	11.79	34.84				....	η Tauri.	
5					28.82			0.50	35.04	-1. 10.83	8. 28. 53.21	δ	
6					19.40	54.63	35.23				....	α Hydræ.	
7					54.06			0.60	35.60	-1. 9.43	9. 27. 20.47	δ	
8		+1.34			25.25	1.50	36.25		36.20		5. 24. 1.59	δ Orionis.	- 2.32
9					40.83	17.20	36.37				5. 28. 17.17	ε Orionis.	- 2.33
10					6.46	42.84	36.38				5. 46. 42.80	α Orionis.	- 2.47
11					54.17	30.42	36.25				6. 13. 30.52	μ Geminorum.	- 2.80
12					13.74					-1. 8.34	10. 23. 41.86	δ	
13				+1.23	34.22	13.87	39.65	0.70	39.22		13. 47. 13.84	η Bootis.	- 1.38
14					51.69	31.30	39.71				14. 8. 31.22	Arcturus.	- 1.23
15					59.23	38.99	39.76				17. 27. 38.96	α Ophiuchi.	- 0.16
16					16.95						17. 52. 56.69	γ Draconis.	+ 1.16
17					56.94	36.56	39.62				18. 31. 36.70	α Lyræ.	+ 0.69
18		+1.43			14.30			0.80	43.08		4. 43. 57.54	6 Camelopardali.	- 3.43
19					17.39						4. 59. 0.64	14 Camelopardali.	- 4.15
20					26.28						5. 5. 9.53	Capella.	- 3.11
21					18.45	1.77	43.32				5. 7. 1.70	Rigel.	- 2.12
22					41.72	24.89	43.17				5. 16. 24.97	β Tauri.	- 2.66
23					18.20	1.43	43.23				5. 24. 1.45	δ Orionis.	- 2.25
24					7.28	50.53	43.25				5. 25. 50.54	α Leporis.	- 2.14
25					33.87	17.15	43.28				5. 23. 17.13	ε Orionis.	- 2.28
26					59.47	42.80	43.33				5. 46. 42.73	α Orionis.	- 2.43
27					23.12	7.25	44.13	0.67	43.45		19. 43. 7.12	α Aquilæ.	+ 0.03
28					51.82	35.95	44.13				19. 47. 35.82	β Aquilæ.	0.00
29					19.75						20. 36. 3.77	α Cygni.	+ 1.01
30					9.95						20. 49. 53.98	⊙	
31					3.61						21. 14. 47.65	α Cephei.	+ 2.25
32					37.04	21.23	44.19		44.12		1. 58. 21.21	α Arietis.	- 1.23
33					12.95	57.19	44.24				4. 26. 57.19	Aldebaran.	- 2.16
34					16.07						4. 59. 0.32	14 Camelopardali.	- 4.09
35					24.90						5. 5. 9.16	Capella.	- 3.08
36					17.61	1.75	44.14				5. 7. 1.87	Rigel.	- 2.10
37					40.70	24.87	44.17				5. 16. 24.96	β Tauri.	- 2.64
38					6.14	50.51	44.37				5. 25. 50.41	α Leporis.	- 2.12
39					32.81	17.13	44.32				5. 23. 17.08	ε Orionis.	- 2.26
40					41.38						5. 39. 25.66	132 Tauri.	- 2.68
41					58.67	42.79	44.12				5. 46. 42.95	α Orionis.	- 2.42
42					45.85						18. 22. 30.15	δ Ursæ Min. S.P.	+ 27.44
43					10.35						8. 23. 54.70	Ceres.	
44					2.90	45.05	42.15	0.65	44.48		1. 2. 47.73	Polaris S.P.	+ 15.29
45			0.91		12.67	57.51	44.84				....	Spica.	
46					40.37						15. 7. 25.26	Mars.	
47													

Jan. 16. The azimuthal error by tabular places of Polaris and θ Ceti, allowing nothing for clock-rate.

Jan. 20, 21^b and Jan. 27, 21^b. The Transit instrument was levelled.

Jan. 30 and 31. The azimuthal error by Polaris S. P. and Polaris, allowing 0^s .66 for clock-rate and change of R.A.

[8]

TRANSITS OBSERVED AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1843.

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	I.	II.	III.	IV.	V.	VI.	VII. WIRE.	Correction to Mean of Wires Observed.	Concluded Transit over Mean of the Seven Wires.	Observer.
			m s	m s	m s	m s	m s	m s	h m s	m s	h m s	
Jan. 31	1	Polaris	37. 45.0	45. 51.0	53. 56.0	...	...	...	0.	+ 16. 11.14	1. 2. 1.81	E
	2*	γ Draconis	...	29.7	50.7	11.6	32.1	52.5	17. 52.	— 0.01	17. 52. 11.31	H
	3*	α Lyræ	1.7	18.5	34.7	51.6	7.9	24.3	18. 31. 40.7		18. 30. 51.34	H
Feb. 1	4	☉ 1 L.	31.0	44.6	57.8	11.7	25.4	38.6	20. 56. 52.0		20. 56. 11.58	H
	5	☉ 2 L.	47.6	1.1	14.7	28.1	41.7	55.0	20. 59. 8.7		20. 58. 28.13	H
	6	Polaris	37. 47.0	45. 52.0	53. 58.5	2. 7.0	...	...	1.	+ 12. 7.90	1. 2. 4.03	H
	7	η Tauri	43.8	57.6	11.8	26.0	40.1	53.7	3. 38. 8.0		3. 37. 25.86	H
	8	Piazzi III. 178..	...	...	...	5.5	31.7	57.6	3. 44. 23.7	— 39.38	3. 43. 5.25	H
	9*	Piazzi III. 208..	27.8	52.7	17.5	42.5	...	...	3. 50.	+ 37.15	3. 50. 42.28	H
	10	δ Persei	...	52.7	11.6	30.0	48.7	7.0	4. 10.	— 0.01	4. 9. 29.99	H
	11	1 Camelopardali.	...	11.4	32.8	54.7	16.5	37.7	4. 19.	— 0.01	4. 18. 54.61	H
	12	Aldebaran	31.5	44.7	58.0	11.6	24.8	38.2	4. 26. 51.6		4. 26. 11.48	H
	13	6 Camelopardali.	3.4	26.0	48.7	11.7	34.6	56.7	4. 44. 19.6		4. 43. 11.52	H
	14*	14 Camelopardali.	50.3	18.7	46.7	15.0	...	...	4. 58.	+ 41.75	4. 58. 14.43	H
	15*	Capella	...	46.5	4.8	23.6	42.0	0.4	5. 5.	— 0.01	5. 4. 23.45	H
	16*	Rigel	36.7	49.7	2.6	15.8	28.7	41.7	5. 6. 54.8		5. 6. 15.71	H
Feb. 2	17	β Libræ	9.0	22.2	35.2	48.3	1.2	14.2	15. 8. 27.3		15. 7. 48.20	H
	18	Mars 2 L.	21.8	35.6	48.6	2.7	15.9	29.4	15. 13. 42.7		15. 13. 2.38	H
	19	Venus 2 L.	31.4	44.7	58.5	11.8	25.8	39.0	18. 0. 52.8		18. 0. 12.00	H
	20	α Lyræ	0.7	16.9	33.6	50.0	6.6	22.8	18. 31. 39.5		18. 30. 50.01	H
	21	β Lyræ	43.7	59.0	14.4	29.8	45.3	0.6	18. 44. 15.7		18. 43. 29.79	H
	22	ζ Aquilæ	44.8	58.3	11.6	24.7	38.0	51.1	18. 58. 4.5		18. 57. 24.71	H
Feb. 5	23	☽ 1 L.	11.0	24.6	38.0	51.7	5.5	18.7	1. 20. 32.4		1. 19. 51.70	H
	24	β Arietis	30.8	44.7	58.2	12.0	25.7	39.3	1. 45. 53.0		1. 45. 11.95	H
	25	α Arietis	51.7	5.7	19.4	33.6	47.6	1.4	1. 58. 15.4		1. 57. 33.54	H
	26	Polaris S.P. ...	37. 37.0	45. 46.0	53. 45.5	...	...	...	12.	+ 16. 10.40	13. 1. 53.23	P
Feb. 6	27*	Ceres	44.8	59.8	14.7	30.0	45.0	0.2	8. 17. 15.3		8. 16. 29.97	E
	28*	ϵ Hydræ	3.1	15.8	28.7	41.7	54.6	7.6	8. 38. 20.5		8. 37. 41.71	E
Feb. 9	29	α Lyræ	58.6	14.8	31.1	47.5	4.3	20.6	18. 31. 37.0		18. 30. 47.70	E
	30	ζ Aquilæ	42.8	56.0	9.1	22.7	35.6	49.0	18. 58. 2.1		18. 57. 22.47	E
	31	α Aquilæ	39.2	52.1	5.2	18.1	31.2	44.1	19. 42. 57.2		19. 42. 18.16	E
Feb. 10	32	Capella	24.1	42.7	0.6	19.2	37.7	56.1	5. 5. 14.7		5. 4. 19.30	E
	33	Rigel	33.1	46.0	59.0	12.1	25.1	38.0	5. 6. 51.1		5. 6. 12.05	E
	34	β Tauri	51.4	6.0	20.7	35.3	49.9	4.3	5. 16. 19.0		5. 15. 35.23	E
	36	δ Orionis	33.1	46.0	59.0	11.8	24.7	37.5	5. 23. 50.2		5. 23. 11.75	E
	37*	α Leporis	...	...	...	...	14.3	27.8	5. 25. 41.2	— 27.03	5. 25. 0.74	E
	38*	ϵ Orionis	...	...	...	...	40.5	53.2	5. 28. 6.0	— 25.73	5. 27. 27.50	E
Feb. 12	39	Polaris S.P. ...	...	...	53. 28.0	1. 43.0	9. 50.0	17. 53.5	13.	— 4. 1.68	13. 1. 41.95	JH
	40*	α Coronæ Borealis	29.8	44.2	58.8	13.2	27.7	42.0	15. 27. 56.5		15. 27. 13.17	H
	41*	Mars 2 L.	17.9	31.2	45.0	58.5	12.2	25.8	15. 34. 39.2		15. 33. 58.55	H
	42	α Lyræ	57.5	13.8	30.5	46.8	3.5	19.7	18. 31. 36.4		18. 30. 46.89	H
	43	Venus 2 L.	...	50.9	4.7	18.3	32.0	45.6	18. 34.	— 0.01	18. 34. 18.29	H
	44*	γ Aquilæ	18.4	31.6	44.6	57.7	10.7	23.8	19. 38. 36.7		19. 37. 57.65	H
	45*	α Aquilæ	...	51.1	4.3	17.0	30.1	42.8	19. 42.	— 0.01	19. 42. 17.05	H
	46*	ζ Cygni	40.2	55.2	9.8	24.5	39.6	54.0	21. 6. 8.7		21. 5. 24.57	H
	47	α Cephei	...	...	...	...	24.5	51.5	21. 15. 18.8	— 54.63	21. 13. 56.97	H
ILLUMINATED END OF AXIS WEST. Order of Wires for Stars above the Pole, G, F, E, D, C, B, A.												
2, 3, 14, 15, 16, 27, 28, 45. Cloudy.							37, 38. Very cloudy.			40. Tremulous.		
9. A meteor was observed to disappear at 3 ^h . 49 ^m . 45 ^s by the clock; its altitude on the South meridian was 75°.							41. Clouded and tremulous.			46. Very faint.		
							44. Very faint and tremulous.					

CALCULATION OF APPARENT RIGHT ASCENSIONS.

[9]

1845 JANUARY 5A...1A

No. for Reference.	Error of Collimation.	Level Error.	Seconds of Transit cor. for two Errors.	Azimuthal Error.	Seconds of Transit Corrected.	Tabular R. A. of Known Stars.	Clock apparently Slow.	Adopted Losing Rate.	Clock Slow at 0 ^h Sidereal.	Correction for Duration of Passage of Semidiameter.	Apparent R.A. of Center from the Observation.	NAME OF OBJECT.	Correction to Mean R.A. 1843, Jan. 1.
"	"	"	"	"	"	"	"	"	"	m s	h m s	"	"
1	-0.23	+1.43	4.09	+1.23	2.23	44.65	42.42	0.65	45.13		1. 2. 47.39	Polaris.	+15.69
2		+0.84		+3.98	11.38			0.69	44.78		17. 52. 56.68	γ Draconis.	+ 0.96
3					51.47	36.71	45.24				18. 31. 36.78	α Lyræ.	+ 0.54
4					20.12						20. 58. 5.50	☉	
5													
6			5.13			43.83	44.71		45.47		....	Polaris.	
7			25.90		59.12	11.59	45.55				3. 38. 11.61	η Tauri.	- 1.91
8					26.04						3. 43. 50.82	Piazzi III. 178.	- 2.87
9					5.24						3. 51. 27.87	Piazzi III. 208.	- 2.87
10					42.29						4. 10. 15.68	d Persei.	- 2.59
11					30.09						4. 19. 40.24	1 Camelopardali.	- 2.96
12					54.65						4. 26. 57.27	Aldebaran.	- 2.14
13					11.67	57.17	45.50				4. 43. 57.16	6 Camelopardali.	- 3.33
14					11.55						4. 59. 0.02	14 Camelopardali.	- 4.03
15					14.41						5. 5. 9.16	Capella.	- 3.05
16					23.55	1.72	45.77				5. 7. 1.56	Rigel.	- 2.07
17					15.95								
18					48.44	35.18	46.74	0.60	46.25		15. 8. 35.07	β Libræ.	- 1.31
19					2.64					- 0.22	15. 13. 49.05	Mars.	
20					12.26					- 1.21	18. 0. 57.75	Venus.	
21					50.14	36.76	46.62				18. 31. 36.85	α Lyræ.	+ 0.49
22					29.94	16.63	46.69				18. 44. 16.66	β Lyræ.	+ 0.35
23					24.91	11.64	46.73				18. 58. 11.64	ζ Aquilæ.	- 0.04
24				+0.84	51.77			0.40	47.52	+1. 2.98	1. 21. 42.29	δ	
25					12.01						1. 45. 59.56	β Arietis.	- 1.05
26			33.57		33.60	21.15	47.55				....	α Arietis.	
27			52.20		53.56	40.55	46.99				....	Polaris S.P.	
28					30.03			0.32	48.36		8. 17. 18.50	Ceres.	
29					41.77	30.24	48.47				....	ϵ Hydræ.	
30	+1.65			+3.85	47.89	36.94	49.05	0.33	48.86		18. 31. 37.00	α Lyræ.	+ 0.31
31					22.70	11.79	49.09				18. 58. 11.82	ζ Aquilæ.	- 0.19
32					18.40	7.44	49.04				19. 43. 7.52	α Aquilæ.	- 0.16
33					19.47				49.19		5. 5. 8.73	Capella.	- 2.90
34					12.31	1.62	49.31				5. 7. 1.57	Rigel.	- 1.97
35					35.45	24.74	49.29				5. 16. 24.71	β Tauri.	- 2.51
36					12.00	1.30	49.30				5. 24. 1.26	δ Orionis.	- 2.12
37					1.01	50.37	49.36				5. 25. 50.27	α Leporis.	- 1.98
38					27.75	17.01	49.26				5. 28. 17.01	ϵ Orionis.	- 2.14
39			39.36		45.58	36.15	50.57	0.25	50.00		1. 2. 35.72	Polaris S.P.	+24.19
40					13.38	3.64	50.26				15. 28. 3.54	α Coronæ Borealis.	- 1.23
41					58.82					- 0.24	15. 34. 48.74	Mars.	
42					47.07	37.02	49.95				18. 31. 37.26	α Lyræ.	+ 0.23
43					18.56					- 1.04	18. 35. 7.71	Venus.	
44					57.88	47.82	49.94				19. 38. 48.08	γ Aquilæ.	- 0.19
45					17.29	7.50	50.21				19. 43. 7.50	α Aquilæ.	- 0.22
46					24.78	15.05	50.27				21. 6. 15.00	ζ Cygni.	+ 0.30
47					57.07						21. 14. 47.29	α Cephei.	+ 2.21

Feb. 1. The azimuthal error by tabular places of Polaris and η Tauri, allowing 0^s.08 for clock-rate.
 Feb. 3, 21^h, and Feb. 10, 21^h. The Transit instrument was levelled.
 Feb. 5. The azimuthal error by tabular places of α Arietis and Polaris S. P., allowing 0^s.16 for clock-rate.
 Feb. 7, 21^h. The Transit instrument was reversed, and the error of collimation determined.
 Feb. 12 and 13. The azimuthal error by Polaris S. P., Polaris, and Polaris S. P.

[10]

TRANSITS OBSERVED AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1843.

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	I.	II.	III.	IV.	V.	VI.	VII. WIRE.	Correction to Mean of Wires Observed.	Concluded Transit over Mean of the Seven Wires.	Observer.
			m s	m s	m s	m s	m s	m s	h m s			
Feb. 12	1	β Cephei	...	...	...	25. 43.0	20.5	57.4	21. 27. 34.7	— 56.07	21. 25. 42.83	H
Feb. 13	2	$\odot$ 1 L.	26.6	39.8	53.0	6.6	19.7	32.7	21. 44. 46.2		21. 44. 6.37	H
	3	$\odot$ 2 L.	40.7	53.7	6.8	20.5	33.8	46.7	21. 47. 0.5		21. 46. 20.38	H
	4	Polaris	37. 35.0	45. 40.0	53. 43.5	1. 51.0	...	...	1.	+12. 7.67	1. 1. 50.05	H
	5	Aldebaran	...	...	52.8	6.5	19.8	33.0	4. 26. 46.7	— 13.40	4. 26. 6.36	H
	6	6 Camelopardali,	...	20.8	43.7	6.5	29.2	51.7	4. 43.	— 0.01	4. 43. 6.37	H
	7	14 Camelopardali,	...	13.7	41.7	9.6	37.5	4.8	4. 59.	— 0.02	4. 58. 9.44	H
	8	Capella	...	41.5	59.8	18.5	36.7	55.6	5. 4.	— 0.01	5. 4. 18.41	H
	9	Rigel	31.7	44.7	57.8	11.0	24.0	36.8	5. 6. 49.9		5. 6. 10.84	H
	10	17 Camelopardali,	...	38.7	6.8	35.1	3.4	31.7	5. 15.	— 0.02	5. 14. 35.12	H
	11	19 Camelopardali,	...	...	...	...	47.7	16.7	5. 22. 46.0	— 58.77	5. 21. 18.03	H
	12	α Leporis	19.5	32.7	46.5	59.7	13.5	26.7	5. 25. 40.5		5. 24. 59.88	H
	13	29 Camelopardali,	...	...	...	...	...	10.5	5. 37. 34.6	— 58.76	5. 36. 23.79	H
	14	α Orionis	13.4	26.0	39.0	52.1	5.1	17.6	5. 46. 30.8		5. 45. 52.00	H
	15	37 Camelopardali,	...	...	56.5	21.6	46.5	...	5. 55.	— 0.07	5. 55. 21.46	H
	16	2 Lyncis	...	9.7	34.6	59.8	24.7	49.6	6. 5.	— 0.01	6. 4. 59.67	H
	17	μ Geminorum	...	...	25.7	39.7	53.7	7.6	6. 13. 21.7	— 13.94	6. 12. 39.74	H
	18	8 Lyncis	...	...	...	33.7	0.8	27.6	6. 23. 54.6	— 40.60	6. 22. 33.58	H
	19	* N.P.D. 40°.22'	...	...	55.0	15.4	35.0	...	6. 40.	— 0.05	6. 40. 15.08	H
	20*	δ Cancri	16.7	30.5	43.7	57.6	11.3	24.7	8. 35. 38.5		8. 34. 57.57	H
	21	ϵ Hydrae	0.5	13.7	26.8	39.7	52.7	5.4	8. 38. 18.5		8. 37. 39.62	H
	22	ϵ Ursae Majoris	...	...	19.5	39.0	58.7	17.7	8. 48. 37.6	— 19.48	8. 47. 39.02	H
	23	δ 1 L.	43.4	56.9	10.7	24.5	38.0	51.5	8. 56. 5.5		8. 55. 24.36	H
	24	ξ Leonis	1.5	14.5	27.7	40.8	53.8	7.0	9. 23. 20.4		9. 22. 40.81	H
	25	Polaris S. P. ...	...	...	...	...	9. 54.0	17. 54.5	13. 25. 58.0	—16. 10.80	13. 1. 44.70	D
Feb. 14	26	$\odot$ 1 L.	21.1	34.1	47.5	0.7	14.0	27.2	21. 48. 40.3		21. 48. 0.70	E
	27	$\odot$ 2 L.	34.7	47.8	0.9	14.2	27.4	40.7	21. 50. 54.0		21. 50. 14.24	E
	28*	Mars 2 L.	25.6	39.5	52.8	6.6	19.8	33.6	15. 38. 46.7		15. 38. 6.37	H
Feb. 16	29	δ Leonis	16.0	29.7	43.4	57.2	11.0	24.7	11. 5. 38.6		11. 4. 57.23	E
	30	δ Crateris	2.0	15.1	28.3	41.6	54.9	8.1	11. 11. 21.3		11. 10. 41.61	E
	31*	τ Leonis	...	37.7	50.8	3.8	16.9	29.1	11. 19.	— 0.01	11. 19. 3.65	E
	32	ν Leonis	28.0	40.8	53.7	6.6	19.5	32.3	11. 28. 45.1		11. 28. 6.57	E
	33	β Leonis	34.8	48.1	1.4	14.8	28.1	41.4	11. 40. 54.8		11. 40. 14.77	E
	34	γ Ursae Majoris	39.2	1.2	24.0	45.8	8.0	29.4	11. 45. 52.1		11. 44. 45.67	E
	35*	δ 2 L.	34.8	47.4	0.8	14.2	27.5	40.7	11. 50. 54.0		11. 50. 14.20	E
	36	Polaris S. P. ...	...	...	...	...	9. 52.0	17. 55.5	13. 26. 0.0	—16. 10.87	13. 1. 44.96	JH
	37*	Mars 2 L.	31.0	45.2	59.2	13.0	26.7	40.3	15. 42. 54.7		15. 42. 12.87	H
	38	Venus 2 L.	48.3	1.8	15.7	29.0	42.8	56.7	18. 50. 10.0		18. 49. 29.19	H
	39*	ζ Aquilae	...	...	...	21.5	34.7	48.0	18. 58. 1.0	— 19.86	18. 57. 21.44	H
	40	γ Aquilae	18.5	31.6	44.7	57.7	10.7	23.8	19. 38. 36.7		19. 37. 57.67	H
	41	α Aquilae	38.4	51.1	4.0	17.5	30.4	43.1	19. 42. 56.2		19. 42. 17.25	H
	42	α Cygni	...	...	55.5	13.7	31.7	49.8	20. 36. 7.8	— 18.11	20. 35. 13.59	H
	43	ζ Cygni	40.5	55.0	9.8	24.8	39.7	54.0	21. 6. 8.7		21. 5. 24.64	H
	44	α Cephei	...	2.2	29.8	57.1	24.6	51.5	21. 14.	— 0.02	21. 13. 57.02	H
Feb. 17	45	$\odot$ 1 L.	1.5	14.7	27.8	41.0	54.6	7.7	22. 0. 20.8		21. 59. 41.15	H
	46	$\odot$ 2 L.	14.7	27.7	40.8	54.3	7.6	20.7	22. 2. 33.7		22. 1. 54.21	H
	47	α Pegasi	26.5	39.7	52.8	6.5	19.8	32.9	22. 56. 46.0		22. 56. 6.31	H
Feb. 20	48	Venus 2 L.	39.6	53.2	7.0	20.6	34.3	47.8	19. 6. 1.4		19. 5. 20.55	E
ILLUMINATED END OF AXIS WEST. Order of Wires for Stars above the Pole, G, F, E, D, C, B, A.												
20, &c. The stars are becoming very tremulous: foggy.						31, 35. The intervals irregular.						
28. The image bad: the intervals irregular.						37. Very tremulous: the image bad.						39. Faint.

CALCULATION OF APPARENT RIGHT ASCENSIONS.

[11]

No. for Reference.	Error of Collimation.	Level Error.	Seconds of Transit cor. for two Errors.	Azimuthal Error.	Seconds of Transit Corrected.	Tabular R. A. of Known Stars.	Clock apparently Slow.	Clock Slow at 0 ^h Sidereal.	Adopted Losing Rate.	Correction for Duration of Passage of Semidiameter.	Apparent R. A. of Center from the Observation.	NAME OF OBJECT.	Correction to Mean R. A. 1843, Jan. 1.
	"	"	s	"	s	s	s	s	s	m s	h m s		s
1	-0.23	+1.65		+3.85	42.86			0.25	50.00		21. 26. 33.08	β Cephei.	+ 3.59
2											21. 46. 3.88	$\odot$	
3					13.65								
4			52.77		46.96	35.78	48.82		50.25		1. 2. 37.22	Polaris.	+24.56
5					6.58	57.00	50.42				4. 26. 56.87	Aldebaran.	- 1.97
6					6.50						4. 43. 56.80	6 Camelopardali.	- 3.02
7					9.53						4. 58. 59.83	14 Camelopardali.	- 3.66
8					18.58						5. 5. 8.88	Capella.	- 2.84
9					11.10	1.57	50.47				5. 7. 1.40	Rigel.	- 1.92
10					35.22						5. 15. 25.52	17 Camelopardali.	- 3.92
11					18.11						5. 22. 8.41	19 Camelopardali.	- 4.12
12					0.15	50.32	50.17				5. 25. 50.45	α Leporis.	- 1.93
13					23.91						5. 37. 14.22	29 Camelopardali.	- 3.67
14					52.24	42.65	50.41				5. 46. 42.55	α Orionis.	- 2.28
15					21.57						5. 56. 11.88	37 Camelopardali.	- 4.03
16					59.78						6. 5. 50.09	2 Lyncis.	- 4.13
17					39.96	30.28	50.32				6. 13. 30.27	μ Geminorum.	- 2.66
18					33.68						6. 23. 23.99	8 Lyncis.	- 4.53
19					15.24						6. 41. 5.56	* N.P.D. 40°.22'.	- 3.71
20					57.80						8. 35. 48.14	δ Cancri.	- 2.99
21					39.86	30.26	50.40				8. 38. 30.20	ϵ Hydræ.	- 2.80
22					39.19						8. 48. 29.53	ι Ursæ Majoris.	- 4.00
23					24.59					+1. 10.65	8. 57. 25.58	η	
24					41.05						9. 23. 31.40	ξ Leonis.	- 2.89
25			42.11		48.32	37.42	49.10				1. 2. 38.71	Polaris S.P.	+24.92
26											21. 49. 58.22	$\odot$	
27					7.74								
28					6.64				50.50	- 0.24	15. 38. 57.06	Mars.	
29		+1.10		-0.05	57.28	47.81	50.53	0.00	50.59		....	δ Leonis.	
30					41.62	32.19	50.57				....	δ Crateris.	
31					3.68						11. 19. 54.27	τ Leonis.	- 2.68
32					6.60						11. 28. 57.19	ν Leonis.	- 2.64
33			14.81		14.81	5.48	50.67				....	β Leonis.	
34					45.76						11. 45. 36.35	γ Ursæ Majoris.	- 3.61
35					14.22					-1. 9.05	11. 49. 55.76	η	
36			43.43		43.35	33.27	49.92	0.00	50.35		....	Polaris S.P.	
37					12.88					- 0.25	15. 43. 2.98	Mars.	
38					29.20					- 0.98	18. 50. 18.57	Venus.	
39					21.48	11.95	50.47				18. 58. 11.83	ζ Aquilæ.	- 0.35
40					57.71	47.90	50.19				19. 38. 48.06	γ Aquilæ.	- 0.27
41					17.28	7.58	50.30				19. 43. 7.63	α Aquilæ.	- 0.30
42					13.67						20. 36. 4.02	α Cygni.	+ 0.79
43					24.70	15.10	50.40				21. 6. 15.05	ζ Cygni.	+ 0.25
44					57.14						21. 14. 47.49	α Cephei.	+ 2.16
45											22. 1. 38.04	$\odot$	
46					47.69								
47					6.35	56.75	50.40				22. 56. 56.70	α Pegasi.	- 0.18
48		+2.10		+5.00	20.91			0.30	50.40	- 0.94	19. 6. 10.61	Venus.	

Feb. 16. The azimuthal error by tabular places of β Leonis and Polaris S. P., allowing nothing for clock-rate.
Feb. 17, 21^h. The Transit instrument was levelled.

[12]

TRANSITS OBSERVED AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1843.

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	I.	II.	III.	IV.	V.	VI.	VII. WIRE.	Correction to Mean of Wires Observed.	Concluded Transit over Mean of the Seven Wires.	Observer.
			m s	m s	m s	m s	m s	m s	h m s	m s	h m s	
Feb. 20	1	α Aquilæ.....	37.8	50.8	3.8	16.9	29.9	42.8	19. 42. 55.8		19. 42. 16.83	E
	2	α Cygni.....	19.0	37.0	55.1	13.2	31.4	49.5	20. 36. 7.6		20. 35. 13.25	E
	3	ζ Cygni.....	40.0	54.8	9.3	24.2	39.0	53.7	21. 6. 8.5		21. 5. 24.21	E
	4	α Cephei.....	35.0	2.1	29.5	57.0	24.4	51.6	21. 15. 19.0		21. 13. 56.94	E
	5	β Cephei.....	50.3	28.0	5.6	43.0	20.2	57.2	21. 27. 35.0		21. 25. 42.76	E
Feb. 21	6	⊙ 1 L.	24.8	37.8	50.8	4.1	17.2	30.2	22. 15. 43.3		22. 15. 4.03	E
	7	⊙ 2 L.	36.9	50.1	3.3	16.2	29.3	42.6	22. 17. 55.7		22. 17. 16.30	E
	8	ϵ Orionis.....	47.2	0.0	12.8	25.7	38.6	51.3	5. 28. 4.1		5. 27. 25.67	E
	9	29 Camelopardali,	...	36.2	59.9	23.7	47.2	10.1	5. 37.	— 0.01	5. 36. 23.41	E
	10	α Orionis.....	12.8	25.7	38.5	51.4	4.4	17.3	5. 46. 30.2		5. 45. 51.47	E
	11	37 Camelopardali,	...	...	...	21.0	45.8	10.2	5. 56. 35.0	— 37.42	5. 55. 20.58	E
	12	2 Lyncis.....	...	8.9	34.0	59.0	24.0	49.0	6. 5.	— 0.01	6. 4. 58.97	E
	13	μ Geminorum...	57.1	11.1	25.0	39.0	53.0	7.0	6. 13. 20.9		6. 12. 39.03	E
	14	8 Lyncis.....	12.0	39.0	6.1	33.2	0.1	...	6. 23.	+ 27.03	6. 22. 33.11	E
Feb. 22	15	δ Orionis.....	31.0	43.7	56.7	9.7	22.6	35.5	5. 23. 48.2		5. 23. 9.63	H
	16	α Leporis.....	...	31.7	45.0	58.7	12.3	25.7	5. 25.	— 0.01	5. 24. 58.67	H
	17	ϵ Orionis.....	46.7	59.6	12.5	25.3	38.2	50.8	5. 28. 3.5		5. 27. 25.23	H
	18	α Orionis.....	12.0	25.0	37.8	51.0	4.0	16.7	5. 46. 29.6		5. 45. 50.87	H
	19	Piazzi VIII. 40..	...	22.5	44.1	6.0	27.7	49.5	8. 11.	— 0.01	8. 11. 5.95	H
	20	Groombridge 1458	...	5.7	27.6	49.6	11.5	33.1	8. 26.	— 0.01	8. 25. 49.49	H
	21*	ϵ Hydræ.....	59.7	12.7	25.6	38.7	51.7	4.6	8. 38. 17.5		8. 37. 38.65	H
	22	α Cygni.....	17.8	35.8	54.1	12.0	30.1	48.1	20. 36. 6.2		20. 35. 12.01	E
Feb. 23	23	δ Orionis.....	30.0	42.9	55.8	8.7	21.5	34.3	5. 23. 47.2		5. 23. 8.63	E
	24	α Leporis.....	...	...	...	57.8	11.2	24.7	5. 25. 38.1	— 20.29	5. 24. 57.66	E
	25	ϵ Orionis.....	45.8	58.6	11.4	24.3	37.2	50.0	5. 28. 2.9		5. 27. 24.31	E
	26	α Columbæ.....	20.4	35.8	51.2	7.0	22.4	37.9	5. 33. 53.3		5. 33. 6.86	E
	27	29 Camelopardali,	...	...	...	22.0	45.7	9.0	5. 37. 32.5	— 35.30	5. 36. 22.00	E
	28	α Orionis.....	11.2	24.1	37.0	50.0	3.0	15.9	5. 46. 29.0		5. 45. 50.02	E
	29	37 Camelopardali,	4.4	29.3	54.4	19.5	44.4	9.2	5. 56. 34.0		5. 55. 19.32	E
	30	2 Lyncis.....	...	7.7	32.4	57.6	22.8	47.3	6. 5.	— 0.01	6. 4. 57.55	E
	31	μ Geminorum...	56.0	9.9	23.8	37.9	51.8	5.8	6. 13. 19.7		6. 12. 37.84	E
	32	δ Ursæ Min. S.P.	10. 54.0	14. 31.0	18. 6.0	21. 42.0	25. 19.0	...	6.	+ 3. 36.32	6. 21. 42.72	E
	33	8 Lyncis.....	...	...	...	31.4	58.8	25.5	6. 23. 52.8	— 40.59	6. 22. 31.54	E
	34	Sirius.....	43.3	56.8	10.2	23.8	37.2	50.2	6. 38. 3.7		6. 37. 23.60	E
	35	* N.P.D. 40°.22'..	13.2	33.0	53.0	13.1	33.0	52.9	6. 41. 12.8		6. 40. 13.00	E
Feb. 28	36	α Aquilæ.....	34.0	47.0	0.1	13.2	26.0	39.0	19. 42. 52.4		19. 42. 13.10	H
Mar. 1	37*	δ Ursæ Majoris..	36.5	55.7	15.3	34.7	54.6	13.7	8. 48. 33.1		8. 47. 34.80	H
	38*	36 Lyncis.....	45.8	3.7	21.8	39.6	57.6	14.8	9. 3. 32.7		9. 2. 39.43	H
	39	α Hydræ.....	20.7	33.8	46.7	59.7	12.8	25.7	9. 19. 38.7		9. 18. 59.73	H
	40	Vesta.....	47.0	0.8	15.3	29.5	43.6	57.0	9. 23. 11.4		9. 22. 29.23	H
	41	Polaris S.P.	...	...	53. 22.5	1. 25.5	9. 33.0	...	13.	+ 1.27	13. 1. 28.27	G
	42	ζ Cygni.....	35.6	50.2	5.0	19.7	34.6	49.1	21. 6. 4.0		21. 5. 19.75	E
	43	α Cephei.....	30.5	58.0	25.1	52.6	20.0	47.0	21. 15. 14.5		21. 13. 52.53	E
	44	β Cephei.....	...	...	...	38.1	15.8	52.7	21. 27. 30.0	— 56.07	21. 25. 38.08	E
Mar. 2	45	⊙ 1 L.	22.7	35.6	48.4	1.3	14.4	27.2	22. 49. 40.1		22. 49. 1.38	E
	46	⊙ 2 L.	33.2	46.1	59.0	12.1	25.2	38.0	22. 51. 51.0		22. 51. 12.08	E
	47	Castor.....	56.0	11.1	26.5	41.8	57.0	11.8	7. 24. 27.1		7. 23. 41.61	E
ILLUMINATED END OF AXIS WEST. Order of Wires for Stars above the Pole, G, F, E, D, C, B, A.												
21. A most perplexing night: the sky alternately clear and cloudy, with rain occasionally.												
37, 38. Very tremulous: the observations not good.												

CALCULATION OF APPARENT RIGHT ASCENSIONS.

[13]

134551AMM...5A...1A

No. for Reference.	Error of Collimation.	Level Error.	Seconds of Transit cor. for two Errors.	Azimuthal Error.	Seconds of Transit Corrected.	Tabular R. A. of Known Stars.	Clock apparently Slow.	Adopted Losing Rate.	Clock Slow at 0 ^h Sidereal.	Correction for Duration of Passage of Semidiameter.	Apparent R. A. of Center from the Observation.	NAME OF OBJECT.	Correction to Mean R. A. 1843, Jan. 1.
	"	"	s	"	s	s	s	s	s	m s	h m s		s
1	-0.23	+2.10		+5.00	17.14	7.66	50.52	0.30	50.40		19. 43. 7.79	α Aquilæ.	- 0.38
2					13.49						20. 36. 4.15	α Cygni.	+ 0.73
3					24.48	15.15	50.67				21. 6. 15.14	ζ Cygni.	+ 0.20
4					57.07						21. 14. 47.73	α Cephei.	+ 2.11
5					42.79						21. 26. 33.46	β Cephei.	+ 3.51
6					10.52						22. 17. 1.20	$\odot$	
7													
8						16.85	50.85		50.70		5. 28. 16.77	ϵ Orionis.	- 1.98
9											5. 37. 14.35	29 Camelopardali.	- 3.46
10						42.54	50.76				5. 46. 42.55	α Orionis.	- 2.17
11					20.74						5. 56. 11.51	37 Camelopardali.	- 3.80
12					59.13						6. 5. 49.90	2 Lyncis.	- 3.92
13					39.31	30.18	50.87				6. 13. 30.09	μ Geminorum.	- 2.56
14					33.25						6. 23. 24.03	8 Lyncis.	- 4.43
15					9.96	1.13	51.17	0.65	51.08		5. 24. 1.18	δ Orionis.	- 1.95
16					59.03	50.17	51.14				5. 25. 50.25	α Leporis.	- 1.78
17					25.56	16.84	51.28				5. 28. 16.78	ϵ Orionis.	- 1.97
18					51.19	42.53	51.34				5. 46. 42.42	α Orionis.	- 2.16
19					6.12						8. 11. 57.42	Piazz VIII. 40.	- 4.28
20					49.66						8. 26. 40.97	Groombridge 1458.	- 4.33
21					38.97	30.26	51.29				8. 38. 30.28	ϵ Hydræ.	- 2.80
22					12.25			0.52	51.49		20. 36. 4.18	α Cygni.	+ 0.69
23					8.96	1.11	52.15		52.01		5. 24. 1.08	δ Orionis.	- 1.93
24					58.02	50.16	52.14				5. 25. 50.15	α Leporis.	- 1.77
25					24.64	16.82	52.18				5. 28. 16.77	ϵ Orionis.	- 1.95
26					7.25	59.55	52.30				5. 33. 59.38	α Columbæ.	- 1.64
27					22.17						5. 37. 14.30	29 Camelopardali.	- 3.40
28					50.34	42.51	52.17				5. 46. 42.47	α Orionis.	- 2.14
29					19.48						5. 56. 11.62	37 Camelopardali.	- 3.74
30					57.70						6. 5. 49.84	2 Lyncis.	- 3.87
31					38.13	30.15	52.02				6. 13. 30.27	μ Geminorum.	- 2.53
32			41.23		44.98						....	δ Ursæ Min. S.P.	
33					31.67						6. 23. 23.81	8 Lyncis.	- 4.26
34			23.63		23.96	15.96	52.00				6. 38. 16.11	Sirius.	- 2.13
35					13.22						6. 41. 5.37	* N. P. D. 40°.22'.	- 3.55
36		+1.74		+4.07	13.36	7.83	54.47	0.46	54.20		....	α Aquilæ.	
37					34.98				54.66		8. 48. 29.80	ι Ursæ Majoris.	- 3.95
38					39.62						9. 3. 34.45	36 Lyncis.	- 3.74
39			59.77		0.01	54.96	54.95				....	α Hydræ.	
40					29.46						9. 23. 24.29	Vesta.	
41			25.51		32.08	26.35	54.27				....	Polaris S.P.	
42					19.97	15.28	55.31	0.57	54.84		21. 6. 15.31	ζ Cygni.	+ 0.07
43					52.63						21. 14. 47.97	α Cephei.	+ 1.93
44					38.11						21. 26. 33.46	β Cephei.	+ 3.31
45					7.00						22. 51. 2.38	$\odot$	
46						37.43	55.60		55.41		7. 24. 37.41	Castor.	- 3.00
47													

Feb. 23. The azimuthal error by tabular places of δ Ursæ Minoris S. P. and Sirius, allowing 0^s.01 for clock-rate.

Feb. 24, 21^h. The Transit instrument was levelled.

March 1. The azimuthal error by tabular places of α Hydræ and Polaris S. P., allowing 0^s.07 for clock-rate.

[14]

TRANSITS OBSERVED AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1843.

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	I.	II.	III.	IV.	V.	VI.	VII. WIRE.	Correction to Mean of Wires Observed.	Concluded Transit over Mean of the Seven Wires.	Observer.
			m s	m s	m s	m s	m s	m s	h m s	m s	h m s	
Mar. 2	1	23 Lyncis	...	9.1	33.1	56.9	21.0	44.4	7.27.	— 0.02	7.26.56.88	E
	2	Procyon	32.8	45.8	58.6	11.5	24.4	37.3	7.30.50.2		7.30.11.51	E
	3	Pollux	5.2	20.0	34.1	49.0	3.8	18.1	7.35.33.0		7.34.49.03	E
	4	25 Lyncis	13.1	32.1	51.3	10.5	29.6	48.7	7.43.8.0		7.42.10.51	E
	5	54 Camelopardali,	...	6.6	30.7	55.0	18.8	42.7	7.49.	— 0.02	7.48.54.74	E
	6	29 Lyncis	...	...	...	54.0	20.0	45.1	8.5.11.1	— 38.66	8.3.53.89	E
	7	Piazzi VIII.40..	...	...	39.8	1.4	23.1	...	8.11.	— 0.06	8.11.1.37	E
	8	Groombridge1458	39.4	1.1	23.1	45.0	7.0	28.4	8.26.50.2		8.25.44.89	E
	9	ε Hydrae	55.7	8.4	21.3	34.4	47.2	0.1	8.38.13.0		8.37.34.30	E
	10	35 Lyncis	37.1	54.9	13.0	31.0	49.0	6.8	8.41.24.8		8.40.30.94	E
	11	36 Lyncis	45.0	2.8	20.6	38.2	56.1	14.0	9.3.31.8		9.2.38.36	E
	12	α Hydrae	20.2	33.1	46.0	59.0	12.0	25.0	9.19.38.1		9.18.59.06	E
	13	Vesta	57.0	11.0	25.0	39.1	53.1	7.2	9.22.21.1		9.21.39.08	E
	14	Polaris S.P. ...	37.19.0	45.25.0	53.24.5	...	...	...	12.	+16.9.66	13.1.32.49	H
	15*	Mars 2 L.	9.2	22.9	36.6	50.2	4.1	17.8	16.10.31.5		16.9.50.32	H
	16*	Antares	10.4	24.6	39.0	53.5	7.7	22.0	16.19.36.3		16.18.53.36	H
Mar. 3	17*	☉ 1 L.	6.0	19.0	32.0	45.1	58.1	10.7	22.53.24.0		22.52.44.99	H
	18*	α Andromedæ... ..	...	51.7	6.7	21.3	35.7	50.4	23.59.	— 0.01	23.59.21.15	H
	19*	Polaris	37.16.0	45.22.0	...	...	...	...	0.	+20.13.20	1.1.31.20	H
	20	μ Geminorum... ..	52.5	6.6	19.8	34.1	48.0	1.7	6.13.15.7		6.12.34.06	H
	21	14 Lyncis	4.8	30.5	55.7	21.6	46.7	12.0	6.39.37.7		6.38.21.28	H
	22	16 Lyncis	21.6	39.8	58.0	16.6	34.7	52.8	6.46.11.0		6.45.16.36	H
	23	δ Geminorum... ..	9.5	23.1	37.2	51.0	4.9	18.7	7.10.32.8		7.9.51.02	H
	24	22 Lyncis	7.1	27.5	47.3	7.6	27.6	47.2	7.18.7.1		7.17.7.34	H
	25	Castor	55.7	10.7	26.0	41.5	56.6	11.7	7.24.26.7		7.23.41.27	H
	26*	Procyon	32.6	45.5	58.5	11.5	24.4	36.7	7.30.49.8		7.30.11.28	H
	27	Pollux	4.8	19.7	34.5	48.6	3.7	18.0	7.35.32.7		7.34.48.86	H
	28	25 Lyncis	...	...	...	...	29.6	48.7	7.43.7.6	— 38.28	7.42.10.35	H
	29	54 Camelopardali,	...	6.6	30.6	54.6	18.6	42.7	7.49.	— 0.01	7.48.54.61	H
	30	36 Lyncis	...	2.7	20.6	38.6	56.1	13.7	9.3.	— 0.01	9.2.38.33	H
	31*	α Hydrae	19.7	32.7	46.0	59.0	11.7	24.8	9.19.37.8		9.18.58.82	H
	32*	Vesta	...	22.7	36.7	50.8	5.4	19.0	9.21.	— 0.01	9.20.50.91	H
Mar. 4	33*	☉ 1 L.	49.4	2.7	15.6	28.1	41.4	54.0	22.57.7.4		22.56.28.37	E
	34	☉ 2 L.	59.8	12.9	25.7	38.6	51.7	4.6	22.59.17.8		22.58.38.73	E
	35	Sirius	38.7	52.0	5.3	18.7	32.2	45.4	6.37.58.8		6.37.18.73	E
	36	16 Lyncis	...	...	57.1	15.8	33.7	...	6.45.	— 0.05	6.45.15.48	E
	37*	Piazzi VI.301..	...	34.1	55.1	17.0	38.0	59.3	6.52.	— 0.01	6.52.16.69	E
	38	Groombridge1272	12.2	33.1	53.8	14.6	35.5	56.0	7.1.16.7		7.0.14.56	E
	39	47 Camelopardali,	20.1	46.0	12.1	38.0	3.9	29.2	7.8.55.3		7.7.37.80	E
	40	δ Geminorum... ..	...	...	36.3	50.2	4.1	17.8	7.10.31.9	— 13.90	7.9.50.16	E
	41	22 Lyncis	6.2	26.6	46.2	6.6	26.4	46.2	7.18.6.2		7.17.6.34	E
	42	Castor	54.8	10.1	25.2	40.4	55.8	11.0	7.24.26.1		7.23.40.48	E
	43	23 Lyncis	...	8.1	31.6	55.9	19.7	43.3	7.27.	— 0.01	7.26.55.71	E
	44	Procyon	31.8	44.6	57.4	10.3	23.3	36.1	7.30.49.0		7.30.10.35	E
	45	Pollux	4.2	18.9	33.3	48.0	2.6	17.1	7.35.31.8		7.34.47.99	E
	46	25 Lyncis	...	31.1	50.3	9.8	29.0	47.9	7.42.	— 0.01	7.42.9.61	E
	47	54 Camelopardali,	...	5.7	29.8	53.7	18.0	41.9	7.49.	— 0.01	7.48.53.81	E
	48	29 Lyncis	...	1.8	27.0	53.0	18.8	44.0	8.4.	— 0.01	8.3.52.91	E
	49	Piazzi VIII.40..	...	16.8	38.8	0.1	22.1	43.8	8.11.	— 0.01	8.11.0.31	E
	50	d ² Caneri,	21.8	35.2	48.6	2.3	15.8	29.0	8.16.42.4		8.16.2.15	E
	51	Groombridge1458	38.3	0.3	22.1	44.0	6.0	27.7	8.26.49.6		8.25.44.00	E
ILLUMINATED END OF AXIS WEST. Order of Wires for Stars above the Pole, G, F, E, D, C, B, A.												
15, 16. Clouded and tremulous. 26, 33. The intervals irregular.				17, 18, 19. Cloudy.				31, 32. The sky becoming cloudy. 37. A double star: the preceding component was observed.				

No. for Reference: 5A...5A...1A

No.	Error of Collimation.	Level Error.	Seconds of Transit cor. for two Errors.	Azimuthal Error.	Seconds of Transit Corrected.	Tabular R. A. of Known Stars.	Clock apparently Slow.	Adopted Losing Rate.	Clock Slow at 0 ^h Sidereal.	Correction for Duration of Passage of Semidiameter.	Apparent R. A. of Center from the Observation.	NAME OF OBJECT.	Correction to Mean R. A. 1843, Jan. 1.
	"	"	"	"	"	"	"	"	"	m s	h m s		"
1	-0.23	+1.74		+4.07	57.02			0.57	55.41		7. 27. 52.60	23 Lyncis.	- 4.42
2					11.77	7.22	55.45				7. 31. 7.35	Procyon.	- 2.51
3					49.25	44.96	55.71				7. 35. 44.84	Pollux.	- 2.95
4					10.68						7. 43. 6.27	25 Lyncis.	- 3.68
5					54.87						7. 49. 50.46	54 Camelopardali.	- 4.37
6					54.01						8. 4. 49.61	29 Lyncis.	- 4.69
7					1.52						8. 11. 57.12	Piazz VIII. 40.	- 4.10
8					45.04						8. 26. 40.64	Groombridge 1458.	- 4.23
9					34.55	30.22	55.67				8. 38. 30.16	ε Hydræ.	- 2.76
10					31.13						8. 41. 26.75	35 Lyncis.	- 3.71
11					38.55						9. 3. 34.17	36 Lyncis.	- 3.73
12					59.34	54.96	55.62				9. 19. 54.97	α Hydræ.	- 2.71
13					39.31						9. 22. 34.94	Vesta.	
14			29.73	+1.57	32.27	25.88	53.61				1. 2. 27.99	Polaris S. P.	+34.46
15					50.44			0.62	55.16	- 0.27	16. 10. 46.02	Mars.	- 0.27
16					53.48	49.38	55.90				16. 19. 49.06	Antares.	- 2.01
17					45.12					+1. 5.24	22. 54. 46.11	☉	
18					21.30	17.10	55.80				0. 0. 17.08	α Andromedæ.	- 0.19
19			34.11		31.74	25.65	53.91		55.78		1. 2. 27.55	Polaris.	+34.69
20					34.20	30.02	55.82				6. 13. 30.13	μ Geminorum.	- 2.40
21					21.45						6. 39. 17.40	14 Lyncis.	- 3.99
22					16.52						6. 46. 12.47	16 Lyncis.	- 3.22
23					51.16	47.14	55.98				7. 10. 47.12	δ Geminorum.	- 2.69
24					7.50						7. 18. 3.46	22 Lyncis.	- 3.64
25					41.42	37.41	55.99				7. 24. 37.38	Castor.	- 2.98
26					11.42	7.21	55.79				7. 31. 7.39	Procyon.	- 2.50
27					49.01	44.94	55.93				7. 35. 44.99	Pollux.	- 2.93
28					10.51						7. 43. 6.49	25 Lyncis.	- 3.66
29					54.79						7. 49. 50.76	54 Camelopardali.	- 4.37
30					38.49						9. 3. 34.50	36 Lyncis.	- 3.73
31					58.95	54.95	56.00				9. 19. 54.97	α Hydræ.	- 2.70
32					51.05						9. 21. 47.07	Vesta.	
33					33.68			0.36	56.35		22. 58. 30.37	☉	
34					18.86	15.81	56.95		56.71		6. 38. 15.67	Sirius.	- 1.98
35					15.64						6. 46. 12.45	16 Lyncis.	- 3.20
36					16.85						6. 53. 13.66	Piazz VI. 301.	- 3.62
37					14.72						7. 1. 11.54	Groombridge 1272.	- 3.60
38					37.97						7. 8. 34.79	47 Camelopardali.	- 4.28
39					50.30	47.13	56.83				7. 10. 47.12	δ Geminorum.	- 2.68
40					6.50						7. 18. 3.32	22 Lyncis.	- 3.63
41					40.63	37.40	56.77				7. 24. 37.45	Castor.	- 2.97
42					55.88						7. 27. 52.70	23 Lyncis.	- 4.18
43					10.49	7.19	56.70				7. 31. 7.31	Procyon.	- 2.48
44					48.14	44.93	56.79				7. 35. 44.96	Pollux.	- 2.92
45					9.77						7. 43. 6.60	25 Lyncis.	- 3.64
46					53.97						7. 49. 50.80	54 Camelopardali.	- 4.34
47					53.08						8. 4. 49.91	29 Lyncis.	- 4.65
48					0.47						8. 11. 57.30	Piazz VIII. 40.	- 4.14
49					2.29						8. 16. 59.12	d ² Cancri.	- 2.84
50					44.16						8. 26. 40.99	Groombridge 1458.	- 4.21
51													

March 2 and 3. The azimuthal error by Polaris S. P., and Polaris; allowing 0^s.52 for clock-rate and change of R. A.

March 3, 21^h. The Transit instrument was levelled.

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	I.	II.	III.	IV.	V.	VI.	VII. WIRE.	Correction to Mean of Wires Observed.	Concluded Transit over Mean of the Seven Wires.	Observer.
			m s	m s	m s	m s	m s	m s	h m s	m s	h m s	
Mar. 4	1	ε Hydræ	54.4	7.3	20.2	33.1	46.1	59.0	8. 38. 12.0		8. 37. 33.16	E
	2	35 Lyncis	36.1	54.0	12.0	30.0	48.0	6.1	8. 41. 24.0		8. 40. 30.02	E
	3	Vesta	21.7	35.5	49.8	3.7	18.0	32.0	9. 20. 45.8		9. 20. 3.78	E
Mar. 6	4	μ Geminorum . . .	50.8	4.6	18.3	32.2	46.1	0.0	6. 13. 14.0		6. 12. 32.28	E
	5	Sirius	38.0	51.2	4.5	18.0	31.3	44.8	6. 37. 58.2		6. 37. 18.00	E
	6	14 Lyncis	...	...	...	...	45.0	10.1	6. 39. 36.0	— 50.88	6. 38. 19.49	E
	7	16 Lyncis	19.6	38.0	56.2	14.6	32.8	51.1	6. 46. 9.4		6. 45. 14.53	E
	8	ε Canis Majoris . .	47.8	2.1	16.7	31.4	46.1	0.6	6. 52. 15.3		6. 51. 31.43	E
	9	Piazzi VI. 301. . .	...	...	...	...	37.2	58.6	6. 53. 19.9	— 42.72	6. 52. 15.85	E
	10	Groombridge 1272 . .	11.7	32.1	52.8	13.5	34.3	55.0	7. 1. 15.8		7. 0. 13.60	E
	11	47 Camelopardali . .	...	45.0	11.0	36.9	2.8	28.0	7. 8.	— 0.01	7. 7. 36.73	E
	12	δ Geminorum . . .	8.0	21.8	35.6	49.4	3.1	17.0	7. 10. 31.0		7. 9. 49.42	E
	13	22 Lyncis	5.3	25.2	45.2	5.3	25.4	45.3	7. 18. 5.3		7. 17. 5.29	E
	14	Castor	54.0	9.1	24.3	39.5	54.8	10.0	7. 24. 25.2		7. 23. 39.56	E
	15	23 Lyncis	...	7.0	31.0	55.0	19.0	42.8	7. 27.	— 0.01	7. 26. 54.95	E
	16	15 Argūs	13.8	27.8	42.0	56.0	10.1	24.2	8. 0. 38.3		7. 59. 56.03	E
	17	29 Lyncis	34.5	0.4	26.0	52.0	17.9	43.0	8. 5. 9.0		8. 3. 51.83	E
	18	δ ² Cancri	20.8	34.2	47.7	1.2	14.9	28.2	8. 16. 41.7		8. 16. 1.24	E
	19	ε Hydræ	53.8	6.3	19.2	32.2	45.4	58.2	8. 38. 11.1		8. 37. 32.31	E
	20	35 Lyncis	35.0	53.1	11.0	29.0	47.0	5.0	8. 41. 23.0		8. 40. 29.02	E
	21*	ι Ursæ Majoris . .	33.3	53.0	12.4	31.8	51.3	10.4	8. 48. 30.0		8. 47. 31.74	E
	22	Vesta	52.1	6.0	20.0	34.1	48.2	2.2	9. 19. 16.4		9. 18. 34.14	E
	23	Polaris S.P. . . .	...	...	...	1. 20.0	9. 27.0	17. 33.0	13. 25. 38.0	— 12. 7.16	13. 1. 22.34	G
	24	Mars 2 L.	37.5	51.5	5.3	19.2	32.8	46.5	16. 18. 0.3		16. 17. 19.02	G
	25	Antares	...	...	36.8	51.7	6.2	20.7	16. 19. 34.8	— 14.33	16. 18. 51.71	G
	26	Venus 2 L.	44.7	58.0	11.2	25.1	38.8	52.1	20. 5. 5.9		20. 4. 25.11	M
	27*	α Cygni	12.0	30.5	48.3	6.8	24.9	42.5	20. 36. 0.9		20. 35. 6.56	M
Mar. 7	28	⊙ 1 L.	56.1	9.2	22.4	35.5	48.5	1.2	23. 8. 14.1		23. 7. 35.29	M
	29	⊙ 2 L.	6.4	19.2	32.2	45.2	58.2	11.0	23. 10. 24.2		23. 9. 45.20	M
	30	Polaris	37. 24.0	45. 30.0	53. 35.0	1. 42.0	...	...	1.	+ 12. 7.14	1. 1. 39.89	M
	31*	α Ceti	28.8	42.0	55.0	7.3	20.0	33.0	2. 53. 46.1		2. 53. 7.46	G
	32	⊙ 1 L.	10.9	25.0	39.3	53.7	8.0	22.2	3. 33. 36.3		3. 32. 53.63	M
	33	η Tauri	30.9	44.7	58.9	13.0	27.0	41.0	3. 37. 55.0		3. 37. 12.93	M
	34	γ Eridani	5.6	18.8	32.0	45.4	58.6	11.8	3. 50. 25.0		3. 49. 45.31	M
	35	α ¹ Tauri	...	...	...	...	42.2	56.2	3. 55. 10.0	— 27.67	3. 54. 28.46	M
	36	ν ¹ Tauri	16.9	30.9	44.9	58.8	12.7	26.5	4. 16. 40.3		4. 15. 58.72	M
	37	Aldebaran	...	31.7	45.0	58.7	12.0	25.2	4. 26. 38.8	— 6.70	4. 25. 58.53	M
	38	ε Ursæ Min. S.P. .	56. 26.7	58. 3.2	59. 37.5	1. 13.5	...	...	5.	+ 2. 23.64	5. 1. 13.87	M
	39	Capella	...	...	51.7	10.1	29.0	47.1	5. 4.	— 9.26	5. 4. 10.22	M
	40	Rigel	24.0	37.0	50.0	3.0	16.1	29.0	5. 6. 42.0		5. 6. 3.01	M
	41	17 Camelopardali . .	...	30.2	58.8	26.9	55.2	...	5. 14.	+ 14.08	5. 14. 26.86	M
	42	β Tauri	...	...	...	...	41.0	55.5	5. 16. 10.1	— 29.26	5. 15. 26.27	M
	43	19 Camelopardali . .	...	11.0	40.2	10.0	39.3	...	5. 21.	+ 14.66	5. 21. 9.79	M
	44	Groombridge 987 . .	...	...	10.2	29.9	48.9	...	5. 23.	— 0.05	5. 23. 29.62	M
	45	α Leporis	...	24.8	38.3	51.8	5.2	18.8	5. 25. 32.3	— 6.76	5. 24. 51.77	M
	46	24 Camelopardali . .	...	1.0	24.9	48.2	11.8	...	5. 29.	+ 11.61	5. 28. 48.09	M
	47	α Columbæ	14.3	30.0	45.4	1.0	16.8	32.0	5. 33. 47.8		5. 33. 1.04	M
	48	α Orionis	5.1	18.2	31.2	44.2	57.1	9.8	5. 46. 23.0		5. 45. 44.08	M
	49	γ Draconis S.P. . .	57.7	18.4	39.0	59.4	20.0	40.9	5. 53. 1.7		5. 51. 59.59	M
	50	δ Ursæ Min. S.P. . .	...	14. 29.5	18. 3.0	21. 40.0	25. 16.0	...	6.	+ 1. 48.29	6. 21. 40.42	M
	51	Cephei 51 (Hev.) . .	10. 58.0	15. 28.0	19. 57.5	24. 29.0	...	...	6.	+ 6. 44.41	6. 24. 27.54	M
ILLUMINATED END OF AXIS WEST. Order of Wires for Stars above the Pole, G, F, E, D, C, B, A.												
21. The 3rd wire was set down 14 ^s .4.							31. Disturbed by persons walking through the room.					
27. Very unsteady, and the image very bad.							March 7. A splendid night.					

CALCULATION OF APPARENT RIGHT ASCENSIONS.

[17]

1844569NMW...5A...1A

No. for	Error of Collimation.	Level Error.	Seconds of Transit cor. for two Errors.	Azimuthal Error.	Seconds of Transit Corrected.	Tabular R. A. of Known Stars.	Clock apparently Slow.	Adopted Losing Rate.	Clock Slow at 0 ^h Sidereal.	Correction for Duration of Passage of Semidiameter.	Apparent R.A. of Center from the Observation.	NAME OF OBJECT.	Correction to Mean R.A. 1843, Jan. 1.
#	#	#	#	#	s	s	s	s	s	m s	h m s		s
1	-0.23	+1.74		+1.57	33.29	30.20	56.91	0.36	56.71		8.38.30.13	ε Hydræ.	-2.74
2					30.18						8.41.27.02	35 Lyncis.	-3.69
3					3.92						9.21.0.77	Vesta.	
4		+2.66		+8.03	32.71	29.97	57.26	0.53	57.11		6.13.29.95	μ Geminorum.	-2.35
5					18.57	15.78	57.21				6.38.15.82	Sirius.	-1.95
6					19.66						6.39.16.92	14 Lyncis.	-3.91
7					14.85						6.46.12.11	16 Lyncis.	-3.15
8					32.04	29.24	57.20				6.52.29.30	ε Canis Majoris.	-1.91
9					16.10						6.53.13.36	Piazzi VI. 301.	-3.57
10					13.86						7.1.11.12	Groombridge 1272	-3.55
11					36.89						7.8.34.15	47 Camelopardali.	-4.21
12					49.85	47.10	57.25				7.10.47.12	δ Geminorum.	-2.65
13					5.57						7.18.2.84	22 Lyncis.	-3.58
14					39.94	37.37	57.43				7.24.37.21	Castor.	-2.94
15					55.15						7.27.52.42	23 Lyncis.	-4.12
16					56.62	53.80	57.18				8.0.53.91	15 Argus.	-2.30
17					51.99						8.4.49.28	29 Lyncis.	-4.60
18					1.68						8.16.58.97	d ² Cancr.	-2.82
19					32.80	30.19	57.39				8.38.30.10	ε Hydræ.	-2.73
20					29.34						8.41.26.64	35 Lyncis.	-3.66
21					32.03						8.48.29.33	ι Ursæ Majoris.	-3.89
22					34.56						9.19.31.87	Vesta.	
23			17.81		30.78	24.39	53.61	0.56	56.97		1.2.28.05	Polaris S.P.	+35.95
24					19.60						16.18.16.66	Mars.	
25					52.31	49.51	57.20				16.19.49.66	Antares.	-2.14
26					25.69						20.5.22.34	Venus.	
27					6.88						20.36.4.33	α Cygni.	+0.42
28													
29					40.78						23.9.38.29	☉	
30			44.64		32.51	24.24	51.73		57.53		1.2.30.07	Polaris.	+36.10
31					7.96	5.69	57.73				2.54.5.56	α Ceti.	-0.99
32					54.06					+1.7.52	3.34.59.19	δ	
33					13.35	11.04	57.69				3.38.10.96	η Tauri.	-1.36
34					45.86	43.42	57.56				3.50.43.48	γ Eridani.	-1.11
35					28.89						3.55.26.51	α ¹ Tauri.	-1.43
36					59.15						4.16.56.78	υ ¹ Tauri.	-1.60
37					58.98	56.64	57.66				4.26.56.61	Aldebaran.	-1.61
38					15.95						17.2.13.60	ε Ursæ Min. S.P.	+3.22
39					10.52						5.5.8.17	Capella.	-2.33
40					3.55	1.20	57.65				5.7.1.20	Rigel.	-1.55
41					26.98						5.15.24.63	17 Camelopardali.	-3.08
42					26.68	24.31	57.63				5.16.24.33	β Tauri.	-2.08
43					9.88						5.22.7.53	19 Camelopardali.	-3.25
44					29.91						5.24.27.56	Groombridge 987.	-2.54
45					52.35	49.93	57.58				5.25.50.00	α Leporis.	-1.54
46					48.29						5.29.45.95	24 Camelopardali.	-2.93
47					1.68	59.28	57.60				5.33.59.34	α Columbae.	-1.37
48					44.57	42.33	57.76				5.46.42.23	α Orionis.	-1.96
49					0.39						17.52.58.06	γ Draconis S.P.	-0.29
50					44.48						18.22.42.16	δ Ursæ Min. S.P.	+17.65
51					23.69						6.25.21.37	Cephei 51 (Hev.)	-25.74

March 6 and 7. The azimuthal error by Polaris S. P., Polaris, and Polaris S. P.

D

[18]

TRANSITS OBSERVED AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1843.

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	I.		II.		III.		IV.		V.		VI.		VII. WIRE.			Correction to Mean of Wires Observed.	Concluded Transit over Mean of the Seven Wires.			Observer.
			m	s	m	s	m	s	m	s	m	s	m	s	h	m	s		h	m	s	
Mar. 7	1	ε Hydræ	53.0		6.1		18.9		32.0		44.9		57.8		8. 38. 10.8				8. 37. 31.93			M
	2	Vesta	9.2		23.8		38.0		52.0		6.1		20.0		9. 18. 34.1				9. 17. 51.88			M
	3*	Polaris S.P. ...	...	45. 19.0	53. 20.0		1. 23.0		...		...		...		13.		+ 8. 5.17		13. 1. 25.84			JH
	4*	Venus 2 L.	...	...	...		...		...		...		...		20. 9. 27.7		- 40.66		20. 8. 47.04			E
	5	α Cygni	11.6		29.8		47.7		6.0		24.0		42.1		20. 36. 0.2				20. 35. 5.92			E
	6	ζ Cygni	32.8		47.3		2.0		17.0		31.8		46.6		21. 6. 1.3				21. 5. 16.97			E
	7	α Cephei	27.8		55.0		22.1		49.8		17.0		44.0		21. 15. 11.7				21. 13. 49.63			E
	8	β Cephei	...		20.2		58.0		35.1		13.0		49.8		21. 26.		- 0.02		21. 25. 35.20			E
Mar. 8	9	⊙ 1 L.	37.2		50.2		3.2		16.3		29.2		42.1		23. 11. 55.0				23. 11. 16.17			E
	10	⊙ 2 L.	47.6		0.5		13.6		26.5		39.4		52.4		23. 14. 5.3				23. 13. 26.47			E
	11	γ Cephei	...		2.1		58.0		55.4		...		...		23. 31.		+ 56.07		23. 31. 54.57			E
	12	ν Tauri	16.7		30.3		44.0		58.0		12.0		25.8		4. 16. 39.6				4. 15. 58.06			E
	13	Aldebaran	17.8		31.0		44.7		58.1		11.5		24.7		4. 26. 38.2				4. 25. 58.00			E
	14	⊙ 1 L.	27.8		42.2		56.8		11.3		25.9		40.2		4. 28. 54.7				4. 28. 11.27			E
	15	ν Tauri	4.7		18.4		32.2		46.1		0.0		13.8		4. 53. 27.6				4. 52. 46.12			E
	16	ε Ursæ Min. S.P. ...	...		...		59. 39.8		1. 14.8		2. 50.0		...		5.		+ 0.25		5. 1. 15.12			E
	17	Rigel	23.4		36.3		49.4		2.3		15.2		28.1		5. 6. 41.0				5. 6. 2.24			R
	18	ν Tauri	12.3		26.1		40.0		54.0		7.8		21.7		5. 9. 35.5				5. 8. 53.91			E
	19	17 Camelopardali, ...	...		29.6		57.8		26.0		54.0		22.1		5. 15.		- 0.01		5. 14. 25.89			E
	20	19 Camelopardali, ...	...		10.0		39.3		9.0		38.1		7.3		5. 22.		- 0.01		5. 21. 8.73			E
	21	Groombridge 987 ...	...		...		9.7		28.8		47.8		...		5. 23.		- 0.05		5. 23. 28.72			E
	22	α Leporis	...		24.1		37.4		50.9		4.7		18.1		5. 25.		- 0.01		5. 24. 51.03			E
	23	24 Camelopardali, ...	37.2		0.9		23.8		47.2		10.8		33.8		5. 29. 57.2				5. 28. 47.27			E
	24	α Columbæ	13.9		29.2		44.8		0.4		16.0		31.3		5. 33. 46.7				5. 33. 0.32			E
	25	α Orionis	4.8		17.7		30.4		43.3		56.2		9.1		5. 46. 22.0				5. 45. 43.36			E
	26*	μ Geminorum ...	49.3		3.1		17.0		31.0		45.0		59.0		6. 13. 12.7				6. 12. 31.01			E
	27	δ Ursæ Min. S.P. ...	...	14. 32.0	18. 8.0		21. 43.0		25. 18.0		28. 55.0		6.		6.		+ 0.12		6. 21. 43.32			E
	28	Cephei 51 (Hev.) ...	...	15. 25.0	19. 55.0		24. 26.0		...		...		6.		6.		+ 4. 29.38		6. 24. 24.71			E
	29	Sirius	36.6		50.2		3.4		17.0		30.4		43.8		6. 37. 57.2				6. 37. 16.95			E
	30	14 Lyncis	...		...		...		...		43.8		9.0		6. 39. 34.3		- 50.88		6. 38. 18.15			R
Mar. 9	31	Castor	52.3		7.5		22.9		38.0		53.1		8.2		7. 24. 23.4				7. 23. 37.92			G
	32	Procyon	29.6		42.0		55.0		7.9		21.0		33.8		7. 30. 46.7				7. 30. 8.00			G
	33	Pollux	1.8		16.1		30.9		45.8		0.2		15.0		7. 35. 29.4				7. 34. 45.60			G
	34	Vesta	49.4		3.5		17.7		31.8		45.9		0.0		9. 17. 14.0				9. 16. 31.75			G
	35	α Hydræ	16.8		29.6		43.0		55.8		8.5		21.5		9. 19. 34.5				9. 18. 55.67			G
Mar. 12	36*	Mars 2 L.	23.8		37.8		51.6		5.3		19.2		32.8		16. 28. 46.5				16. 28. 5.29			R
	37*	α Ophiuchi	59.3		12.5		25.7		39.2		52.0		5.1		17. 27. 18.4				17. 26. 38.89			R
	38	α Cygni	...		26.8		44.8		3.3		21.6		39.5		20. 35.		- 0.01		20. 35. 3.19			H
	39*	ζ Cygni	29.8		44.5		59.4		14.0		28.7		43.6		21. 5. 58.4				21. 5. 14.05			H
Mar. 13	40*	⊙ 1 L.	58.6		11.5		24.2		37.3		50.4		2.9		23. 30. 16.0				23. 29. 37.27			H
	41	⊙ 2 L.	7.7		20.7		33.8		46.5		59.7		12.4		23. 32. 25.5				23. 31. 46.62			H
	42*	α Andromedæ ..	...		...		...		...		29.5		44.6		23. 59. 59.6		- 29.19		23. 59. 15.38			H
Mar. 14	43*	⊙ 1 L.	37.7		50.6		3.4		16.2		29.0		41.8		23. 33. 54.8				23. 33. 16.22			E
	44*	⊙ 2 L.	47.0		59.8		12.8		25.7		38.6		51.5		23. 36. 4.3				23. 35. 25.67			E
Mar. 16	45	47 Camelopardali, ...	...		...		...		30.1		56.0		21.9		7. 9. 47.8		- 38.82		7. 8. 30.13			E
	46	δ Geminorum ...	...		...		...		43.2		57.0		10.8		7. 11. 24.6		- 20.86		7. 10. 43.04			E
	47	Procyon	24.7		37.4		50.3		3.2		16.1		29.0		7. 31. 42.0				7. 31. 3.24			E
ILLUMINATED END OF AXIS WEST. Order of Wires for Stars above the Pole, G, F, E, D, C, B, A.																						
3. Cloudy.											26. The 6th wire was set down 58° 0.											
4. Venus was not seen sooner on account of the setting circle having been deranged.											36. Tremulous. 37. Very tremulous.											
											39. Faint and tremulous. 40, 42, 43, 44. Very cloudy.											

CALCULATION OF APPARENT RIGHT ASCENSIONS.

[19]

18456 AMM...5A...1A

No. for Reference	Error of Collimation.	Level Error.	Seconds of Transit cor. for two Errors.	Azimu- thal Error.	Seconds of Transit Corrected.	Tabular R.A. of Known Stars.	Clock apparently Slow.	Clock Slow at 0 ^h Sidereal.	Adopted Losing Rate.	Correction for Duration of Passage of Semidiameter.	Apparent R.A. of Center from the Observation.	NAME OF OBJECT.	Correc- tion to Mean R.A. 1843, Jan. 1.
"	"	"	"	"	"	"	"	"	"	m s	h m s	"	"
1	-0.23	+2.66		+8.03	32.42	30.18	57.76	0.56	57.53		8. 38. 30.14	ε Hydræ.	- 2.72
2					52.30						9. 18. 50.05	Vesta.	
3			21.31		34.28	24.09	49.81				1. 2. 32.11	Polaris S.P.	+36.25
4					47.62			0.53	57.67	- 0.78	20. 9. 44.95	Venus.	
5					6.24						20. 36. 4.36	α Cygni.	+ 0.40
6					17.37	15.40	58.03				21. 6. 15.50	ζ Cygni.	- 0.05
7					49.76						21. 14. 47.90	α Cephei.	+ 1.78
8					35.16						21. 26. 33.30	β Cephei.	+ 3.13
9													
10					21.85						23. 13. 20.03	☉	
11					54.19						23. 32. 52.38	γ Cephei.	+ 4.65
12					58.48			58.20			4. 16. 56.77	ν Tauri.	- 1.57
13					58.45	56.62	58.17				4. 26. 56.75	Aldebaran.	- 1.59
14					11.69					+1. 9.29	4. 30. 19.28	δ	
15					46.55						4. 53. 44.86	ι Tauri.	- 1.80
16					17.20						17. 2. 15.51	ε Ursæ Min. S.P.	+ 3.11
17					2.78	1.18	58.40				5. 7. 1.09	Rigel.	- 1.53
18					54.34						5. 9. 52.65	η Tauri.	- 1.94
19					26.01						5. 15. 24.32	17 Camelopardali.	- 3.04
20					8.82						5. 22. 7.14	19 Camelopardali.	- 3.22
21					29.02						5. 24. 27.34	Groombridge 987.	- 2.52
22					51.61	49.91	58.30				5. 25. 49.93	α Leporis.	- 1.52
23					47.47						5. 29. 45.79	24 Camelopardali.	- 2.88
24					0.96	59.26	58.30				5. 33. 59.28	α Columbæ.	- 1.35
25					43.85	42.31	58.46				5. 46. 42.18	α Orionis.	- 1.94
26					31.44	29.94	58.50				6. 13. 29.77	μ Geminorum.	- 2.32
27					47.38						....	δ Ursæ Min. S.P.	
28					20.86						6. 25. 19.20	Cephei 51 (Hev.)	-25.37
29					17.52	15.74	58.22				6. 38. 15.87	Sirius.	- 1.91
30					18.31						6. 39. 16.66	14 Lyncis.	- 3.83
31					38.31	37.32	59.01	0.70	58.57		7. 24. 37.09	Castor.	- 2.89
32					8.49	7.13	58.64				7. 31. 7.28	Procyon.	- 2.42
33					46.01	44.86	58.85				7. 35. 44.80	Pollux.	- 2.85
34					32.17						9. 17. 31.01	Vesta.	
35					56.21	54.92	58.71				9. 19. 55.05	α Hydræ.	- 2.67
36					5.88			0.63	60.60	- 0.31	16. 29. 6.60	Mars.	
37					39.36						....	α Ophiuchi.	
38					3.51						20. 36. 4.65	α Cygni.	+ 0.27
39					14.45	15.50	61.05				....	ζ Cygni.	
40													
41					42.46						23. 31. 43.68	☉	
42					15.78	17.11	61.33				....	α Andromedæ.	
43													
44	+2.41			+4.54	21.27			0.69	61.31		23. 35. 23.26	☉	
45					30.33				3.38		7. 8. 33.91	47 Camelopardali.	- 3.89
46					43.32	46.94	3.62				7. 10. 46.90	δ Geminorum.	- 2.49
47					3.55	7.03	3.48				7. 31. 7.15	Procyon.	- 2.32

March 10, 21^h. The Transit instrument was levelled.

March 12. α Ophiuchi observed by Mr. Rogerson is not used for determining the clock-error.

March 16, 1^h. The Transit clock was put forward 1^m.

[20]

TRANSITS OBSERVED AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1843.

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	I.	II.	III.	IV.	V.	VI.	VII. WIRE.	Correction to Mean of Wires Observed.	Concluded Transit over Mean of the Seven Wires.	Observer.
			m s	m s	m s	m s	m s	m s	h m s			
Mar. 16	1	Pollux	57.1	11.8	26.2	41.0	55.7	10.1	7.36.24.7		7.35.40.94	E
	2	15 Argûs.....	7.5	21.7	35.6	49.7	3.8	17.8	8.1.31.9		8.0.49.72	E
	3	d ² Cancri	14.8	28.0	41.5	55.2	8.6	22.0	8.17.35.5		8.16.55.09	E
	4	ε Hydræ	47.3	0.1	13.0	26.0	39.0	51.8	8.39.4.8		8.38.26.00	E
	5	ι Ursæ Majoris..	27.3	46.8	6.4	25.8	45.2	4.7	8.49.24.0		8.48.25.74	E
	6*	Vesta.....	2.1	16.6	30.4	44.6	58.8	12.7	9.14.27.0		9.13.44.60	E
	7*	δ 2 L.	11.1	24.8	38.3	51.8	5.1	18.4	12.19.31.7		12.18.51.60	E
	8	Venus 2 L.	48.9	2.3	15.8	29.3	42.9	56.2	20.50.9.6		20.49.29.29	M
	9	ζ Cygni	27.2	42.0	56.8	11.8	26.5	41.0	21.6.56.0		21.6.11.61	M
	10	α Aquarii	...	...	...	...	...	5.3	21.58.18.2	— 32.13	21.57.39.62	M
Mar. 17	11*	⊙ 1 L.	33.5	46.3	59.0	12.0	25.1	37.9	23.45.50.8		23.45.12.08	M
	12*	⊙ 2 L.	42.3	55.5	8.2	21.3	34.3	47.1	23.48.0.0		23.47.21.24	M
	13	Polaris	...	46.12.0	54.19.0	2.26.0	10.30.0	18.29.0	1.	— 0.28	1.2.22.92	M
	14*	ε Hydræ	46.5	59.7	12.5	25.5	38.5	51.2	8.39.4.3		8.38.25.46	R
	15	Vesta	37.0	51.0	5.2	19.3	33.3	47.2	9.14.1.5		9.13.19.22	R
	16	α Hydræ	11.2	24.3	37.2	50.2	3.2	16.1	9.20.29.2		9.19.50.20	R
	17	ε Leonis	11.6	25.8	40.1	54.2	8.4	22.4	9.37.36.6		9.36.54.16	R
	18	δ Crateris	48.4	1.4	14.6	28.1	41.2	54.5	11.12.7.6		11.11.27.97	P
	19	β Leonis	21.1	34.4	47.7	1.4	14.6	27.8	11.41.41.3		11.41.1.18	P
	20	ψ Virginis	...	...	...	...	22.6	35.8	12.46.48.9	— 26.02	12.46.9.75	P
	21	γ Virginis	...	...	...	...	51.9	4.9	13.0.17.8	— 26.11	12.59.38.76	P
	22*	Polaris S.P.	...	...	...	...	10.18.5	...	13.26.30.5	— 16.9.70	13.2.14.80	P
	23	δ 2 L.	36.2	50.0	3.3	17.4	31.0	44.5	13.18.58.2		13.18.17.23	P
	24*	89 Virginis	38.9	52.9	5.7	19.2	32.6	46.0	13.41.59.6		13.41.19.27	P
	25	η Bootis	...	43.3	57.0	10.7	24.2	37.7	13.47.51.3	— 6.81	13.47.10.56	P
	26	Mars 2 L.	55.2	9.0	22.6	36.8	50.3	4.1	16.38.18.0		16.37.36.57	E
	27	Venus 2 L.	15.4	28.8	42.2	55.7	9.1	22.5	20.54.35.8		20.53.55.64	E
	28	ζ Cygni	26.7	41.3	56.0	10.8	25.5	40.2	21.6.55.0		21.6.10.78	E
	29	α Cephei	21.4	48.2	16.1	43.6	10.9	37.7	21.16.5.2		21.14.43.30	E
Mar. 18	30	⊙ 1 L.	11.8	24.4	37.5	50.5	3.4	15.9	23.49.29.0		23.48.50.35	E
	31	⊙ 2 L.	20.7	33.8	46.5	59.3	12.3	25.2	23.51.38.0		23.50.59.40	E
	32	Polaris	38.4.0	...	...	2.20.0	10.24.0	...	1.	+ 5.22.44	1.2.18.44	E
	33	Sirius	30.1	43.7	56.8	10.4	23.6	37.0	6.38.50.6		6.38.10.31	E
	34	ε Canis Majoris..	39.6	54.2	9.0	23.7	38.3	52.8	6.53.7.3		6.52.23.55	E
	35*	Piazzi VI. 301.	...	...	...	...	29.4	50.8	6.54.12.1	— 42.72	6.53.8.05	E
	36	Groombridge 1272	3.4	24.2	45.0	5.9	26.7	47.3	7.2.8.0		7.1.5.79	E
	37	δ Geminorum ...	0.0	14.0	27.8	41.7	55.7	9.5	7.11.23.3		7.10.41.71	E
	38	Castor	46.2	1.4	16.4	31.7	47.0	2.2	7.25.17.4		7.24.31.75	E
	39	Procyon	...	36.0	48.9	1.8	14.7	27.5	7.31.	— 0.01	7.31.1.77	E
	40	Pollux	55.8	10.2	24.5	39.5	54.1	8.6	7.36.23.0		7.35.39.39	E
	41	15 Argûs	6.1	20.0	34.0	48.1	2.2	16.3	8.1.30.3		8.0.48.15	E
	42	d ² Cancri	13.1	26.7	40.6	53.7	...	...	8.16.	+ 20.23	8.16.53.61	E
	43	λ Ursæ Min. S.P.	...	...	7.11.0	17.46.0	28.22.0	...	8.	+ 1.67	8.17.48.00	E
	44	ε Hydræ	45.8	58.8	11.9	24.9	37.8	50.7	8.39.3.6		8.38.24.79	E
	45	ι Ursæ Majoris..	25.8	45.1	4.8	24.1	43.7	3.0	8.49.22.5		8.48.24.14	E
	46	Vesta	13.7	27.8	41.6	55.5	9.9	24.0	9.13.38.0		9.12.55.79	E
	47	89 Virginis	38.1	51.8	5.0	18.3	32.0	45.3	13.41.58.8		13.41.18.47	E
	48	η Bootis	29.0	42.6	56.2	9.9	23.5	37.1	13.47.50.7		13.47.9.86	E
	49	κ Virginis	50.1	3.0	15.9	29.5	42.3	55.2	14.5.8.2		14.4.29.18	E
	50*	Arcturus	46.1	59.9	13.8	27.7	41.4	54.3	14.9.8.3		14.8.27.36	E
	51	δ 2 L.	44.7	58.6	12.7	26.8	40.9	54.8	14.20.8.9		14.19.26.77	E

ILLUMINATED END OF AXIS WEST. Order of Wires for Stars above the Pole, G, F, E, D, C, B, A.

6. Very faint. 7. Very cloudy.
 11, 12. The limbs very ragged and tremulous.
 14. Tremulous. 22. Cloudy.

24. The intervals irregular.
 35. The preceding star was observed.
 50. The intervals irregular: the 6th wire is suspicious.

No. for Reference.	Error of Collimation.	Level Error.	Seconds of Transit cor. for two Errors.	Azimuthal Error.	Seconds of Transit Corrected.	Tabular R. A. of Known Stars.	Clock apparently Slow.	Adopted Losing Rate.	Clock Slow at 0 ^h Sidereal.	Correction for Duration of Passage of Semidiameter.	Apparent R. A. of Center from the Observation.	NAME OF OBJECT.	Correction to Mean R. A. 1843, Jan. 1.
	"	"	"	"	"	"	"	"	"	m s	h m s		"
1	-0.23	+2.41		+4.54	41.23	44.75	3.52	0.69	3.38		7.35.44.83	Pollux.	-2.74
2					50.06	53.65	3.59				8.0.53.67	15 Argûs.	-2.15
3					55.39						8.16.59.01	d ² Cancr.	-2.71
4					26.31	30.10	3.79				8.38.29.94	ε Hydræ.	-2.64
5					25.99						8.48.29.62	ι Ursæ Majoris.	-3.74
6					44.89						9.13.48.53	Vesta.	
7					51.92					-1.10.14	12.17.45.51	δ	
8					29.63			0.72	3.04	-0.71	20.49.32.58	Venus.	
9					11.89	15.59	3.70				....	ζ Cygni.	
10					39.94	43.59	3.65				....	α Aquarii.	
11													
12					16.98						23.46.20.73	☉	
13			27.17		20.31	20.85	0.54		3.76		1.2.24.10	Polaris.	+39.49
14					25.77	30.08	4.31	0.72	4.04		....	ε Hydræ.	
15					19.51						9.13.23.82	Vesta.	
16					50.53	54.86	4.33				....	α Hydræ.	
17					54.45	58.78	4.33				....	ε Leonis.	
18					28.30	32.42	4.12	0.72	3.90		....	δ Crateris.	
19					1.48	5.80	4.32				....	β Leonis.	
20					10.08						12.46.14.36	ψ Virginis.	-2.90
21					39.09						12.59.43.38	g Virginis.	-2.90
22			10.75		18.08	20.75	2.67				1.2.22.37	Polaris S.P.	+39.59
23					17.56					-1.11.15	13.17.10.70	δ	
24					19.61						13.41.23.92	89 Virginis.	-2.89
25					10.86	15.23	4.37				....	η Bootis.	
26					36.91			0.53	4.28	-0.32	16.37.41.24	Mars.	
27					55.98					-0.70	20.54.0.02	Venus.	
28					11.08	15.61	4.53				21.6.15.83	ζ Cygni.	-0.26
29					43.48						21.14.48.23	α Cephei.	+1.46
30													
31					55.20						23.50.0.01	☉	
32			22.68		15.82	20.68	4.86		4.81		1.2.20.66	Polaris.	+39.66
33					10.65	15.56	4.91				6.38.15.61	Sirius.	-1.73
34					23.90	29.00	5.10				6.52.28.86	ε Canis Majoris.	-1.67
35					8.28						6.53.13.24	Piazz VI. 301.	-3.25
36					6.02						7.1.10.98	Groombridge 1272.	-3.24
37					42.00	46.91	4.91				7.10.46.96	δ Geminorum.	-2.46
38					32.03	37.17	5.14				7.24.37.00	Castor.	-2.74
39					2.08	7.00	4.92				7.31.7.06	Procyon.	-2.29
40					39.68	44.71	5.03				7.35.44.66	Pollux.	-2.70
41					48.49	53.62	5.13				8.0.53.48	15 Argûs.	-2.12
42					53.91						8.16.58.90	d ² Cancr.	-2.68
43					52.20						20.17.57.19	λ Ursæ Min. S.P.	+68.63
44					25.10	30.07	4.97				8.38.30.09	ε Hydræ.	-2.61
45					24.38						8.48.29.38	ι Ursæ Majoris.	-3.71
46					56.08						9.13.1.09	Vesta.	
47					18.81						13.41.23.92	89 Virginis.	-2.91
48					10.15	15.25	5.10				13.47.15.26	η Bootis.	-2.76
49					29.51						14.4.34.63	κ Virginis.	-2.78
50					27.66	32.72	5.06				14.8.32.78	Arcturus.	-2.65
51					27.11					-1.12.26	14.18.19.98	δ	

March 17 and 18. The azimuthal error by Polaris, Polaris S. P., and Polaris.

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	I.	II.	III.	IV.	V.	VI.	VII. WIRE.	Correction to Mean of Wires Observed.	Concluded Transit over Mean of the Seven Wires.	Observer.
			m s	m s	m s	m s	m s	m s	h m s			
Mar. 19	1	Venus 2 L.	9.4	22.9	36.3	49.7	2.9	16.4	21. 3. 29.9		21. 2. 49.65	E
	2	ζ Cygni	25.7	40.1	55.0	9.7	24.3	39.0	21. 6. 54.0		21. 6. 9.69	E
	3	α Cephei	20.8	47.8	15.2	42.8	10.1	37.0	21. 16. 4.8		21. 14. 42.64	E
	4	β Cephei	...	13.8	51.5	23.3	6.1	43.6	21. 27.	- 0.02	21. 26. 28.64	E
	5	ε Pegasi	44.1	57.0	10.1	23.0	36.1	49.2	21. 36.	+ 6.51	21. 36. 23.09	E
Mar. 20	6	⊙ 1 L.	27.1	40.2	53.0	6.0	18.9	31.8	23. 56. 44.7		23. 56. 5.96	E
	7	⊙ 2 L.	36.7	49.6	2.4	15.3	28.0	41.0	23. 58. 53.8		23. 58. 15.26	E
	8	α Cassiopeiæ ...	23.7	46.4	9.1	32.0	54.8	17.3	0. 32. 40.1		0. 31. 31.91	E
	9	Polaris	38. 5.0	46. 9.0	54. 15.0	2. 20.0	...	...	1.	+ 12. 6.63	1. 2. 18.88	E
	10*	⊙ 2 L.	26.0	40.7	55.2	10.0	24.7	39.0	16. 25. 53.8		16. 25. 9.91	E
	11	Mars 2 L.	48.8	2.4	16.2	30.1	44.0	57.7	16. 43. 11.6		16. 42. 30.11	E
	12	α Herculis	44.8	58.0	11.3	24.7	37.9	51.1	17. 8. 4.3		17. 7. 24.59	E
Mar. 21	13	ε Hydræ	44.5	57.2	10.1	23.0	36.0	49.0	8. 39. 1.8		8. 38. 23.08	E
	14	ι Ursæ Majoris ..	24.3	43.7	3.1	22.8	42.1	1.4	8. 49. 21.0		8. 48. 22.63	E
	15	α Hydræ	9.1	22.1	35.0	48.0	1.0	13.9	9. 20. 26.9		9. 19. 48.00	E
Mar. 22	16	δ Geminorum ...	58.2	11.9	25.8	39.7	53.6	7.6	7. 11. 21.6		7. 10. 39.68	H
	17	Castor	44.6	59.7	14.8	30.1	45.4	0.6	7. 25. 15.7		7. 24. 30.12	H
	18	Procyon	21.4	34.4	47.0	0.1	12.8	25.7	7. 31. 38.7		7. 31. 0.01	H
	19	Pollux	53.8	8.5	23.0	37.7	52.5	6.7	7. 36. 21.7		7. 35. 37.70	H
Mar. 23	20	15 Argûs.	3.7	17.7	31.8	45.8	0.0	14.1	8. 1. 28.2		8. 0. 45.90	E
	21	d ² Cancri	10.9	24.1	37.4	51.0	4.5	18.0	8. 17. 31.6		8. 16. 51.07	E
	22*	ε Hydræ	43.7	56.4	9.1	22.4	35.5	48.0	8. 39. 1.1		8. 38. 22.31	E
	23	ι Ursæ Majoris ..	23.4	42.8	2.1	22.1	41.0	0.6	8. 49. 20.1		8. 48. 21.73	E
	24	Vesta	46.1	0.0	14.0	28.3	42.3	56.3	9. 12. 10.6		9. 11. 28.23	E
	25	α Cephei S.P. ...	...	...	13.4	41.0	8.3	...	9. 15.	+ 0.07	9. 14. 40.97	E
	26	α Hydræ	8.1	21.0	34.0	47.0	0.1	13.0	9. 20. 26.1		9. 19. 47.05	E
	27	θ Ursæ Majoris ..	...	...	54.5	15.7	36.8	...	9. 22.	- 0.06	9. 22. 15.61	E
	28	β Cephei S.P. ...	...	11.8	48.7	26.2	4.1	41.2	9. 27.	+ 0.02	9. 26. 26.42	E
	29	ε Leonis	8.8	22.8	36.9	50.9	5.1	19.1	9. 37. 33.3		9. 36. 50.98	E
	30	15 Leonis Minoris	...	...	...	22.0	41.0	59.3	9. 39. 18.2	- 28.17	9. 38. 21.96	E
	31	19 Leonis Minoris	6.8	24.0	41.1	58.3	15.7	33.0	9. 48. 50.1		9. 47. 58.43	E
	32	Piazzi IX. 229..	57.6	19.8	42.0	4.1	26.4	48.3	9. 55. 11.0		9. 54. 4.17	E
	33	Regulus	16.0	29.1	42.2	55.4	8.8	21.9	10. 0. 35.0		9. 59. 55.49	E
Mar. 24	34	⊙ 1 L.	58.6	11.6	24.7	37.5	50.2	3.0	0. 11. 16.0		0. 10. 37.37	H
	35	⊙ 2 L.	7.6	20.5	33.5	46.2	59.4	11.7	0. 13. 24.8		0. 12. 46.24	H
	36	α Cassiopeiæ ...	21.5	44.4	7.5	30.5	53.0	15.5	0. 32. 38.7		0. 31. 30.15	H
	37*	Polaris	38. 3.0	46. 7.0	54. 12.0	...	...	...	0.	+ 16. 9.23	1. 2. 16.56	H
	38	15 Argûs.	3.4	17.5	31.5	45.6	59.6	13.6	8. 1. 27.6		8. 0. 45.54	H
	39	ε Hydræ	43.0	55.7	8.7	22.0	35.0	47.7	8. 39. 0.7		8. 38. 21.83	H
	40	ι Ursæ Majoris ..	22.8	42.6	1.8	21.5	40.8	0.2	8. 49. 19.7		8. 48. 21.34	H
	41	Vesta	34.4	48.5	2.6	16.6	30.7	44.7	9. 11. 59.0		9. 11. 16.64	H
	42	α Cephei S.P. ...	...	...	12.5	40.4	7.6	...	9. 15.	+ 0.07	9. 14. 40.24	H
	43	α Hydræ	7.8	20.7	33.7	46.8	59.7	12.6	9. 20. 25.7		9. 19. 46.72	H
	44	θ Ursæ Majoris ..	...	33.0	54.5	15.5	36.5	57.5	9. 22.	- 0.01	9. 22. 15.39	H
	45	β Cephei S.P. ...	...	11.6	48.5	25.6	3.5	40.5	9. 27.	+ 0.02	9. 26. 25.96	H
	46	ε Leonis	8.5	22.6	36.7	50.7	5.1	18.6	9. 37. 33.0		9. 36. 50.74	H
	47	15 Leonis Minoris	...	...	...	22.0	40.6	59.5	9. 39. 18.0	- 28.17	9. 38. 21.86	H
	48	19 Leonis Minoris	6.6	23.6	40.8	58.5	15.7	32.7	9. 48. 49.7		9. 47. 58.23	H
ILLUMINATED END OF AXIS WEST. Order of Wires for Stars above the Pole, G, F, E, D, C, B, A.												
10. Cloudy. 22. The intervals irregular. 37. Cloudy after the transit of the first three wires.												

CALCULATION OF APPARENT RIGHT ASCENSIONS.

[23]

No. for Reference.	Error of Collimation.	Level Error.	Seconds of Transit cor. for two Errors.	Azimuthal Error.	Seconds of Transit Corrected.	Tabular R.A. of Known Stars.	Clock apparently Slow.	Adopted Losing Rate.	Clock Slow at 0 ^h Sidereal.	Correction for Duration of Passage of Semidiameter.	Apparent R.A. of Center from the Observation.	NAME OF OBJECT.	Correction to Mean R.A. 1843, Jan. 1.
	"	"	s	"	s	s	s	s	s	m s	h m s		s
1	-0.23	+2.41		+5.04	50.02			0.53	5.15	- 0.69	21. 2. 54.94	Venus.	
2					9.99	15.65	5.66				....	ζ Cygni.	
3					42.82						21. 14. 48.44	α Cephei.	+ 1.41
4					28.74						21. 26. 34.36	β Cephei.	+ 2.68
5			23.19		23.43	29.01	5.58				....	ε Pegasi.	
6											23. 57. 16.63	☉	
7					10.95								
8					32.11				5.68		0. 31. 37.80	α Cassiopeiae.	+ 0.51
9			23.13		15.52	20.45	4.93				....	Polaris.	
10					10.29			0.57	5.80	- 1. 12.91	16. 24. 3.57	δ	
11					30.49					- 0.34	16. 42. 36.35	Mars.	
12					24.91	31.18	6.27				....	α Herculis.	
13					23.42	30.04	6.62		6.37		....	ε Hydræ.	
14					22.88						8. 48. 29.46	ι Ursæ Majoris.	- 3.66
15					48.35	54.83	6.48				....	α Hydræ.	
16		+2.86		+5.64	40.04	46.84	6.80	0.40	6.53		7. 10. 46.69	δ Geminorum.	- 2.39
17					30.46	37.10	6.64				7. 24. 37.11	Castor.	- 2.67
18					0.40	6.94	6.54				7. 31. 7.05	Procyon.	- 2.23
19					38.05	44.65	6.60				7. 35. 41.70	Pollux.	- 2.64
20					46.33	53.53	7.20	0.50	7.14		8. 0. 53.64	15 Argûs.	- 2.03
21					51.44						8. 16. 58.75	δ ² Cancri.	- 2.61
22					22.70	30.02	7.32				8. 38. 30.02	ε Hydræ.	- 2.56
23					22.03						8. 48. 29.35	ι Ursæ Majoris.	- 3.62
24					28.59						9. 11. 35.92	Vesta.	
25					41.57						21. 14. 48.90	α Cephei S.P.	+ 1.27
26					47.46	54.81	7.35				9. 19. 54.79	α Hydræ.	- 2.56
27					15.89						9. 22. 23.22	θ Ursæ Majoris.	- 3.94
28					27.10						21. 26. 34.44	β Cephei S.P.	+ 2.53
29					51.34	58.73	7.39				9. 36. 58.68	ε Leonis.	- 3.03
30					22.26						9. 38. 29.60	15 Leonis Minoris.	- 3.71
31					58.74						9. 48. 6.08	19 Leonis Minoris.	- 3.52
32					4.43						9. 54. 11.77	Piazzi IX. 229.	- 4.18
33					55.86	3.23	7.37				10. 0. 3.21	Regulus.	- 2.89
34													
35					42.20			0.47	7.48		0. 11. 49.68	☉	
36					30.41						0. 31. 37.90	α Cassiopeiae.	+ 0.51
37			21.71		13.20	19.93	6.73				....	Polaris.	
38			45.57		45.96	53.51	7.55				8. 0. 53.60	15 Argûs.	- 2.01
39					22.22	30.00	7.78				8. 38. 29.87	ε Hydræ.	- 2.54
40					21.64						8. 48. 29.29	ι Ursæ Majoris.	- 3.60
41					17.00						9. 11. 24.66	Vesta.	
42					40.84						21. 14. 48.50	α Cephei S.P.	+ 1.23
43					47.13	54.80	7.67				9. 19. 54.79	α Hydræ.	- 2.55
44					15.66						9. 22. 23.32	θ Ursæ Majoris.	- 3.92
45					26.64						21. 26. 34.31	β Cephei S.P.	+ 2.47
46					51.10	58.72	7.62				9. 36. 58.77	ε Leonis.	- 3.02
47					22.16						9. 38. 29.83	15 Leonis Minoris.	- 3.70
48					58.54						9. 48. 6.21	19 Leonis Minoris.	- 3.53

 March 19, 21^h and 24, 20^h. The Transit instrument was levelled.

 March 19 and 20. The azimuthal error by tabular places of ε Pegasi and Polaris, allowing 0^h.10 for clock-rate.

 March 24. The azimuthal error by tabular places of Polaris and 15 Argûs, allowing 0^h.15 for clock-rate.

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	I.	II.	III.	IV.	V.	VI.	VII. WIRE.	Correction to Mean of Wires Observed.	Concluded Transit over Mean of the Seven Wires.	Observer.
			m s	m s	m s	m s	m s	m s	h m s			
Mar. 24	1	Piazzi IX. 229..	...	19.6	41.8	4.0	26.5	48.5	9.54.	— 0.01	9.54. 4.07	H
	2	γ Aquilæ.....	1.3	14.1	27.2	40.5	53.7	6.6	19.39. 19.7		19.38. 40.44	E
	3	α Aquilæ.....	21.1	34.1	47.1	0.2	13.2	26.1	19.43. 39.1		19.43. 0.12	E
	4	β Aquilæ.....	50.1	2.9	15.8	28.8	41.7	54.8	19.48. 7.7		19.47. 28.83	E
	5	Venus 2 L.....	26.6	39.7	52.8	6.0	19.3	32.7	21.25. 45.9		21.25. 6.14	E
Mar. 25	6	⊙ 1 L.	35.8	48.8	1.9	14.8	27.7	40.6	0.14. 53.4		0.14. 14.71	E
	7	⊙ 2 L.	44.8	57.7	10.7	23.6	36.6	49.4	0.17. 2.3		0.16. 23.58	E
	8	15 Argûs.....	...	...	...	45.0	59.0	12.9	8. 1. 26.9	— 21.10	8. 0. 44.85	E
	9	ϵ Hydræ.....	42.1	55.0	8.0	21.0	34.1	47.0	8.39. 0.0		8.38. 21.13	E
	10	ι Ursæ Majoris..	...	41.8	1.1	20.7	40.2	59.5	8.48.	— 0.01	8.48. 20.65	E
	11	Vesta.....	23.8	38.0	52.1	6.3	20.5	34.5	9.11. 48.7		9.11. 6.27	E
	12	α Hydræ.....	7.1	20.0	33.0	46.0	59.0	12.0	9.20. 25.0		9.19. 46.02	E
	13	θ Ursæ Majoris..	11.1	32.1	53.2	14.2	35.4	56.2	9.23. 17.4		9.22. 14.23	E
	14	β Cephei S.P. ...	33.7	11.1	48.2	25.8	3.1	40.3	9.28. 18.0		9.26. 25.74	E
	15	ϵ Leonis.....	7.4	21.3	35.8	50.0	4.1	18.0	9.37. 32.1		9.36. 49.81	E
	16	15 Leonis Minoris	...	...	...	20.8	39.9	58.2	9.39. 17.2	— 28.17	9.38. 20.86	E
	17	19 Leonis Minoris	5.7	22.8	40.0	57.3	4.8	31.7	9.48. 49.1		9.47. 57.35	E
	18	Piazzi IX. 229..	56.2	18.7	41.0	3.0	25.5	47.5	9.55. 9.9		9.54. 3.11	E
	19*	⊙ 2 L.	...	...	59.5	13.0	26.7	...	21. 5.	— 0.04	21. 5. 13.03	H
	20*	ζ Cygni.....	...	...	...	6.5	21.6	36.5	21. 6. 51.5	— 22.19	21. 6. 6.84	H
Mar. 28	21	Castor.....	41.3	56.5	11.6	26.8	42.0	56.7	7.25. 12.5		7.24. 26.77	H
	22	Procyon.....	17.7	30.5	43.6	56.5	9.7	22.5	7.31. 35.5		7.30. 56.57	H
	23	Pollux.....	50.4	5.0	19.7	34.3	48.8	3.6	7.36. 18.0		7.35. 34.26	H
	24	ϵ Hydræ.....	40.7	53.7	6.6	19.7	32.6	45.5	8.38. 58.5		8.38. 19.62	H
	25	ι Ursæ Majoris..	20.7	40.2	59.7	19.0	38.6	57.8	8.49. 17.5		8.48. 19.07	H
	26	α Hydræ.....	5.7	18.7	31.6	44.6	57.7	10.5	9.20. 23.6		9.19. 44.63	H
	27	θ Ursæ Majoris..	9.7	30.7	51.8	12.8	33.8	54.7	9.23. 15.8		9.22. 12.76	H
	28	ϵ Leonis.....	5.8	20.0	34.4	48.5	2.5	16.5	9.37. 30.6		9.36. 48.33	H
	29	Regulus.....	13.4	26.6	39.6	52.7	5.9	19.0	10. 0. 32.5		9.59. 52.81	H
	30*	Mars 2 L.	53.8	7.8	21.7	...	49.3	3.7	16.55. 17.5	+ 0.01	16.54. 35.64	E
	31*	α Herculis.....	40.8	54.1	7.3	20.7	34.0	47.3	17. 8. 0.6		17. 7. 20.68	E
	32	ϵ Pegasi.....	39.6	52.5	5.5	18.4	31.5	44.4	21.36. 57.5		21.36. 18.49	E
	33	Venus 2 L.....	13.8	27.3	40.4	53.8	7.0	20.2	21.43. 33.4		21.42. 53.70	E
Mar. 29	34	⊙ 1 L.	5.8	18.7	31.7	44.8	57.7	9.9	0.29. 23.0		0.28. 44.51	E
	35	⊙ 2 L.	14.9	27.7	40.7	53.8	6.6	19.3	0.31. 32.1		0.30. 53.58	E
	36	Polaris.....	37.59.0	46. 5.0	54. 9.0	2.16.0	10.19.0	...	1.	+ 8. 3.85	1. 2. 13.45	E
	37	α Arietis.....	28.1	42.1	56.1	10.2	24.2	38.0	1.58. 52.1		1.58. 10.11	E
	38	ϵ Hydræ.....	40.1	53.0	5.9	18.8	31.8	44.7	8.38. 57.7		8.38. 18.86	E
	39	ι Ursæ Majoris..	20.0	39.3	58.8	18.3	37.8	57.1	8.49. 16.6		8.48. 18.27	E
	40	α Hydræ.....	4.9	17.8	30.8	43.7	56.7	9.5	9.20. 22.4		9.19. 43.68	E
	41	θ Ursæ Majoris..	9.0	29.8	50.8	12.0	33.1	54.0	9.23. 15.1		9.22. 11.97	E
	42	β Cephei S.P. ...	...	...	45.6	23.1	0.5	...	9.27.	+ 0.10	9.26. 23.17	E
	43	ϵ Leonis.....	5.3	19.3	33.3	47.4	1.6	15.7	9.37. 30.0		9.36. 47.52	E
	44	Regulus.....	12.7	25.7	39.0	52.1	5.1	18.2	10. 0. 31.3		9.59. 52.01	E
	45	Polaris S.P. ...	37.56.0	46. 0.0	54. 2.0	2. 5.0	...	...	13.	+ 12. 6.66	13. 2. 7.41	E
	46*	Mars 2 L.....	17.8	31.8	45.6	59.7	13.6	27.3	16.56. 41.2		16.55. 59.58	H
	47*	α Herculis.....	40.2	53.5	7.0	20.2	33.6	46.8	17. 8. 0.2		17. 7. 20.21	H
Apr. 3	48	⊙ 1 L.	14.0	27.1	40.0	53.0	5.9	18.9	0.47. 31.9		0.46. 52.97	E
	49	⊙ 2 L.	23.1	36.1	48.9	1.9	14.9	27.8	0.49. 40.8		0.49. 1.93	E

ILLUMINATED END OF AXIS WEST. Order of Wires for Stars above the Pole, G, F, E, D, C, B, A.

19. Very faint: scarcely more than guess-work. 20. Not good.
 March 28. The sky hazy and the stars badly defined throughout the evening. 30, 31, 46, 47. Very tremulous.

CALCULATION OF APPARENT RIGHT ASCENSIONS.

[25]

1845CC4MM...5A...1A

No. for Reference.	Error of Collimation.	Level Error.	Seconds of Transit cor. for two Errors.	Azimuthal Error.	Seconds of Transit Corrected.	Tabular R. A. of Known Stars.	Clock apparently Slow.	Adopted Losing Rate.	Clock Slow at 0 ^h Sidereal.	Correction for Duration of Passage of Semidiameter.	Apparent R. A. of Center from the Observation.	NAME OF OBJECT.	Correction to Mean R. A. 1843, Jan. 1.
"	"	"	"	"	"	"	"	"	"	m s	h m s	"	"
1	-0.23	+2.86		+5.64	4.33			0.47	7.48		9. 54. 12.01	Piazzi IX. 229.	- 4.17
2					40.82	48.79	7.97	0.60	7.53		19. 38. 48.84	γ Aquilæ.	- 1.16
3					0.50	8.45	7.95				19. 43. 8.53	α Aquilæ.	- 1.17
4					29.21	37.15	7.94				19. 47. 37.24	β Aquilæ.	- 1.18
5					6.56					- 0.65	21. 25. 13.97	Venus.	
6					19.54				8.13		0. 15. 27.67	$\odot$	
7													
8													
9					45.28	53.50	8.22				8. 0. 53.61	15 Argûs.	- 2.00
10					21.52	29.99	8.47				8. 38. 29.87	ϵ Hydræ.	- 2.53
11					20.95						8. 48. 29.30	ι Ursæ Majoris.	- 3.57
12					6.63						9. 11. 14.99	Vesta.	
13					46.43	54.79	8.36				9. 19. 54.79	α Hydræ.	- 2.54
14					14.51						9. 22. 22.87	θ Ursæ Majoris.	- 3.90
15					26.42						21. 26. 34.79	β Cephei S.P.	+ 2.42
16					50.16	58.71	8.55				9. 36. 58.53	ϵ Leonis.	- 3.01
17					21.16						9. 38. 29.53	15 Leonis Minoris.	- 3.68
18					57.66						9. 48. 6.03	19 Leonis Minoris.	- 3.51
19					3.38			0.75	7.96	- 1. 3.43	9. 54. 11.76	Piazzi IX. 229.	- 4.16
20					13.45						21. 4. 18.63	δ	
					7.18	15.80	8.62				....	ζ Cygni.	
21		+3.82		+6.29	27.19	36.98	9.79	0.41	9.68		7. 24. 37.00	Castor.	- 2.55
22					57.03	6.84	9.81				7. 31. 6.84	Procyon.	- 2.13
23					34.70	44.54	9.84				7. 35. 44.51	Pollux.	- 2.53
24					20.08	29.95	9.87				8. 38. 29.91	ϵ Hydræ.	- 2.49
25					19.47						8. 48. 29.30	ι Ursæ Majoris.	- 3.51
26					45.10	54.75	9.65				9. 19. 54.94	α Hydræ.	- 2.50
27					13.15						9. 22. 22.99	θ Ursæ Majoris.	- 3.83
28					48.77	58.67	9.90				9. 36. 58.61	ϵ Leonis.	- 2.97
29					53.26	3.19	9.93				10. 0. 3.11	Regulus.	- 2.85
30					36.14			0.40	9.99	- 0.36	16. 54. 46.05	Mars.	
31					21.13	31.41	10.28				17. 7. 31.40	α Herculis.	- 2.04
32					18.94	29.20	10.26				21. 36. 29.29	ϵ Pegasi.	- 0.77
33					54.19					- 0.62	21. 43. 3.92	Venus.	
34					49.51				10.39		0. 29. 59.91	$\odot$	
35													
36			20.53										
37					11.03	19.07	8.04				1. 2. 21.44	Polaris.	+ 41.27
38					10.55	20.61	10.06				1. 58. 20.97	α Arietis.	- 0.61
39					19.32	29.93	10.61				8. 38. 29.85	ϵ Hydræ.	- 2.47
40					18.67						8. 48. 29.20	ι Ursæ Majoris.	- 3.49
41					44.15	54.74	10.59				9. 19. 54.69	α Hydræ.	- 2.49
42					12.36						9. 22. 22.91	θ Ursæ Majoris.	- 3.81
43					23.86						21. 26. 34.41	β Cephei S.P.	+ 2.19
44					47.96	58.66	10.70				9. 36. 58.51	ϵ Leonis.	- 2.96
45					52.46	3.18	10.72				10. 0. 3.02	Regulus.	- 2.84
46			0.65		10.81	19.03	8.22				1. 2. 21.42	Polaris S.P.	+ 41.31
47					0.09			0.40	10.49	- 0.36	16. 56. 10.50	Mars.	
					20.66	31.44	10.78				....	α Herculis.	
48					57.87						0. 48. 10.85	$\odot$	
49		+3.05						0.44	12.97				

March 29. The Transit instrument was raised to clean the pivots, &c.; the screw of the micrometer was oiled at the same time: the level was also well cleaned.

March 29. The azimuthal error by Polaris and Polaris S. P., allowing 0.23 for clock-rate and change of R.A.

March 31, 21^h. The Transit instrument was levelled.

MONTH and DAY.	No. for Reference	NAME OF OBJECT.	I.		II.		III.		IV.		V.		VI.		VII. WIRE.		Correction to Mean of Wires Observed.	Concluded Transit over Mean of the Seven Wires.		Observer.
			m	s	m	s	m	s	m	s	m	s	m	s	h	m	s	m	s	
Apr. 4	1	Mars 2 L.	6.2		20.0		33.9		47.8		1.7		15.6		17. 4. 29.4			17. 3. 47.80		E
	2	α Herculis.	37.7		50.7		4.0		17.6		30.9		44.0		17. 7. 57.2			17. 7. 17.45		E
	3*	α Ophiuchi.	47.1		0.6		13.4		27.0		40.2		53.2		17. 28. 6.6			17. 27. 26.87		E
Apr. 5	4	$\odot$ 1 L.	...		...		56.7		9.8		22.7		35.6		0. 54. 48.7	—	12.97	0. 54. 9.73		H
	5	$\odot$ 2 L.	40.0		53.0		6.0		19.1		32.1		44.8		0. 56. 57.7			0. 56. 18.96		H
	6	ϵ Hydræ.	36.8		49.8		2.7		15.6		28.5		41.3		8. 38. 54.2			8. 38. 15.56		E
	7	ι Ursæ Majoris..	16.3		35.8		55.1		14.8		34.2		53.7		8. 49. 13.1			8. 48. 14.71		E
	8	Vesta.	41.8		55.9		10.1		24.0		38.0		52.1		9. 12. 6.3			9. 11. 24.03		E
	9	α Hydræ.	1.5		14.4		27.1		40.2		53.2		6.1		9. 20. 19.1			9. 19. 40.22		E
	10	θ Ursæ Majoris..	5.1		26.7		47.6		8.8		29.9		50.9		9. 23. 11.7			9. 22. 8.67		E
	11	ϵ Leonis.	1.9		15.8		30.0		44.1		58.1		12.1		9. 37. 26.4			9. 36. 44.06		E
	12	Regulus.	9.1		22.1		35.3		48.6		2.0		14.8		10. 0. 28.1			9. 59. 48.57		E
Apr. 7	13	δ Leonis.	51.0		4.9		18.7		32.7		46.4		0.2		11. 6. 14.0			11. 5. 32.56		E
	14	δ Crateris.	37.1		50.3		3.6		16.9		30.1		43.4		11. 11. 56.9			11. 11. 16.90		E
Apr. 8	15*	δ Ursæ Min. S.P.	...		15. 27.0		...		22. 33.0		...		29. 45.0		6. 33. 22.0	—	2. 42.27	6. 22. 34.48		H
	16	Sirius.	19.5		32.6		46.0		59.5		13.0		26.5		6. 38. 39.6			6. 37. 59.53		H
	17	γ 1 L.	47.6		1.5		15.5		29.5		43.5		56.8		8. 0. 10.8			7. 59. 29.32		H
	18	15 Argûs.	...		...		...		37.5		51.7		5.7		8. 1. 19.8	—	21.10	8. 0. 37.58		H
	19	θ Cancrî.	44.1		57.7		11.5		24.8		38.6		51.8		8. 23. 5.7			8. 22. 24.89		H
	20	δ Cancri.	51.5		4.8		18.6		32.1		45.7		59.3		8. 36. 12.7			8. 35. 32.10		H
	21*	ϵ Hydræ.	35.0		48.2		0.8		14.0		27.0		39.6		8. 38. 52.7			8. 38. 13.90		H
	22	ι Ursæ Majoris..	15.1		34.6		53.8		13.7		33.0		52.5		8. 49. 11.7			8. 48. 13.49		H
	23	Regulus.	7.7		20.8		34.1		47.5		0.5		13.6		10. 0. 27.0			9. 59. 47.32		H
Apr. 9	24*	α Andromedæ. ...	...		...		...		...		15.5		29.8		0. 0. 44.6	—	29.19	0. 0. 0.78		H
Apr. 10	25	$\odot$ 1 L.	44.8		57.7		10.8		23.8		36.7		49.8		1. 13. 2.8			1. 12. 23.77		H
	26*	$\odot$ 2 L.	54.0		7.5		20.5		33.5		46.5		59.0		1. 15. 12.0			1. 14. 33.28		H
	27	α Hydræ.	59.0		11.8		25.0		38.2		51.0		4.0		9. 20. 17.0			9. 19. 38.00		H
	28	ξ Leonis.	35.5		48.5		1.7		14.6		28.0		40.9		9. 23. 54.0			9. 23. 14.74		H
	29	ν Leonis.	52.6		5.7		18.7		31.8		45.1		57.8		9. 33. 11.4			9. 32. 31.87		H
	30	ϵ Leonis.	59.6		13.7		27.7		42.0		56.5		10.5		9. 37. 24.6			9. 36. 42.08		H
	31	γ 1 L.	32.7		45.7		59.6		12.7		26.0		39.5		9. 52. 52.7			9. 52. 12.70		H
	32	Regulus.	6.7		19.8		33.3		46.7		59.6		12.7		10. 0. 25.8			9. 59. 46.37		H
	33	36 Ursæ Majoris,	...		...		...		19.9		43.5		6.7		10. 21. 30.1	—	35.25	10. 20. 19.80		H
	34	ρ Leonis.	39.5		52.5		5.6		18.6		31.6		44.7		10. 24. 57.7			10. 24. 18.60		H
	35	38 Leonis Minoris	5.0		21.8		38.0		54.8		11.6		27.7		10. 30. 44.0			10. 29. 54.70		H
	36	41 Ursæ Majoris,	...		27.8		52.5		17.1		41.6		5.7		10. 37.	—	0.01	10. 36. 16.93		H
	37	α Cassiopeiæ.	12.2		35.0		57.8		20.5		43.2		6.0		0. 32. 29.0			0. 31. 20.52		E
	38	Polaris.	37. 45.0		45. 51.0		53. 55.0		2. 21.0		...		...		1.	+12. 5.73		1. 1. 58.73		E
Apr. 11	39*	$\odot$ 1 L.	24.1		37.1		50.0		3.0		...		...		1. 16.	+	19.54	1. 16. 3.09		E
	40	α Hydræ.	58.8		11.7		24.5		37.3		50.2		3.1		9. 20. 16.1			9. 19. 37.39		E
	41	θ Ursæ Majoris..	...		23.4		44.4		5.7		26.9		47.8		9. 22.	—	0.01	9. 22. 5.65		E
	42	ϵ Leonis.	59.0		13.0		27.1		41.1		55.2		9.3		9. 37. 23.4			9. 36. 41.15		E
	43	Regulus.	6.3		19.4		32.4		45.7		59.0		12.2		10. 0. 25.3			9. 59. 45.76		E
	44	36 Ursæ Majoris,	8.8		32.0		55.5		19.0		42.8		6.0		10. 21. 29.5			10. 20. 19.09		E
	45	ρ Leonis.	38.8		51.8		4.9		17.9		31.0		44.0		10. 24. 57.1			10. 24. 17.93		E
	46	38 Leonis Minoris	...		21.0		37.1		53.8		10.6		26.4		10. 30.	—	0.01	10. 29. 53.77		E
	47	41 Ursæ Majoris,	3.0		27.3		51.8		16.3		41.0		4.8		10. 37. 29.1			10. 36. 16.19		E
ILLUMINATED END OF AXIS WEST. Order of Wires for Stars above the Pole, G, F, E, D, C, B, A.																				
3. The intervals rather irregular. 15, 39. Very cloudy. 21, 26. The intervals irregular.										24. Very much clouded and faint. April 10. The night very unfavourable: the air thick and hazy, with frost.										

CALCULATION OF APPARENT RIGHT ASCENSIONS.

[27]

No. for Reference.	Error of Collimation.	Level Error.	Seconds of Transit cor. for two Errors.	Azimuthal Error.	Seconds of Transit Corrected.	Tabular R.A. of Known Stars.	Clock apparently Slow.	Clock Slow at 0 ^h Sidereal.	Adopted Losing Rate.	Correction for Duration of Passage of Semidiameter.	Apparent R.A. of Center from the Observation.	NAME OF OBJECT.	Correction to Mean R.A. 1843, Jan. 1.
	"	"	s	"	s	s	s	s	s	m s	h m s		s
1	-0.23	+3.05		+6.29	48.27			0.44	13.41	- 0.38	17. 4. 1.61	Mars.	
2					17.86	31.60	13.74				17. 7. 31.58	α Herculis.	- 2.23
3					27.28	40.98	13.70				17. 27. 41.01	α Ophiuchi.	- 2.15
4					14.77				13.85		0. 55. 28.64	$\odot$	
5											8. 38. 30.00	ϵ Hydræ.	- 2.37
6						29.83	13.84				8. 48. 29.04	ι Ursæ Majoris.	- 3.33
7											9. 11. 38.44	Vesta.	
8					24.42	54.66	14.00				9. 19. 54.68	α Hydræ.	- 2.41
9					40.66						9. 22. 22.98	θ Ursæ Majoris.	- 3.66
10					8.96	58.58	14.12				9. 36. 58.48	ϵ Leonis.	- 2.88
11					44.46	3.12	14.13				10. 0. 3.02	Regulus.	- 2.78
12					48.99								
13	+0.08			+6.74	33.00	47.99	14.99	...	...		....	δ Leonis.	
14					17.42	32.40	14.98				....	δ Crateris.	
15			31.85		36.91			0.67	15.01		....	δ Ursæ Min. S.P.	
16			59.62		0.06	15.16	15.10				6. 38. 15.26	Sirius.	- 1.33
17					29.78					+1. 9.47	8. 0. 54.48	γ	
18					38.11	53.24	15.13				8. 0. 53.34	15 Argûs.	- 1.74
19					25.34						8. 22. 40.58	θ Cancrî.	- 2.41
20					32.55						8. 35. 47.80	δ Cancrî.	- 2.47
21					14.38	29.79	15.41				8. 38. 29.63	ϵ Hydræ.	- 2.33
22					13.83						8. 48. 29.09	ι Ursæ Majoris.	- 3.26
23					47.78	3.09	15.31				10. 0. 3.07	Regulus.	- 2.75
24		+1.31		-0.95	0.97	17.36	16.39	0.50	16.35		0. 0. 17.32	α Andromedæ.	- 0.45
25					28.56						1. 13. 44.93	$\odot$	
26											9. 19. 54.54	α Hydræ.	- 2.34
27						54.59	16.60				9. 23. 31.33	ξ Leonis.	- 2.57
28											9. 32. 48.46	ϵ Leonis.	- 2.60
29					31.91	58.51	16.36				9. 36. 58.70	ϵ Leonis.	- 2.81
30					42.15						9. 53. 37.93	γ	
31					12.74					+1. 8.63	10. 0. 2.97	Regulus.	- 2.73
32					46.41	3.07	16.66				10. 20. 36.55	36 Ursæ Majoris.	- 4.05
33					19.98						10. 24. 35.21	ρ Leonis.	- 2.79
34					18.64						10. 30. 11.37	38 Leonis Minoris.	- 3.30
35					54.80						10. 36. 33.68	41 Ursæ Majoris.	- 4.19
36					17.11			0.15	17.16		0. 31. 37.85	α Cassiopeïæ.	+ 0.31
37					20.69						1. 2. 20.16	Polaris.	+40.69
38			61.56		2.99	19.65	16.66						
39					3.12					+1. 4.71	1. 17. 25.00	$\odot$	
40					37.38	54.58	17.20				9. 19. 54.60	α Hydræ.	- 2.33
41					5.80						9. 22. 23.02	θ Ursæ Majoris.	- 3.52
42					41.22	58.50	17.28				9. 36. 58.44	ϵ Leonis.	- 2.80
43					45.80	3.06	17.26				10. 0. 3.02	Regulus.	- 2.72
44					19.27						10. 20. 36.50	36 Ursæ Majoris.	- 4.01
45					17.97						10. 24. 35.20	ρ Leonis.	- 2.79
46					53.87						10. 30. 11.10	38 Leonis Minoris.	- 3.29
47					16.37						10. 36. 33.60	41 Ursæ Majoris.	- 4.17

April 7, 21^h. The Transit instrument was levelled.April 8. The azimuthal error by tabular places of δ Ursæ Minoris S.P. and Sirius, allowing 0^s.01 for clock-rate.April 10 and 11. The azimuthal error by Polaris and Polaris S.P., allowing 0^s.13 for clock-rate and change of R.A.

[28]

TRANSITS OBSERVED AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1843.

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	I.	II.	III.	IV.	V.	VI.	VII. WIRE.	Correction to Mean of Wires Observed.	Concluded Transit over Mean of the Seven Wires.	Observer.
			m s	m s	m s	m s	m s	m s	h m s	m s	h m s	
Apr. 11	1	♂ 1 L.	31.9	44.8	58.0	11.5	24.8	38.0	10. 48. 51.3		10. 48. 11.47	E
	2	♂ Leonis.	49.2	3.1	17.0	30.8	44.7	58.4	11. 6. 12.2		11. 5. 30.77	E
	3	Groombridge 1919	53.1	11.6	29.7	47.8	...	...	12. 36.	+ 27.26	12. 36. 47.81	E
	4	Groombridge 1931	39.1	55.8	12.1	28.7	44.8	1.2	12. 43. 17.7		12. 42. 28.49	E
	5	12 Can. Venat. (2nd star)	36.8	53.3	10.0	26.4	43.0	59.7	12. 49. 16.2		12. 48. 26.49	E
	6	Polaris S.P. ...	37. 55.0	45. 59.0	54. 2.0	2. 8.0	...	...	13.	+12. 6.13	13. 2. 7.13	E
	7	Groombridge 1961	20.8	37.3	53.8	...	...	...	13. 1.	+ 32.78	13. 2. 10.08	E
	8	α Herculis.	35.0	48.6	1.5	14.7	28.2	41.6	17. 7. 54.6		17. 7. 14.89	H
Apr. 12	9	Regulus.	6.5	19.6	32.7	46.0	59.0	12.0	10. 0. 25.5		9. 59. 45.90	H
	10	36 Ursæ Majoris,	8.7	32.0	55.7	19.5	42.7	5.7	10. 21. 29.6		10. 20. 19.13	H
	11	38 Leonis Minoris	4.7	20.8	37.7	53.8	10.7	26.7	10. 30. 43.5		10. 29. 53.99	H
	12	41 Ursæ Majoris,	2.9	27.2	51.8	16.5	40.9	4.8	10. 37. 29.6		10. 36. 16.24	H
	13	α Ursæ Majoris..	22.6	50.7	18.5	46.6	14.7	42.5	10. 55. 10.6		10. 53. 46.60	H
	14	♂ Leonis.	49.4	3.4	17.0	30.8	44.7	58.5	11. 6. 12.4		11. 5. 30.88	H
	15	♂ Crateris.	...	48.5	...	...	28.7	42.1	11. 11. 55.6	- 13.24	11. 11. 15.49	H
	16	Piazzi XI. 74. ...	...	...	22.7	50.8	19.0	...	11. 20.	- 0.07	11. 19. 50.76	H
	17	ν Leonis.	...	14.7	27.6	40.6	53.6	6.0	11. 29.	- 0.01	11. 28. 40.49	H
	18	β Leonis.	8.7	21.8	35.3	48.7	2.0	15.5	11. 41. 28.7		11. 40. 48.67	H
	19	♂ 1 L.	18.5	31.5	44.7	58.0	11.5	24.6	11. 45. 37.7		11. 44. 58.07	H
	20*	Polaris S.P. ...	...	...	...	2. 2.0	10. 5.0	18. 8.0	13.	- 8. 3.18	13. 2. 1.82	H
Apr. 13	21	Regulus.	5.9	19.0	32.0	45.1	58.4	11.6	10. 0. 24.8		9. 59. 45.26	E
	22	α Ursæ Majoris..	22.3	50.2	18.1	46.1	14.2	41.9	10. 55. 9.9		10. 53. 46.10	E
	23	♂ Leonis.	48.0	2.8	16.7	30.4	44.2	58.0	11. 6. 11.7		11. 5. 30.38	E
	24	♂ Crateris.	35.0	48.3	1.6	14.8	28.1	41.2	11. 11. 54.4		11. 11. 14.77	E
	25	Piazzi XI. 74. ...	26.5	54.1	22.1	50.2	18.1	46.2	11. 21. 14.2		11. 19. 50.20	E
	26	β Leonis.	8.0	21.5	34.8	48.0	1.2	14.6	11. 41. 28.0		11. 40. 48.02	E
	27	Groombridge 1853	1.1	30.1	59.1	28.6	57.5	26.8	11. 58. 55.8		11. 57. 28.43	E
	28	γ Virginis.	59.3	12.1	24.8	37.7	50.8	3.6	12. 12. 16.3		12. 11. 37.80	E
	29	70 Ursæ Majoris,	...	...	...	59.6	24.1	48.8	12. 14. 13.4	- 37.19	12. 12. 59.29	E
	30	73 Ursæ Majoris,	...	5.1	28.5	52.0	15.1	38.4	12. 20.	- 0.01	12. 19. 51.81	E
	31	γ Virginis.	47.1	0.3	13.4	26.5	...	...	12. 25.	+ 19.51	12. 25. 26.34	E
	32	β Corvi.	...	...	...	54.6	8.8	22.2	12. 26. 36.3	- 20.90	12. 25. 54.58	E
	33	9 Canum Venat.	6.1	23.3	40.7	58.0	15.1	32.2	12. 31. 49.7		12. 30. 57.87	E
	34	Groombridge 1919	52.8	11.2	29.2	47.4	...	...	12. 36.	+ 27.26	12. 36. 47.41	E
	35	Groombridge 1931	38.8	55.1	11.8	...	...	...	12. 42.	+ 32.82	12. 42. 28.05	E
	36	♂ 1 L.	44.8	58.1	11.7	25.0	38.5	52.0	12. 44. 5.6		12. 43. 25.10	E
	37	12 Can. Venat. (2nd star)	...	52.8	9.5	26.2	43.1	59.3	12. 48.	- 0.01	12. 48. 36.17	E
	38	Polaris S.P. ...	37. 56.0	45. 59.0	54. 2.0	2. 5.0	...	...	13.	+12. 6.05	13. 2. 6.55	E
Apr. 17	39*	⊙ 1 L.	26.7	40.5	53.5	6.7	19.8	32.8	1. 38. 45.8		1. 38. 6.54	H
	40*	⊙ 2 L.	37.6	50.7	3.7	17.0	30.1	43.0	1. 40. 56.4		1. 40. 16.93	H
	41	β Leonis.	6.1	19.7	33.0	46.2	59.9	13.2	11. 41. 26.4		11. 40. 46.36	M
	42	γ Ursæ Majoris..	10.8	33.0	55.2	17.4	39.7	1.5	11. 46. 23.9		11. 45. 17.36	M
	43	Groombridge 1853	59.3	28.3	57.7	27.0	56.0	25.0	11. 58. 54.1		11. 57. 26.77	M
	44	70 Ursæ Majoris,	43.2	8.0	32.8	58.0	22.7	47.1	12. 14. 12.0		12. 12. 57.69	M
	45	73 Ursæ Majoris,	...	...	26.9	50.3	13.8	37.0	12. 21. 0.2	- 23.37	12. 19. 50.27	M
	46	β Corvi.	10.9	24.9	38.8	52.8	6.7	20.5	12. 26. 34.4		12. 25. 52.71	M
	47	9 Canum Venat.	4.3	21.7	39.0	56.2	13.7	30.5	12. 31. 47.8		12. 30. 56.17	M
	48	Polaris S.P. ...	37. 45.0	45. 51.0	53. 50.0	1. 54.0	...	...	13.	+12. 5.89	13. 1. 55.89	M
	49*	♂ 2 L.	58.0	12.8	27.4	42.3	56.8	11.3	17. 0. 26.1		16. 59. 42.10	E
	50*	α Herculis.	32.4	45.8	58.9	12.1	25.2	38.6	17. 7. 51.8		17. 7. 12.11	E
ILLUMINATED END OF AXIS WEST. Order of Wires for Stars above the Pole, G, F, E, D, C, B, A.												
20. Hazy: much cloud about. 39, 40. Cloudy and hazy: the limbs very ill-defined. 49, 50. Cloudy.												

CALCULATION OF APPARENT RIGHT ASCENSIONS.

[29]

No. for Reference.	Error of Collimation.	Level Error.	Seconds of Transit cor. for two Errors.	Azimuthal Error.	Seconds of Transit Corrected.	Tabular R.A. of Known Stars.	Clock apparently Slow.	Adopted Losing Rate.	Clock Slow at 0 ^h Sidereal.	Correction for Duration of Passage of Semidianeter.	Apparent R.A. of Center from the Observation.	NAME OF OBJECT.	Correction to Mean R.A. 1843, Jan. 1.
	"	"	"	"	"	"	"	"	"	m s	h m s		"
1	+0.08	+1.31		-0.95	11.49			0.15	17.16	+1. 8.76	10. 49. 37.48	δ	
2					30.83	47.97	17.14				11. 5. 48.06	δ Leonis.	- 3.04
3					47.93						12. 37. 5.17	Groombridge 1919.	- 3.54
4					28.59						12. 42. 45.83	Groombridge 1931.	- 3.37
5					26.59						12. 48. 43.83	12 Can. Venat. (2nd star)	- 3.37
6			4.41		2.88	19.67	16.79				1. 2. 20.12	Polaris S.P.	+40.67
7					10.18						13. 2. 27.42	Groombridge 1961.	- 3.34
8				+2.75	15.08	31.79	16.71	0.17	16.61		17. 7. 31.81	α Herculis.	- 2.42
9					46.10	3.05	16.95		16.78		10. 0. 2.95	Regulus.	- 2.71
10					19.27						10. 20. 36.12	36 Ursæ Majoris.	- 4.02
11					54.16						10. 30. 11.01	38 Leonis Minoris.	- 3.27
12					16.37						10. 36. 33.23	41 Ursæ Majoris.	- 4.14
13					46.72						10. 54. 3.58	α Ursæ Majoris.	- 4.54
14					31.07	47.96	16.89				11. 5. 47.93	δ Leonis.	- 3.03
15					15.71	32.37	16.66				11. 11. 32.57	δ Crateris.	- 2.82
16					50.88						11. 20. 7.74	Piazzi XI. 74.	- 4.57
17					40.69						11. 28. 57.55	υ Leonis.	- 2.91
18			48.75		48.86	5.82	16.96				11. 41. 5.73	β Leonis.	- 3.03
19					58.28					+1. 9.47	11. 46. 24.62	δ	
20			59.10		3.54	19.75	16.21				....	Polaris S.P.	
21				-0.56	45.32	3.04	17.72	0.39	17.44		10. 0. 2.92	Regulus.	- 2.70
22					46.32						10. 54. 3.94	α Ursæ Majoris.	- 4.52
23					30.45	47.95	17.50				11. 5. 48.07	δ Leonis.	- 3.02
24					14.79	32.37	17.58				11. 11. 32.41	δ Crateris.	- 2.82
25					50.41						11. 20. 8.03	Piazzi XI. 74.	- 4.55
26			48.10		48.08	5.81	17.73				11. 41. 5.71	β Leonis.	- 3.02
27					28.66						11. 57. 46.30	Groombridge 1853.	- 4.65
28					37.83						12. 11. 55.47	γ Virginis.	- 3.02
29					59.48						12. 13. 17.12	70 Ursæ Majoris.	- 4.19
30					51.99						12. 20. 9.63	73 Ursæ Majoris.	- 4.05
31					26.36						12. 25. 44.00	q Virginis.	- 3.06
32					54.58	12.11	17.53				12. 26. 12.22	β Corvi.	- 3.14
33					57.99						12. 31. 15.63	9 Canum Venat.	- 3.46
34					47.53						12. 37. 5.17	Groombridge 1919.	- 3.53
35					28.16						12. 42. 45.81	Groombridge 1931.	- 3.37
36					25.12					+1. 10.71	12. 44. 53.48	δ	
37					26.28						12. 48. 43.93	12 Can. Venat. (2nd star)	- 3.37
38			3.83		2.93	19.92	16.99				....	Polaris S.P.	
39													
40		+3.17		+5.99	12.18			0.50	18.71		1. 39. 30.92	⊙	
41					46.80	5.79	18.99				....	β Leonis.	
42					17.69						11. 45. 36.64	γ Ursæ Majoris.	- 3.91
43					27.05						11. 57. 46.01	Groombridge 1853.	- 4.58
44					58.01						12. 13. 16.97	70 Ursæ Majoris.	- 4.15
45					50.60						12. 20. 9.56	73 Ursæ Majoris.	- 4.01
46					53.20	12.12	18.92				....	β Corvi.	
47					56.55						12. 31. 15.52	9 Canum Venat.	- 3.45
48			49.60		59.27	21.95	22.68				1. 2. 18.25	Polaris S.P.	+39.22
49					42.60			0.65	18.96	-1. 13.57	16. 58. 48.45	δ	
50					12.44	31.93	19.49				17. 7. 31.86	α Herculis.	- 2.56

April 12 and 13. The azimuthal errors by tabular places of β Leonis and Polaris S.P., allowing 0^s.01 for clock-rate.

April 14, 21^h. The Transit instrument was levelled.

April 17 and 18. The azimuthal error by Polaris S.P., Polaris, and Polaris S.P.

[30]

TRANSITS OBSERVED AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1843.

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	I.	II.	III.	IV.	V.	VI.	VII. WIRE.	Correction to Mean of Wires Observed.	Concluded Transit over Mean of the Seven Wires.	Observer.
			m s	m s	m s	m s	m s	m s	h m s	m s	h m s	
Apr. 17	1	Mars 2 L.	58.8	12.8	26.7	40.9	54.8	8.8	17. 17. 22.9		17. 16. 40.81	E
	2	α Ophiuchi.....	42.0	55.1	8.3	21.4	34.6	47.7	17. 28. 1.1		17. 27. 21.45	E
	3	Venus 2 L.	15.1	27.8	41.0	53.7	7.0	19.8	23. 11. 32.6		23. 10. 53.86	E
	4*	Polaris	37. 52.0	45. 58.0	54. 4.0	2. 7.0	10. 9.0	...	1.	+ 8. 3.36	1. 2. 5.36	E
Apr. 18	5*	$\odot$ 1 L.	8.9	21.9	34.8	48.7	1.6	14.4	1. 42. 27.4		1. 41. 48.25	E
	6*	$\odot$ 2 L.	19.1	32.2	45.2	58.3	11.4	24.4	1. 44. 37.4		1. 43. 58.29	E
	7	δ Leonis	46.1	59.9	13.8	27.7	41.5	55.1	11. 6. 9.0		11. 5. 27.59	E
	8	δ Crateris	32.2	45.5	58.7	12.0	25.2	38.4	11. 11. 51.7		11. 11. 11.95	E
	9	Piazzi XI. 74 ..	...	...	...	47.2	15.8	43.1	11. 21. 11.3	- 41.99	11. 19. 47.36	E
	10	γ Cephei S.P. ...	29. 45.0	30. 41.4	31. 37.0	32. 32.8	33. 29.5	34. 25.5	11. 35. 21.8		11. 32. 33.29	E
	11	β Leonis	5.5	18.8	32.1	45.4	58.8	11.9	11. 41. 25.3		11. 40. 45.40	E
	12	Groombridge 1830	48.0	4.5	21.1	37.6	54.1	10.6	11. 44. 27.1		11. 43. 37.57	E
	13	γ Ursæ Majoris..	...	...	...	16.6	38.8	0.6	11. 46. 22.4	- 33.29	11. 45. 16.31	E
	14	Groombridge 1853	58.2	27.1	56.4	26.0	54.8	24.0	11. 58. 53.0		11. 57. 25.64	E
	15	70 Ursæ Majoris,	...	...	...	56.0	21.2	46.0	12. 14. 11.0	- 37.19	12. 12. 56.36	E
	16	73 Ursæ Majoris,	39.1	2.8	26.1	49.3	12.8	35.7	12. 20. 59.1		12. 19. 49.27	E
	17	β Corvi	9.8	23.8	37.7	51.8	5.9	19.7	12. 26. 33.6		12. 25. 51.75	E
	18	9 Canum Venat.	3.4	20.7	38.0	55.1	12.4	29.5	12. 31. 46.8		12. 30. 55.13	E
Apr. 19	19	Groombridge 1919	50.1	8.1	26.2	44.5	...	...	12. 36.	+ 27.26	12. 36. 44.49	E
	20	Groombridge 1931	36.1	52.5	9.0	25.3	41.8	58.1	12. 43. 14.6		12. 42. 25.34	E
	21	12 Can. Venat. (2nd star)	33.7	50.2	6.8	23.4	40.0	56.4	12. 49. 13.0		12. 48. 23.36	E
	22	Polaris S.P. ...	37. 50.0	45. 56.0	54. 0.0	2. 3.0	...	...	13.	+ 12. 5.85	13. 2. 3.10	E
	23	$\odot$ 1 L.	51.0	4.6	17.5	30.6	43.7	56.6	1. 46. 10.0		1. 45. 30.57	H
	24	$\odot$ 2 L.	1.5	14.6	27.6	40.7	54.3	7.0	1. 48. 20.3		1. 47. 40.85	H
	25*	δ Leonis.....	45.8	59.9	13.8	27.7	41.5	55.0	11. 6. 8.7		11. 5. 27.49	H
	26*	β Corvi	9.3	23.2	37.1	51.0	5.0	18.9	12. 26. 32.8		12. 25. 51.04	H
	27*	Polaris S.P. ...	37. 45.0	45. 50.0	53. 49.0	...	...	...	12.	+ 16. 7.15	13. 1. 55.15	H
	28	α Andromedæ ..	12.8	27.3	41.8	56.4	11.0	25.6	0. 0. 40.3		23. 59. 56.46	E
Apr. 20	29	Polaris	...	...	...	2. 6.0	10. 8.0	18. 9.0	1. 26. 13.0	- 12. 5.79	1. 2. 3.21	E
	30	$\odot$ 1 L.	23.4	46.7	59.9	13.0	26.1	39.1	1. 49. 52.2		1. 49. 12.91	E
	31	$\odot$ 2 L.	43.9	57.0	10.2	23.3	36.5	49.6	1. 52. 2.8		1. 51. 23.33	E
	32	α Persei	49.0	9.3	29.0	48.8	8.2	27.8	3. 13. 47.4		3. 12. 48.50	E
	33*	α Andromedæ...	...	...	...	56.5	10.7	25.5	0. 0. 39.8	- 21.90	23. 59. 56.23	H
Apr. 21	34	Polaris	...	45. 57.0	54. 1.0	2. 6.5	10. 11.0	18. 9.0	1.	- 0.27	1. 2. 4.63	H
	35*	$\odot$ 1 L.	16.5	29.6	42.7	55.7	9.6	22.6	1. 53. 35.7		1. 52. 56.06	H
	36*	$\odot$ 2 L.	26.7	40.0	53.5	6.7	19.8	32.7	1. 55. 46.0		1. 55. 6.49	H
	37	α Persei	48.7	8.7	28.5	48.2	7.8	27.4	3. 13. 47.1		3. 12. 48.06	H
	38	η Tauri	7.0	21.0	35.1	49.2	3.3	17.0	3. 38. 31.2		3. 37. 49.12	H
Apr. 22	39	Regulus.....	1.7	14.8	28.0	41.5	54.6	7.5	10. 0. 20.7		9. 59. 41.25	H
	40	α Ursæ Majoris..	17.8	45.6	13.8	41.7	9.7	37.2	10. 55. 5.3		10. 53. 41.58	E
	41	δ Leonis	44.2	58.0	11.8	25.7	39.6	53.4	11. 6. 7.1		11. 5. 25.69	E
	42	δ Crateris	30.4	43.7	56.8	10.1	23.3	36.5	11. 11. 49.8		11. 11. 10.08	E
	43	β Leonis	3.6	16.8	30.1	43.5	56.8	10.1	11. 41. 23.4		11. 40. 43.47	E
	44	Groombridge 1830	46.0	2.8	19.0	35.5	52.2	8.4	11. 44. 25.0		11. 43. 35.56	E
	45	γ Ursæ Majoris..	...	...	...	14.8	36.7	58.4	11. 46. 21.0	- 33.29	11. 45. 14.44	E
	46	β Corvi	8.2	22.0	35.9	49.8	3.7	17.7	12. 26. 31.7		12. 25. 49.86	E
	47	12 Can. Venat. (2nd star)	31.8	48.1	4.9	21.4	38.0	54.3	12. 49. 11.0		12. 48. 21.35	E
	48*	Polaris S. P. ...	37. 50.0	45. 56.0	54. 1.0	...	...	...	12.	+ 16. 6.97	13. 2. 2.64	E
ILLUMINATED END OF AXIS WEST. Order of Wires for Stars above the Pole, G, F, E, D, C, B, A.												
4. Exceedingly faint.						5, 6. Very tremulous.			27, 35, 36, 48. Cloudy.			
25, 26. Very cloudy: the observations almost useless.						33. Very much clouded and faint.						

CALCULATION OF APPARENT RIGHT ASCENSIONS.

[31]

No. for Reference.	Error of Collimation.	Level Error.	Seconds of Transit cor. for two Errors.	Azimuthal Error.	Seconds of Transit Corrected.	Tabular R.A. of Known Stars.	Clock apparently Slow.	Adopted Losing Rate.	Clock Slow at 0 ^h Sidereal.	Correction for Duration of Passage of Semidiameter.	Apparent R.A. of Center from the Observation.	NAME OF OBJECT.	Correction to Mean R.A. 1843, Jan. 1.
	"	"	s	"	s	s	s	s	s	m s	h m s		s
1	+0.08	+3.17		+5.99	41.30			0.65	18.96	— 0.45	17. 17. 0.27	Mars.	
2					21.89	41.33	19.44				17. 27. 41.32	α Ophiuchi.	— 2.50
3					54.32					— 0.53	23. 11. 13.38	Venus.	
4			11.91		2.87	21.28	18.41		19.61		1. 2. 22.51	Polaris.	+39.06
5					53.70						1. 43. 13.35	$\odot$	
6					28.02	47.91	19.89				11. 5. 47.93	δ Leonis.	— 2.98
7					12.42	32.33	19.91				11. 11. 32.33	δ Crateris.	— 2.78
8					47.66						11. 20. 7.57	Piazzi XI. 74.	— 4.45
9					34.07						23. 32. 53.99	γ Cephei S.P.	+ 3.32
10					45.84	5.78	19.94				11. 41. 5.77	β Leonis.	— 2.99
11					37.95						11. 43. 57.88	Groombridge 1830.	— 3.36
12					16.65						11. 45. 36.58	γ Ursæ Majoris.	— 3.90
13					25.92						11. 57. 45.85	Groombridge 1853.	— 4.57
14					56.68						12. 13. 16.62	70 Ursæ Majoris.	— 4.12
15					49.60						12. 20. 9.54	73 Ursæ Majoris.	— 3.99
16					52.24	12.12	19.88				12. 26. 12.19	β Corvi.	— 3.15
17					55.51						12. 31. 15.46	9 Canum Venat.	— 3.44
18					44.87						12. 37. 4.82	Groombridge 1919.	— 3.53
19					25.73						12. 42. 45.67	Groombridge 1931.	— 3.36
20					23.75						12. 48. 43.70	12 Can. Venat. (2nd star)	— 3.36
21			56.81		6.48	21.42	14.94				1. 2. 26.44	Polaris S.P.	+38.92
22													
23				+6.71	36.14			0.65	19.97		1. 46. 56.16	$\odot$	
24					27.92	47.90	19.98				....	δ Leonis.	
25					51.57	12.12	20.55				....	β Corvi.	
26			48.86		59.70	21.69	21.99				1. 2. 20.02	Polaris S.P.	+38.65
27					56.89	17.53	20.64	0.65	19.99		....	α Andromedæ.	
28			9.76		59.63	21.80	22.17		20.64		1. 2. 20.30	Polaris.	+38.54
29													
30					18.55						1. 50. 39.24	$\odot$	
31					48.85						3. 13. 9.57	α Persei.	— 0.67
32			56.46	+6.18	56.65	17.55	20.90	0.53	20.42		....	α Andromedæ.	
33			11.18		1.85	22.02	20.17		20.95		....	Polaris.	
34													
35					1.73						1. 54. 22.73	$\odot$	
36					48.41						3. 13. 9.44	α Persei.	— 0.67
37					49.54	10.56	21.02				....	η Tauri.	
38					41.70	2.94	21.24				....	Regulus.	
39													
40			+2.93		41.96			0.47	21.72		10. 54. 3.89	α Ursæ Majoris.	— 4.28
41					26.00	47.87	21.87				11. 5. 47.94	δ Leonis.	— 2.94
42					10.36	32.30	21.94				11. 11. 32.30	δ Crateris.	— 2.75
43					43.78	5.76	21.98				11. 41. 5.73	β Leonis.	— 2.97
44					35.89						11. 43. 57.84	Groombridge 1830.	— 3.31
45					14.79						11. 45. 36.74	γ Ursæ Majoris.	— 3.84
46			49.93		50.13	12.12	21.99				12. 26. 12.09	β Corvi.	— 3.15
47					21.68						12. 48. 43.65	12 Can. Venat. (2nd star)	— 3.36
48			56.35		1.08	22.35	21.27				....	Polaris S.P.	

April 19. The azimuthal error by Polaris S.P. and Polaris, allowing 0^s.06 for clock-rate and change of R.A.

April 20, 22^h. The azimuthal error by tabular places of α Andromedæ and Polaris, allowing 0^s.02 for clock-rate.

April 21, 21^h. The Transit instrument was levelled.

April 22. The azimuthal error by tabular places of β Corvi and Polaris S.P., allowing 0^s.02 for clock-rate.

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	I.	II.	III.	IV.	V.	VI.	VII. WIRE.	Correction to Mean of Wires Observed.	Concluded Transit over Mean of the Seven Wires.	Observer.
			m s	m s	m s	m s	m s	m s	h m s	m s	h m s	
Apr. 23	1	♃ 2 L.	23.1	41.5	54.8	8.0	21.3	34.4	22. 22. 47.5		22. 22. 7.95	E
	2	γ Cephei	...	...	31. 35.5	32. 32.1	33. 28.2	...	23.	— 0.15	23. 32. 31.78	E
	3	Venus 2 L.	19.9	33.0	45.9	58.8	11.9	24.8	23. 37. 37.5		23. 36. 58.83	E
	4	Polaris	37. 51.0	...	53. 59.0	...	10. 8.0	18. 8.0	1.	+ 2. 1.35	1. 2. 2.85	E
Apr. 24	5	⊙ 1 L.	28.1	41.7	54.4	7.7	20.8	34.0	2. 4. 47.3		2. 4. 7.72	E
	6	⊙ 2 L.	...	52.1	5.4	18.7	31.9	44.9	2. 6. 58.2	— 6.61	2. 6. 18.59	E
	7	α Ursæ Majoris..	17.1	45.0	12.3	40.5	8.3	36.2	10. 55. 4.4		10. 53. 40.54	E
	8	δ Leonis.	43.2	56.8	10.9	24.8	38.1	52.1	11. 6. 6.0		11. 5. 24.56	E
	9	δ Crateris	29.2	42.7	55.8	9.0	22.2	35.4	11. 11. 48.8		11. 11. 9.02	E
	10	γ Cephei S.P. ...	...	...	31. 34.5	32. 30.6	33. 27.0	...	11.	+ 0.15	11. 32. 30.85	E
	11	β Leonis	2.3	15.8	29.0	42.2	55.6	9.0	11. 41. 22.2		11. 40. 42.30	E
	12	Groombridge 1830	45.0	1.7	18.1	34.6	51.0	7.4	11. 44. 24.0		11. 43. 34.54	E
	13	γ Ursæ Majoris..	...	...	...	13.2	35.7	57.6	11. 46. 19.8	— 33.29	11. 45. 13.29	E
	14	β Corvi	7.0	21.1	34.8	48.8	2.7	16.4	12. 26. 30.3		12. 25. 48.73	E
	15	α Cassiopeiæ S.P.	6.5	29.3	51.8	14.2	37.7	0.1	12. 32. 23.0		12. 31. 14.66	E
	16	12 Can. Venat. (2nd star)	30.7	47.2	3.7	20.4	37.0	53.5	12. 49. 10.0		12. 48. 20.35	E
	17	Polaris S.P. ...	37. 50.0	45. 56.0	53. 58.0	2. 1.0	...	...	13.	+ 12. 5.62	13. 2. 1.87	E
Apr. 25	18*	Regulus.	59.5	12.8	26.0	39.5	52.6	5.7	10. 0. 48.6		9. 59. 39.25	H
	19*	α Ursæ Majoris..	15.8	44.0	11.7	40.0	8.7	35.7	10. 55. 3.6		10. 53. 39.92	H
	20	δ Leonis.	42.8	56.7	10.6	24.6	38.4	51.8	11. 6. 5.6		11. 5. 24.36	H
	21	δ Crateris	29.0	42.5	55.7	8.8	22.1	35.4	11. 11. 48.7		11. 11. 8.89	H
	22	γ Cephei S.P. ...	...	30. 38.6	31. 34.0	32. 30.2	33. 26.6	34. 23.1	11.	+ 0.03	11. 32. 30.53	H
	23	β Leonis	2.4	15.6	28.7	42.5	55.7	8.8	11. 41. 22.4		11. 40. 42.30	H
	24	Groombridge 1830	...	1.6	17.8	34.5	51.0	7.6	11. 44.	— 0.01	11. 43. 34.49	H
	25*	Polaris S.P. ...	37. 48.0	45. 53.0	53. 53.0	...	...	...	12.	+ 16. 6.85	13. 1. 58.18	H
	26	Mars 2 L.	31.8	45.7	59.7	13.8	27.8	41.8	17. 21. 55.9		17. 21. 13.78	E
	27	α Ophiuchi	38.1	51.3	4.5	17.8	31.0	44.1	17. 27. 57.2		17. 27. 17.72	E
Apr. 27	28*	Procyon	3.4	16.1	29.2	42.0	55.0	7.7	7. 31. 20.8		7. 30. 42.03	H
	29	Pollux.	35.7	50.5	5.0	19.7	34.6	48.8	7. 36. 3.6		7. 35. 19.70	H
	30*	β Leonis	1.5	14.7	28.0	41.6	54.7	8.3	11. 41. 21.5		11. 40. 41.47	H
	31*	Polaris S.P. ...	37. 44.0	45. 53.0	53. 52.0	...	...	...	12.	+ 16. 6.76	13. 1. 56.43	H
Apr. 30	32	Mars 2 L.	49.0	2.8	16.7	31.1	45.0	59.0	17. 23. 13.0		17. 22. 30.94	E
	33	α Ophiuchi	36.2	49.3	2.6	15.8	29.0	42.1	17. 27. 55.1		17. 27. 15.73	E
	34	Venus 2 L.	41.8	54.8	7.9	20.9	33.8	46.8	0. 7. 59.6		0. 7. 20.80	E
	35	α Cassiopeiæ. ...	...	26.8	49.8	12.7	35.5	58.1	0. 31.	— 0.1	0. 31. 12.57	E
	36	Polaris	...	45. 55.0	54. 1.0	2. 4.0	...	...	1.	+ 8. 2.71	1. 2. 2.71	E
May 1	37	⊙ 1 L.	52.6	5.9	19.0	32.6	45.8	59.0	2. 31. 12.4		2. 30. 32.47	E
	38	⊙ 2 L.	4.3	18.0	31.2	44.4	57.8	11.1	2. 33. 24.4		2. 32. 44.46	E
	39	α Ursæ Majoris..	...	41.3	9.1	37.0	5.0	31.3	10. 54.	— 0.01	10. 53. 36.73	E
	40	δ Leonis.	40.1	53.8	7.7	21.6	35.3	49.0	11. 6. 2.8		11. 5. 21.47	E
	41	δ Crateris	...	39.6	52.5	6.2	19.1	32.0	11. 11.	— 0.01	11. 11. 5.87	E
	42	β Leonis	59.1	12.3	25.6	39.0	52.3	5.6	11. 41. 19.0		11. 40. 38.99	E
	43	Groombridge 1830	...	58.6	14.9	31.2	47.8	4.1	11. 44.	— 0.01	11. 43. 31.31	E
	44	γ Ursæ Majoris..	...	...	48.0	10.1	32.0	54.1	11. 46. 16.6	— 22.20	11. 45. 9.96	E
	45	β Corvi	3.8	17.8	31.8	45.7	59.7	13.5	12. 26. 27.4		12. 25. 45.67	E
	46	12 Can. Venat. (2nd star)	27.3	44.1	0.8	17.4	34.0	50.2	12. 49. 6.9		12. 48. 17.25	E
	47	Polaris S.P. ...	37. 47.0	45. 54.0	53. 55.0	2. 0.0	...	...	13.	+ 12. 5.37	13. 1. 59.37	E
	48*	α Andromedæ. ...	7.6	22.6	36.7	51.6	6.0	20.7	0. 0. 35.3		23. 59. 51.50	H
ILLUMINATED END OF AXIS WEST. Order of Wires for Stars above the Pole, G, F, E, D, C, B, A.												
18. Tremulous.						31. Very cloudy: the observation bad.						
25. Tremulous and clouded.						48. Very tremulous, from the effect of the heat of the Sun						
28, 30. Very cloudy.						and the easterly wind.						

CALCULATION OF APPARENT RIGHT ASCENSIONS.

[33]

No. for Reference.	Error of Collimation.	Level Error.	Seconds of Transit cor. for two Errors.	Azimuthal Error.	Seconds of Transit Corrected.	Tabular R.A. of Known Stars.	Clock apparently Slow.	Adopted Losing Rate.	Clock Slow at 0 ^h Sidereal.	Correction for Duration of Passage of Semidiameter.	Apparent R.A. of Center from the Observation.	NAME OF OBJECT.	Correction to Mean R.A. 1843, Jan. 1.
	"	"	s	"	s	s	s	s	s	m s	h m s		s
1	+0.08	+3.17		+4.41	8.32			0.49	22.24	-1. 1.35	22. 21. 29.66	δ	
2					32.08						23. 32. 54.80	γ Cephei.	+ 2.94
3					59.20					- 0.50	23. 37. 21.42	Venus.	
4			9.40		2.74	22.70	19.06		22.73		1. 2. 25.49	Polaris.	+37.64
5													
6					13.53						2. 5. 36.30	⊙	
7					40.88						10. 54. 3.83	α Ursæ Majoris.	- 4.22
8					24.93	47.85	22.92				11. 5. 47.89	δ Leonis.	- 2.92
9					9.39	32.28	22.89				11. 11. 32.35	δ Crateris.	- 2.73
10					31.27						23. 32. 54.23	γ Cephei S.P.	+ 2.90
11					42.67	5.74	23.07				11. 41. 5.64	β Leonis.	- 2.95
12					34.90						11. 43. 57.87	Groombridge 1830.	- 3.29
13					13.64						11. 45. 36.61	γ Ursæ Majoris.	- 3.81
14					49.10	12.11	23.01				12. 26. 12.08	β Corvi.	- 3.14
15					15.04						0. 31. 38.02	α Cassiopeiæ S.P.	- 0.01
16					20.71						12. 48. 43.70	12 Can. Venat. (2nd star)	- 3.34
17			55.58		2.70	22.83	20.13				1. 2. 25.69	Polaris S.P.	+37.51
18				+5.53	39.67	2.89	23.22	0.45	22.85		10. 0. 2.71	Regulus.	- 2.55
19					40.23						10. 54. 3.29	α Ursæ Majoris.	- 4.19
20					24.77	47.84	23.07				11. 5. 47.83	δ Leonis.	- 2.91
21					9.33	32.27	22.94				11. 11. 32.39	δ Crateris.	- 2.72
22					31.20						23. 32. 54.27	γ Cephei S.P.	+ 2.82
23			42.49		42.72	5.74	23.02				11. 41. 5.79	β Leonis.	- 2.95
24					34.87						11. 43. 57.94	Groombridge 1830.	- 3.29
25			51.89		0.82	23.12	22.30				....	Polaris S.P.	
26					14.24			0.45	23.07	- 0.50	17. 21. 37.14	Mars.	
27					18.14	41.54	23.40				....	α Ophiuchi.	
28	+2.54			+5.78	42.44	6.37	23.93	...	...		....	Procyon.	
29					20.06	44.00	23.94				....	Pollux.	
30			41.62		41.86	5.73	23.87				....	β Leonis.	
31			51.35		0.68	23.83	23.15				....	Polaris S.P.	
32				+4.46	31.32			0.56	25.25	- 0.53	17. 22. 56.45	Mars.	
33					16.06	41.65	25.59				17. 27. 41.72	α Ophiuchi.	- 2.82
34					21.15				25.81	- 0.48	0. 7. 46.49	Venus.	
35					12.84						0. 31. 38.67	α Cassiopeiæ.	- 0.18
36			8.00		1.27	25.46	24.19				1. 2. 27.11	Polaris.	+34.88
37													
38					38.80						2. 32. 4.67	⊙	
39					36.97						10. 54. 3.04	α Ursæ Majoris.	- 4.00
40					21.80	47.78	25.98				11. 5. 47.87	δ Leonis.	- 2.85
41					6.23	32.22	25.99				11. 11. 32.30	δ Crateris.	- 2.67
42					39.32	5.70	26.38				11. 41. 5.40	β Leonis.	- 2.91
43					31.61						11. 43. 57.69	Groombridge 1830.	- 3.21
44					10.23						11. 45. 36.31	γ Ursæ Majoris.	- 3.68
45					46.04	12.09	26.05				12. 26. 12.14	β Corvi.	- 3.12
46					17.55						12. 48. 43.66	12 Can. Venat. (2nd star)	- 3.31
47			54.29		1.49	25.72	24.23				1. 2. 27.60	Polaris S.P.	+34.62
48	+1.84				51.77	17.80	26.03	0.52	25.63		0. 0. 17.92	α Andromedæ.	- 0.89

April 23 and 24. The azimuthal error by Polaris and Polaris S. P., allowing 0^s.03 for clock-rate and change of R.A.
 April 25 and 27. The azimuthal errors by tabular places of β Leonis and Polaris S. P., allowing 0^s.02 in each case for clock-rate.

April 27, 21^h. The Transit instrument was reversed, and the error of collimation determined.

April 28, 21^h. The Transit instrument was levelled.

April 30, and May 1 and 2. The azimuthal error by four consecutive passages of Polaris.

[34]

TRANSITS OBSERVED AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1843.

MONTH and DAY.	No. for Reference	NAME OF OBJECT.	I.	II.	III.	IV.	V.	VI.	VII. WIRE.	Correction to Mean of Wires Observed.	Concluded Transit over Mean of the Seven Wires.	Observer.
			m s	m s	m s	m s	m s	m s	h m s	m s	h m s	
May 1	1*	γ Pegasi	4.0	17.4	30.7	44.6	57.2	10.4	0. 5. 23.4		0. 4. 43.87	H
	2*	α Cassiopeiae....	3.1	26.2	49.0	11.7	34.8	57.5	0. 32. 20.4		0. 31. 11.81	H
	3*	Polaris	37. 52.0	45. 57.0	54. 0.5	2. 4.5	...	...	1.	+ 12. 4.93	1. 2. 3.43	H
May 2	4	$\odot$ 1 L.	40.8	54.5	7.7	21.0	34.7	47.7	2. 35. 1.0		2. 34. 21.05	H
	5	$\odot$ 2 L.	53.0	6.5	19.7	33.5	46.7	0.0	2. 37. 13.6		2. 36. 33.28	H
	6	β Ursæ Min. S.P.	...	49. 13.8	50. 2.4	50. 51.5	51. 41.3	52. 29.8	2.	+ 0.03	2. 50. 51.79	H
	7	α Persei	...	3.6	23.1	42.8	2.7	22.5	3. 13.	- 0.01	3. 12. 42.93	H
	8	Aldebaran.	...	2.6	16.0	29.3	42.7	56.0	4. 26.	- 0.01	4. 26. 29.31	H
	9	α Ursæ Majoris..	12.7	40.7	8.6	36.7	4.7	32.4	10. 55. 0.4		10. 53. 36.60	H
	10	δ Leonis.	39.7	53.6	7.4	21.0	34.8	48.7	11. 6. 2.6		11. 5. 21.11	H
	11	δ Crateris	25.6	38.8	52.6	5.6	18.8	31.8	11. 11. 45.5		11. 11. 5.53	H
	12	γ Cephei S.P. ...	...	30. 35.6	31. 31.3	32. 27.7	33. 23.7	34. 19.8	11.	+ 0.03	11. 32. 27.65	H
	13	β Leonis	58.6	12.4	25.7	39.1	52.5	5.6	11. 41. 18.7		11. 40. 38.95	H
	14	γ Ursæ Majoris..	...	...	47.6	9.8	32.0	53.7	11. 46. 16.2	- 22.20	11. 45. 9.66	H
	15	β Corvi	3.6	17.5	31.5	45.6	59.5	13.1	12. 26. 27.0		12. 25. 45.40	H
	16	Polaris S.P. ...	37. 48.5	45. 50.5	53. 49.0	1. 51.0	...	...	13.	+ 12. 5.34	13. 1. 55.09	H
May 3	17	$\odot$ 1 L.	...	...	56.8	9.8	23.2	36.6	2. 38. 50.2	- 13.39	2. 38. 9.93	E
	18	$\odot$ 2 L.	42.7	55.7	9.0	22.4	35.5	48.7	2. 41. 2.6		2. 40. 22.37	E
	19	δ 1 L.	36.1	50.7	5.0	19.4	33.8	48.2	5. 47. 2.5		5. 46. 19.39	E
	20	α Ursæ Majoris..	...	40.1	7.8	36.0	3.8	31.3	10. 54.	- 0.01	10. 53. 35.79	E
	21	δ Leonis	39.0	52.8	6.6	20.4	34.3	48.0	11. 6. 1.8		11. 5. 20.41	E
	22	β Leonis	58.1	11.8	25.0	38.4	51.7	4.9	11. 41. 18.2		11. 40. 38.30	E
	23	β Corvi	2.8	16.8	30.9	44.8	58.9	12.8	12. 26. 26.7		12. 25. 44.81	E
	24	12 Can. Venat. (2nd star)	26.3	43.0	59.8	16.3	32.7	49.4	12. 49. 6.0		12. 48. 16.21	E
	25	Polaris S.P. ...	37. 48.0	45. 54.0	53. 56.0	1. 58.0	...	...	13.	+ 12. 5.30	13. 1. 59.30	E
May 4	26	Procyon	59.8	12.7	25.6	38.6	51.7	4.5	7. 31. 17.4		7. 30. 38.62	H
	27	Pollux.	32.5	46.7	1.7	16.4	30.8	45.4	7. 36. 0.0		7. 35. 16.22	H
	28	β Leonis	...	11.1	24.6	37.8	51.5	4.6	11. 41.	- 0.01	11. 40. 37.91	H
	29	γ Ursæ Majoris..	2.2	24.5	46.5	8.7	31.0	52.7	11. 46. 15.1		11. 45. 8.68	H
	30	Polaris S.P. ...	37. 46.0	45. 50.0	53. 52.0	1. 55.0	9. 58.0	...	13.	+ 8. 3.64	13. 1. 55.84	R
	31*	Mars 2 L.	53.0	7.7	21.8	35.5	50.3	4.2	17. 23. 18.3		17. 22. 35.87	H
May 5	32	Castor	22.2	37.5	52.8	8.0	23.2	38.3	7. 24. 53.4		7. 24. 7.92	E
	33	Procyon	59.3	12.1	24.8	37.9	50.7	3.7	7. 31. 16.6		7. 30. 37.87	E
	34*	Pollux.	31.8	46.2	1.0	...	30.2	...	7. 35. 59.3	+ 5.85	7. 35. 15.55	E
	35*	δ 1 L.	42.3	56.2	10.2	...	38.3	...	7. 40.	+ 17.48	7. 40. 24.23	E
May 6	36*	δ 1 L.	...	32.6	46.2	59.8	13.6	27.1	8. 36.	- 0.01	8. 35. 59.85	H
	37*	γ Ursæ Majoris..	1.6	20.6	40.5	59.8	...	...	8. 47.	+ 29.19	8. 47. 59.82	H
	38	γ Cephei S.P. ...	...	...	31. 30.5	32. 26.5	33. 23.4	...	11.	+ 0.15	11. 32. 26.95	H
	39*	β Leonis	...	10.5	23.7	37.5	50.6	3.8	11. 41. 17.0	- 6.68	11. 40. 37.17	H
	40	γ Ursæ Majoris..	1.0	23.6	45.6	7.7	30.0	51.8	11. 46. 14.2		11. 45. 7.70	H
	41	β Corvi	1.8	15.8	29.7	43.7	57.6	11.5	12. 26. 25.5		12. 25. 43.66	H
	42*	Polaris S.P. ...	37. 50.0	45. 54.0	53. 53.0	1. 55.0	9. 59.0	...	13.	+ 8. 3.60	13. 1. 57.80	H
May 9	43	δ Leonis.	36.4	50.2	4.0	17.9	31.8	45.5	11. 5. 59.3		11. 5. 17.87	E
	44	δ Crateris	22.8	35.8	49.0	2.2	15.4	28.7	11. 11. 41.9		11. 11. 2.25	E
May 10	45*	β Leonis	55.5	8.6	22.0	35.6	48.6	1.7	11. 41. 15.4		11. 40. 35.34	H
	46*	γ Ursæ Majoris..	...	21.5	43.7	5.8	28.5	50.1	11. 45.	- 0.01	11. 45. 5.91	H
ILLUMINATED END OF AXIS WEST. Order of Wires for Stars above the Pole, G, F, E, D, C, B, A.												
1, 2, 3. Very tremulous, from the effect of the heat of the Sun and the easterly wind.							34, 35, 45, 46. Cloudy.					
May 2. The sky cloudless till after midnight: an unusual number of meteors were seen.							36, 37, 39. Very cloudy.					
31. Very much clouded and tremulous.							42. Tremulous: a great deal of auroral light, extending occasionally to Polaris.					

CALCULATION OF APPARENT RIGHT ASCENSIONS.

[35]

No. for Reference.	Error of Collimation.	Level Error.	Seconds of Transit cor. for two Errors.	Azimuthal Error.	Seconds of Transit Corrected.	Tabular R.A. of Known Stars.	Clock apparently Slow.	Adopted Losing Rate.	Clock Slow at 0 ^h Sidereal.	Correction for Duration of Passage of Semidiameter.	Apparent R.A. of Center from the Observation.	NAME OF OBJECT.	Correction to Mean R.A. 1843, Jan. 1.
	"	"	s	"	s	s	s	s	s	m s	h m s		s
1	+0.08	+1.84		+4.46	44.17	10.36	26.19	0.52	26.15		0. 5. 10.33	γ Pegasi.	- 0.99
2					12.00						0. 31. 38.16	α Cassiopeiæ.	- 0.21
3			7.32		0.59	25.97	25.38				1. 2. 26.76	Polaris.	+34.37
4					27.46						2. 35. 53.66	$\odot$	
5											14. 51. 18.61	β Ursæ Min. S.P.	- 4.94
6					52.40						3. 13. 9.37	α Persei.	- 0.71
7					43.15						4. 26. 55.86	Aldebaran.	- 0.97
8					29.61	56.00	26.39				10. 54. 3.12	α Ursæ Majoris.	- 3.97
9					36.74						11. 5. 47.78	δ Leonis.	- 2.84
10					21.39	47.77	26.38				11. 11. 32.26	δ Crateris.	- 2.66
11					5.87	32.21	26.34				23. 32. 54.72	γ Cephei S.P.	+ 2.27
12					28.32						11. 41. 5.64	β Leonis.	- 2.90
13					39.24	5.69	26.45				11. 45. 36.25	γ Ursæ Majoris.	- 3.66
14					9.85						12. 26. 12.18	β Corvi.	- 3.11
15					45.76	12.08	26.32				1. 2. 24.99	Polaris S.P.	+34.11
16			51.36		58.56	26.23	27.67						
17				+3.01	16.38			0.55	26.81		2. 39. 43.24	$\odot$	
18											5. 47. 55.95	δ	
19					19.62					+1. 9.39	10. 54. 3.04	α Ursæ Majoris.	- 3.94
20					35.98						....	δ Leonis.	
21					20.64	47.76	27.12				....	β Leonis.	
22					38.53	5.68	27.15				....	β Corvi.	
23			44.86		45.07	12.05	26.98				12. 48. 43.52	12 Can. Venat. (2nd star)	- 3.29
24					16.42						....	Polaris S.P.	
25			55.57		0.43	26.72	26.29						
26				+5.17	38.97	6.27	27.30	0.55	27.17		....	Procyon.	
27					16.51	43.90	27.39				....	Pollux.	
28			38.02		38.23	5.67	27.44				....	β Leonis.	
29					8.87						11. 45. 36.30	γ Ursæ Majoris.	- 3.62
30			52.11		0.46	27.19	26.73				....	Polaris S.P.	
31					36.29					- 0.55	17. 23. 3.31	Mars.	
32					8.20	36.30	28.10	0.36	27.95		....	Castor.	
33					38.22	6.26	28.04				....	Procyon.	
34					15.84	43.89	28.05				....	Pollux.	
35					24.54					+1. 8.73	7. 42. 1.34	δ	
36				+4.00	0.12			0.36	27.97	+1. 8.02	8. 37. 36.24	δ	
37					0.04						8. 48. 28.14	γ Ursæ Majoris.	- 2.59
38					27.51						23. 32. 55.66	γ Cephei S.P.	+ 1.90
39			37.28		37.44	5.65	28.21				....	β Leonis.	
40					7.90						11. 45. 36.05	γ Ursæ Majoris.	- 3.58
41					43.99	12.07	28.08				....	β Corvi.	
42			54.07		0.53	28.02	27.49				....	Polaris S.P.	
43	+2.50			+3.58	18.16	47.69	29.53	...	...		....	δ Leonis.	
44					2.55	32.15	29.60				....	δ Crateris.	
45			35.49		35.64	5.62	29.98	0.79	29.62		....	β Leonis.	
46					6.19						11. 45. 36.20	γ Ursæ Majoris.	- 3.49

May 3. The azimuthal error by tabular places of β Corvi and Polaris S.P., allowing 0^s.02 for clock-rate.May 4 and 6. The azimuthal errors by tabular places of β Leonis and Polaris S.P., allowing respectively 0^s.04 and 0^s.03 for clock-rate.May 5, 22^h. The Transit instrument was levelled.May 10. The azimuthal error by tabular places of β Leonis and Polaris S.P., allowing 0^s.03 for clock-rate.

[36]

TRANSITS OBSERVED AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1843.

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	I.	II.	III.	IV.	V.	VI.	VII. WIRE.	Correction to Mean of Wires Observed.	Concluded Transit over Mean of the Seven Wires.	Observer.
			m s	m s	m s	m s	m s	m s	h m s	m s	h m s	
May 10	1	♂ 1 L.	3.5	16.8	30.6	43.7	57.4	10.4	12. 15. 23.7		12. 14. 43.73	H
	2	β Corvi.	59.9	13.7	27.7	41.6	55.8	9.6	12. 26. 23.6		12. 25. 41.70	H
	3	12 Can. Venat. (2nd star) ...	...	...	56.7	13.4	30.0	46.6	12. 49. 3.1	— 16.60	12. 48. 13.36	H
	4*	* N.P.D. 1° 32' ...	37. 30.0	45. 38.0	53. 34.0	...	9. 37.0	...	13.	+ 10. 3.95	13. 1. 38.70	H
	5*	Polaris S.P. ...	37. 50.5	45. 57.5	53. 54.0	...	10. 1.0	...	13.	+ 10. 3.95	13. 1. 59.70	H
	6	Groombridge 1961	7.7	23.8	40.5	57.0	13.1	29.6	13. 2. 45.7		13. 1. 56.77	H
May 11	7*	⊙ 1 L.	21.0	34.8	48.3	1.8	15.1	28.6	3. 9. 42.2		3. 9. 1.68	E
	8*	♂ 1 L.	15.2	29.0	42.8	56.4	10.1	23.6	13. 13. 37.2		13. 12. 56.33	E
	9*	Spica.	48.2	1.2	14.3	27.4	40.5	53.6	13. 17. 6.7		13. 16. 27.42	E
May 13	10	⊙ 2 L.	23.0	36.7	50.3	3.9	17.4	31.1	3. 19. 44.8		3. 19. 3.89	E
	11	β Corvi.	57.8	11.8	25.7	39.5	53.4	7.3	12. 26. 21.2		12. 25. 39.53	E
	12	12 Can. Venat. (2nd star) ...	...	38.1	54.8	11.3	27.8	44.4	12. 48.	— 0.01	12. 48. 11.27	E
	13	Polaris S.P. ...	37. 50.0	45. 55.0	53. 56.0	1. 59.0	...	...	13.	+ 12. 4.99	13. 1. 59.99	E
	14	ε Bootis.	54.9	9.2	24.0	38.4	53.0	7.4	14. 38. 22.0		14. 37. 38.42	E
	15	α Libræ.	3.1	16.3	29.7	43.0	56.3	9.6	14. 42. 23.0		14. 41. 43.00	E
	16	β Libræ.	...	...	52.1	5.1	18.0	31.0	15. 8. 44.0	— 13.02	15. 8. 5.02	E
	17	♂ 1 L.	34.1	48.4	3.0	17.4	31.8	46.0	15. 19. 0.5		15. 18. 17.32	E
	18*	♂ 2 L.	2.9	16.8	31.3	45.7	0.6	14.7	15. 21. 29.0		15. 20. 45.86	E
May 15	19*	Venus 2 L.	5.2	18.3	31.2	44.3	57.3	10.1	1. 13. 23.1		1. 12. 44.21	M
May 16	20*	⊙ 2 L.	10.3	24.2	37.9	51.4	5.2	18.5	3. 31. 32.2		3. 30. 51.38	M
May 19	21	⊙ 1 L.	47.8	1.3	15.4	29.0	42.6	56.1	3. 41. 9.6		3. 40. 28.83	E
	22	⊙ 2 L.	2.8	16.6	30.1	43.8	57.6	11.3	3. 43. 24.9		3. 42. 43.87	E
	23	α Herculis.	17.1	30.4	43.7	57.2	10.3	23.7	17. 7. 36.9		17. 6. 57.05	R
	24	α Ophiuchi.	27.0	40.2	53.4	6.5	19.7	32.8	17. 27. 46.0		17. 27. 6.52	R
May 20	25	⊙ 1 L.	...	...	...	27.2	41.1	54.8	3. 45. 8.3	— 20.58	3. 44. 27.27	E
	26	⊙ 2 L.	1.1	14.8	...	...	...	...	3. 46.	+ 34.31	3. 46. 42.26	E
May 21	27	♂ 2 L.	26.8	39.9	52.8	6.0	19.1	32.2	22. 50. 55.3		22. 50. 6.01	E
	28	α Pegasi.	...	54.8	8.1	21.4	34.8	48.1	22. 56.	— 0.01	22. 56. 21.43	E
May 24	29*	⊙ 1 L.	45.1	59.0	12.8	26.6	40.4	54.1	4. 1. 7.9		4. 0. 26.56	E
	30*	⊙ 2 L.	0.7	14.5	28.2	42.1	55.9	9.6	4. 3. 23.3		4. 2. 42.04	E
	31	83 Ursæ Majoris.	2.9	25.8	48.2	11.0	33.7	56.2	13. 35. 19.0		13. 34. 10.97	E
	32	η Ursæ Majoris.	45.0	5.0	25.1	45.2	5.5	25.0	13. 41. 45.0		13. 40. 45.11	E
	33	η Bootis.	55.9	9.3	23.0	36.6	50.2	3.7	13. 47. 17.3		13. 46. 36.57	E
	34	Piazzi XIII. 296	31.0	51.9	12.4	33.3	54.0	14.8	13. 57. 35.6		13. 56. 33.29	E
	35	13 Bootis.	49.0	9.0	29.1	49.3	9.4	29.4	14. 2. 49.5		14. 1. 49.24	E
	36	Arcturus.	13.1	26.8	40.5	54.2	8.0	21.6	14. 8. 35.0		14. 7. 54.17	E
	37*	Venus 2 L.	5.5	18.6	31.7	44.7	57.7	10.8	1. 53. 24.0		1. 52. 44.71	H
	38	α Arietis.	0.5	14.0	28.2	42.0	56.0	9.6	1. 58. 23.8		1. 57. 42.01	H
	39	β Ursæ Min. S.P.	11.8	1.0	50.1	38.5	28.4	17.2	2. 53. 6.3		2. 50. 39.05	H
	40*	α Persei.	...	...	10.7	30.6	50.3	...	3. 12.	— 0.04	3. 12. 30.49	H
May 25	41	⊙ 1 L.	45.8	59.7	13.7	27.7	41.6	55.3	4. 5. 8.8		4. 4. 27.52	H
	42	⊙ 2 L.	1.9	15.8	29.5	43.4	57.4	10.9	4. 7. 24.8		4. 6. 43.38	H
	43*	Aldebaran.	...	49.8	3.4	16.7	30.4	43.5	4. 26.	— 0.01	4. 26. 16.75	H
	44	Groombridge 1961	58.5	14.7	31.0	47.6	...	...	13. 1.	+ 24.57	13. 1. 47.52	H
ILLUMINATED END OF AXIS WEST. Order of Wires for Stars above the Pole, G, F, E, D, C, B, A.												
4, 5. Observed with a high power: the stars extremely tremulous. 7, 8, 9. Very cloudy. 18. The intervals rather irregular. 19. Observed through clouds, but steady, and the observation good.						20. Exceedingly faint and clouded. 29, 30. Exceedingly faint. 37. The sky very clear, and the planet visible with the naked eye. 40. Cloudy. 43. Very tremulous: the observation not good.						

CALCULATION OF APPARENT RIGHT ASCENSIONS.

[37]

No. for R.A. 4500AMM...5A...1A

No.	Error of Collimation.	Level Error.	Seconds of Transit cor. for two Errors.	Azimuthal Error.	Seconds of Transit Corrected.	Tabular R.A. of Known Stars.	Clock apparently Slow.	Adopted Losing Rate.	Clock Slow at 0 ^h Sidereal.	Correction for Duration of Passage of Semidiameter.	Apparent R.A. of Center from the Observation.	NAME or OBJECT.	Correction to Mean R.A. 1843, Jan. 1.
	"	"	s	"	s	s	s	s	s	m s	h m s		s
1	+0.08	+2.50		+3.58	44.03			0.79	29.62	+1. 9.13	12. 16. 23.18	δ	
2					42.01	12.05	30.04				....	β Corvi.	
3					13.64						12. 48. 43.68	12 Can. Venat. (2nd star)	- 3.24
4					39.48						....	* N.P.D. 1°.32'.	
5			54.70		0.48	29.75	29.27				....	Polaris S.P.	
6					57.06						13. 2. 27.11	Groombridge 1961.	- 3.25
7					1.97			0.65	30.84	+1. 6.75	3. 10. 39.64	⊙	
8					56.63					+1. 10.82	13. 14. 38.65	δ	
9					27.73	58.93	31.20				....	Spica.	
10				+3.17	4.17			0.52	31.95	-1. 6.92	3. 18. 29.27	⊙	
11			39.59		39.81	12.03	32.22				12. 26. 12.03	β Corvi.	- 3.06
12					11.55						12. 48. 43.78	12 Can. Venat. (2nd star)	- 3.21
13			54.99		0.11	31.61	31.50				....	Polaris S.P.	
14					38.70	10.99	32.29				14. 38. 10.97	ε Bootis.	- 3.23
15					43.28	15.70	32.42				14. 42. 15.55	α Libræ.	- 3.56
16					5.29	37.38	32.09				15. 8. 37.57	β Libræ.	- 3.51
17					17.60					+1. 14.06	15. 20. 3.94	δ	
18					46.14					-1. 14.06	15. 20. 4.36	δ	
19					44.49				33.51	- 0.44	1. 13. 17.58	Venus.	
20					51.66					-1. 7.16	3. 30. 18.09	⊙	
21		+2.10		+4.48	36.66			0.54	34.83		3. 42. 11.57	⊙	
22					57.36	32.60	35.24				....	α Herculis.	
23					6.83	42.03	35.20				....	α Ophiuchi.	
24													
25					35.08				35.37		3. 46. 10.54	⊙	
26													
27					6.34			0.60	36.08	-1. 1.21	22. 49. 41.78	δ	
28					21.74	58.39	36.65				....	α Pegasi.	
29		+2.42			34.62			0.85	38.26		4. 2. 13.02	⊙	
30													
31					11.23						13. 34. 49.97	83 Ursæ Majoris.	- 3.44
32					45.38						13. 41. 24.12	η Ursæ Majoris.	- 3.32
33					36.90	15.65	38.75				....	η Bootis.	
34					33.56						13. 57. 12.31	Piazzi XIII. 296.	- 3.38
35					49.51						14. 2. 28.27	13 Bootis.	- 3.36
36					54.50	33.24	38.74				....	Arcturus.	
37					45.04			0.85	38.78	- 0.42	1. 53. 23.47	Venus.	
38					42.33	21.22	38.89				1. 58. 21.18	α Arietis.	- 1.22
39					39.58						14. 51. 18.46	β Ursæ Min. S.P.	- 4.56
40					30.77						3. 13. 9.66	α Persei.	- 1.06
41													
42					35.77						4. 6. 14.69	⊙	
43					17.08	56.10	39.02				4. 26. 56.02	Aldebaran.	- 1.07
44					47.82						13. 2. 27.07	Groombridge 1961.	- 3.11

May 12, 21^h, and 19, 21^h. The Transit instrument was levelled.

May 13. The azimuthal error by tabular places of β Corvi and Polaris S.P., allowing 0^s.02 for clock-rate.

May 13. δ. The 2nd limb was defective in illumination, but the correction is insensible.

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	I.	II.	III.	IV.	V.	VI.	VII. WIRE.	Correction to Mean of Wires Observed.	Concluded Transit over Mean of the Seven Wires.	Observer.
			m s	m s	m s	m s	m s	m s	h m s	m s	h m s	
May 25	1	Polaris S.P. ...	...	45. 57.0	53. 52.5	...	9. 50.0	...	13.	+ 5. 21.86	13. 1. 58.03	H
	2	Spica.....	39.6	53.0	6.3	19.0	32.5	45.5	13. 16. 58.6		13. 16. 19.22	H
	3	Piazzi XIII. 110	...	12.4	38.7	5.6	31.6	57.6	13. 22.	- 0.01	13. 22. 5.17	H
	4*	83 Ursæ Majoris,	...	24.5	47.7	10.6	33.5	55.7	13. 34.	- 0.01	13. 34. 10.39	H
	5	η Ursæ Majoris..	...	...	24.6	44.7	4.7	...	13. 41.	- 0.05	13. 40. 44.62	H
	6	η Bootis.....	55.5	8.7	22.6	36.1	49.8	3.7	13. 47. 16.8		13. 46. 36.17	H
	7	Piazzi XIII. 296	30.5	51.0	11.7	32.6	53.6	14.0	13. 57. 34.7		13. 56. 32.59	H
	8	13 Bootis.....	48.6	8.6	28.7	48.8	8.8	28.8	14. 2. 49.0		14. 1. 48.76	H
	9*	Arcturus.....	12.5	26.5	40.0	53.6	7.6	20.5	14. 8. 34.7		14. 7. 53.63	H
	10*	α Herculis.....	13.0	26.5	39.7	53.0	6.5	19.6	17. 7.	+ 6.65	17. 6. 53.03	H
	11*	Mars 2 L.....	13.0	27.2	41.4	55.7	9.7	23.8	17. 9. 38.3		17. 8. 55.59	H
	12*	Venus 2 L.....	35.5	48.6	1.8	14.8	28.0	41.0	1. 57. 54.2		1. 57. 14.84	E
	13	α Persei.....	30.0	50.0	9.8	29.3	49.2	8.8	3. 13. 28.7		3. 12. 29.40	E
May 29	14	Polaris S.P. ...	...	...	53. 55.0	1. 57.0	10. 0.0	18. 5.0	13.	- 4. 0.54	13. 1. 58.71	E
	15	Spica.....	36.6	49.7	2.7	15.8	28.8	41.9	13. 16. 54.9		13. 16. 15.77	E
	16	Piazzi XIII. 110	42.1	8.5	35.0	1.3	27.8	53.8	13. 23. 20.2		13. 22. 1.24	E
	17	83 Ursæ Majoris,	58.8	21.1	43.8	7.0	29.4	52.0	13. 35. 14.9		13. 34. 6.72	E
	18	η Ursæ Majoris..	40.8	0.8	21.0	41.0	1.1	21.1	13. 41. 41.1		13. 40. 40.99	E
	19	η Bootis.....	51.8	5.3	18.8	32.4	46.0	59.4	13. 47. 13.0		13. 46. 32.38	E
	20	Piazzi XIII. 296	26.8	47.3	8.1	29.0	49.8	10.2	13. 57. 31.1		13. 56. 28.90	E
	21	13 Bootis.....	45.0	5.0	25.1	45.0	5.4	25.2	14. 2. 45.3		14. 1. 45.14	E
	22	Arcturus.....	9.0	22.7	36.3	50.0	3.8	17.3	14. 8. 31.0		14. 7. 50.01	E
	23	γ Bootis.....	15.7	32.0	48.5	5.0	21.7	38.1	14. 25. 54.8		14. 25. 5.11	E
	24	33 Bootis.....	25.0	43.0	1.2	19.4	37.5	55.7	14. 33. 14.1		14. 32. 19.42	E
	25	ε Bootis.....	44.1	58.8	13.1	27.7	42.3	56.8	14. 38. 11.3		14. 37. 27.73	E
	26	8 Libræ.....	41.2	...	7.8	...	34.7	...	14. 42. 1.1	0.00	14. 41. 21.20	E
	27	α Libræ.....	52.8	...	19.2	...	46.2	...	14. 42. 12.3	0.00	14. 41. 32.63	E
	28	Piazzi XVI. 291	38.1	2.0	25.9	49.3	12.3	35.8	16. 56. 59.9		16. 55. 49.05	E
	29	Mars 2 L.....	10.1	24.5	38.7	52.8	7.0	21.1	17. 4. 35.2		17. 3. 52.77	E
	30	α Herculis.....	9.9	22.8	36.0	49.3	2.7	15.8	17. 7. 29.2		17. 6. 49.39	E
	31*	α Arietis.....	56.4	10.0	23.8	38.6	52.5	5.7	1. 58. 20.0		1. 57. 38.15	H
	32	Venus 2 L.....	...	...	9.7	23.0	36.0	...	2. 15.	- 0.04	2. 15. 22.86	H
	33	α Persei.....	...	46.7	6.8	26.5	46.2	5.8	3. 13.	- 0.01	3. 12. 26.39	H
May 30	34	⊙ 1 L.	58.3	12.0	25.9	40.0	54.2	7.7	4. 25. 21.6		4. 24. 39.95	H
	35	⊙ 2 L.	14.7	28.6	42.5	56.5	10.6	24.0	4. 27. 37.8		4. 26. 56.39	H
	36	Capella.....	...	...	5.2	23.7	42.7	0.9	5. 5. 19.2	- 18.47	5. 4. 23.87	H
June 1	37*	η Bootis.....	49.6	3.0	16.8	30.5	44.1	57.6	13. 47. 11.3		13. 46. 30.41	H
	38*	Arcturus.....	7.0	20.6	34.5	48.0	1.7	15.5	14. 8. 29.0		14. 7. 48.05	H
June 3	39	Spica.....	33.6	46.7	59.8	12.6	25.7	38.7	13. 16. 51.8		13. 16. 12.70	H
	40	η Ursæ Majoris..	...	...	...	37.7	57.8	17.8	13. 41. 37.7	- 30.09	13. 40. 37.66	H
	41*	η Bootis.....	48.6	2.5	15.6	29.6	43.1	56.7	13. 47. 10.4		13. 46. 29.50	H
	42	Arcturus.....	6.0	19.6	33.5	47.0	0.8	14.5	14. 8. 28.0		14. 7. 47.06	H
	43	Mars 2 L.....	11.7	26.0	40.3	54.7	8.7	22.8	16. 57. 37.0		16. 56. 54.46	H
June 5	44	α Herculis.....	6.7	20.0	33.5	46.7	59.8	13.0	17. 7. 26.0		17. 6. 46.53	H
	45*	α Ursæ Majoris..	50.7	18.7	...	14.4	42.7	...	10. 53.	+ 27.91	10. 53. 14.54	H
	46	η Ursæ Majoris..	...	...	16.5	36.7	56.7	16.8	13. 41. 36.8	- 20.06	13. 40. 36.64	H
	47	η Bootis.....	47.3	0.8	14.5	28.1	41.7	55.4	13. 47. 8.6		13. 46. 28.06	H
	48	Arcturus.....	4.7	18.5	31.7	45.8	59.5	12.8	14. 8. 26.7		14. 7. 45.67	H
ILLUMINATED END OF AXIS WEST. Order of Wires for Stars above the Pole, G, F, E, D, C, B, A.												
4. A very pretty double star, the components being very unequal; the larger (which was observed) preceding, and of the greater N.P.D.						11, 12. Very tremulous: the images bad.						
9, 10. The stars appear unusually large: the intervals irregular.						31. Tremulous and faint: the intervals very irregular.						
						37, 38. Much cloud about. 41. The intervals rather irregular.						
						45. Cloudy, and also at the transit of the Moon.						

No. for Reference.	Error of Collimation.	Level Error.	Seconds of Transit cor. for two Errors.	Azimuthal Error.	Seconds of Transit Corrected.	Tabular R.A. of Known Stars.	Clock apparently Slow.	Adopted Losing Rate.	Clock Slow at 0 ^h Sidereal.	Correction for Duration of Passage of Semidiameter.	Apparent R.A. of Center from the Observation.	NAME OF OBJECT.	Correction to Mean R.A. 1843, Jan. 1.
	"	"	"	"	"	"	"	"	"	m s	h m s		"
1	+0.08	+2.42	53.18	+4.48	0.42	38.98	38.56	0.85	38.78		....	Polaris S.P.	
2			19.31		19.58	58.88	39.30				13. 16. 58.83	Spica.	— 3.18
3					5.41						13. 22. 44.67	Piazzi XIII. 110.	— 3.55
4					10.65						13. 34. 49.91	83 Ursæ Majoris.	— 3.42
5					44.89						13. 41. 24.15	η Ursæ Majoris.	— 3.30
6					36.50	15.64	39.14				13. 47. 15.77	η Bootis.	— 3.15
7					32.86						13. 57. 12.13	Piazzi XIII. 296.	— 3.37
8					49.03						14. 2. 28.31	13 Bootis.	— 3.34
9					53.96	33.24	39.28				14. 8. 33.24	Arcturus.	— 3.17
10					53.35	32.69	39.34				17. 7. 32.74	α Herculis.	— 3.32
11					55.96					— 0.66	17. 9. 34.69	Mars.	
12					15.17				39.63	— 0.42	1. 57. 54.45	Venus.	
13					29.68						3. 13. 9.42	α Persei.	— 1.08
14	+2.88		52.98	+4.41	0.10	42.10	42.00	0.75	42.41		....	Polaris S.P.	
15			15.87		16.14	58.87	42.73				13. 16. 58.97	Spica.	— 3.17
16					1.54						13. 22. 44.37	Piazzi XIII. 110.	— 3.47
17					7.03						13. 34. 49.87	83 Ursæ Majoris.	— 3.36
18					41.31						13. 41. 24.15	η Ursæ Majoris.	— 3.25
19					32.73	15.63	42.90				13. 47. 15.57	η Bootis.	— 3.14
20					29.22						13. 57. 12.07	Piazzi XIII. 296.	— 3.32
21					45.46						14. 2. 28.31	13 Bootis.	— 3.30
22					50.36	33.23	42.87				14. 8. 33.21	Arcturus.	— 3.16
23					5.44						14. 25. 48.30	γ Bootis.	— 3.23
24					19.75						14. 33. 2.61	33 Bootis.	— 3.28
25					28.07	10.99	42.92				14. 38. 10.94	ε Bootis.	— 3.23
26					21.57						14. 42. 4.44	8 Libræ.	— 3.63
27					33.00	15.77	42.77				14. 42. 15.87	α Libræ.	— 3.63
28					49.36						16. 56. 32.30	Piazzi XVI. 291.	— 3.27
29					53.15					— 0.68	17. 4. 35.42	Mars.	
30					49.74	32.74	43.00				17. 7. 32.69	α Herculis.	— 3.37
31					38.50	21.34	42.84	0.75	42.78		....	α Arietis.	
32					23.21					— 0.42	2. 16. 5.63	Venus.	
33					26.71						3. 13. 9.59	α Persei.	— 1.17
34					48.52						4. 26. 31.44	☉	
35					24.19						5. 5. 7.13	Capella.	— 1.31
36													
37					30.76	15.61	44.85	...	...		....	η Bootis.	
38					48.39	33.22	44.83				....	Arcturus.	
39					13.07	58.84	45.77	0.60	45.45		13. 16. 58.85	Spica.	— 3.14
40					37.98						13. 41. 23.77	η Ursæ Majoris.	— 3.17
41					29.85	15.60	45.75				13. 47. 15.64	η Bootis.	— 3.11
42					47.41	33.20	45.79				14. 8. 33.21	Arcturus.	— 3.13
43					54.84					— 0.69	16. 57. 40.03	Mars.	
44					46.88	32.80	45.92				17. 7. 32.76	α Herculis.	— 3.43
45					14.84			0.80	46.70		10. 54. 1.90	α Ursæ Majoris.	— 2.78
46					36.96						13. 41. 24.11	η Ursæ Majoris.	— 3.14
47					28.41	15.58	47.17				13. 47. 15.57	η Bootis.	— 3.09
48					46.02	33.19	47.17				14. 8. 33.20	Arcturus.	— 3.12

May 25 and 29. The azimuthal errors by tabular places of Polaris S.P. and Spica, allowing in each case 0^h.01 for clock-rate.
 May 26, 21^h, and June 2, 22^h. The Transit instrument was levelled.

[40]

TRANSITS OBSERVED AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1843.

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	I.	II.	III.	IV.	V.	VI.	VII. WIRE.	Correction to Mean of Wires Observed.	Concluded Transit over Mean of the Seven Wires.	Observer.
			m s	m s	m s	m s	m s	m s	h m s			
June 5	1	γ Bootis	11.0	27.7	44.5	0.7	17.6	33.6	14. 25. 50.5		14. 25. 0.80	H
	2	33 Bootis	20.5	38.7	56.8	15.4	33.4	51.6	14. 33. 9.9		14. 32. 15.19	H
	3	ϵ Bootis	39.7	54.4	8.8	23.6	37.8	52.5	14. 38. 6.9		14. 37. 23.38	H
	4*	α Libræ	48.5	1.6	14.7	28.5	41.6	54.7	14. 42. 8.3		14. 41. 28.27	H
June 6	5	Arcturus	3.2	17.1	30.8	44.4	58.0	11.7	14. 8. 25.4		14. 7. 44.37	E
June 7	6	β Ursæ Min. S.P.	...	...	39.2	27.3	17.2	6.1	2. 52. 55.2	— 49.00	2. 50. 28.00	E
	7	Venus 2 L.	25.7	38.8	52.4	5.8	19.2	32.4	2. 57. 45.8		2. 57. 5.73	E
June 8	8*	$\odot$ 2 L.	4.3	18.1	32.7	46.4	0.5	14.4	5. 4. 28.3		5. 3. 46.39	E
	9*	$\odot$ 1 L.	17.4	31.3	45.2	59.3	13.1	27.3	13. 47. 41.1		13. 46. 59.25	E
June 10	10	β Libræ	6.0	19.1	32.1	45.2	58.2	11.1	15. 8. 24.1		15. 7. 45.11	E
	11	α Coronæ Borealis	30.0	44.4	58.8	13.1	27.6	42.0	15. 27. 56.5		15. 27. 13.20	E
	12	42 Libræ	...	...	...	12.2	26.2	40.1	15. 30. 54.1	— 21.01	15. 30. 12.14	E
	13	κ Libræ	...	...	52.3	6.1	19.8	...	15. 32.	— 0.04	15. 32. 6.03	E
	14	α Serpentis	4.8	17.3	30.2	43.1	56.1	9.0	15. 36. 22.0		15. 35. 43.21	E
	15	Piazzi XV. 198,	...	31.1	0.0	28.1	57.0	24.8	15. 44.	— 0.02	15. 43. 28.18	E
	16*	$\odot$ 1 L.	...	...	...	9.1	24.0	38.4	15. 52. 52.9	— 21.84	15. 52. 9.26	E
	17	δ Ophiuchi	40.0	52.8	5.6	18.5	31.4	44.2	16. 5. 57.1		16. 5. 18.52	E
	18	Antares	16.2	30.6	44.8	59.2	13.6	27.8	16. 19. 42.1		16. 18. 59.19	E
	19	Groombridge 2345	...	...	...	54.0	21.7	48.8	16. 22. 16.2	— 41.18	16. 20. 54.00	E
June 14	20	Aldebaran.	20.3	33.7	47.1	0.5	13.9	27.3	4. 26. 40.7		4. 26. 0.50	E
	21*	Capella	...	34.8	52.8	11.7	30.0	48.2	5. 4.	— 0.01	5. 4. 11.49	E
	22	Rigel	25.6	38.4	51.2	4.1	17.0	30.0	5. 6. 42.9		5. 6. 4.17	E
June 15	23	$\odot$ 1 L.	40.0	54.3	8.5	22.5	36.6	50.7	5. 31. 4.9		5. 30. 22.50	E
	24	$\odot$ 2 L.	58.1	12.2	26.3	40.5	54.6	8.6	5. 33. 22.5		5. 32. 40.40	E
	25	α Orionis	7.0	19.7	32.7	45.8	58.7	11.6	5. 46. 24.5		5. 45. 45.71	E
	26	Sirius	38.6	51.8	5.1	18.6	31.8	45.2	6. 37. 58.7		6. 37. 18.55	E
	27*	Aldebaran.	19.6	32.7	46.5	59.8	13.5	36.4	4. 26. 39.8		4. 25. 59.76	H
	28	Rigel	24.7	37.8	50.8	4.1	16.9	29.8	5. 6. 42.9		5. 6. 3.86	H
June 16	29	$\odot$ 1 L.	...	...	16.7	30.7	44.6	58.8	5. 35. 13.1	— 14.05	5. 34. 30.73	H
	30	$\odot$ 2 L.	6.6	20.7	34.7	48.8	2.7	16.7	5. 37. 30.8		5. 36. 49.02	H
	31*	α Orionis	...	18.4	31.7	44.8	57.7	10.9	5. 46.	— 0.01	5. 45. 44.69	H
	32	Sirius	37.6	50.8	4.5	17.6	31.5	44.7	6. 37. 58.0		6. 37. 17.82	H
	33	Polaris S.P.	...	...	53. 40.0	1. 47.0	9. 50.0	17. 54.0	13.	— 4. 0.46	13. 1. 47.29	H
	34	Spica	22.7	35.7	48.6	1.7	14.8	27.7	13. 16. 40.8		13. 16. 1.71	H
	35	γ Bootis	1.7	18.5	34.8	51.7	8.0	24.7	14. 25. 40.9		14. 24. 51.47	H
	36	33 Bootis	11.2	29.6	47.6	5.7	24.5	42.5	14. 33. 0.7		14. 32. 5.97	H
	37	ϵ Bootis	30.5	44.8	59.6	14.3	28.5	42.8	14. 37. 57.6		14. 37. 14.01	H
	38	8 Libræ	27.5	...	53.5	...	20.5	...	14. 41. 47.5		14. 41. 7.25	H
	39	α Libræ	38.5	...	5.5	...	32.0	...	14. 41. 58.5		14. 41. 18.62	H
	40	β Ursæ Minoris.	53.8	43.5	32.0	21.7	10.7	59.4	14. 52. 48.5		14. 50. 21.37	H
	41	β Libræ	1.7	14.8	27.6	40.7	53.7	6.6	15. 8. 19.7		15. 7. 40.68	H
	42	Mars 1 L.	8.7	23.0	37.7	51.8	5.9	19.9	16. 38. 34.5		16. 37. 51.64	H
	43	ϵ Pegasi	55.0	8.0	21.1	34.0	47.1	59.9	21. 36. 13.1		21. 35. 34.03	E
	44	$\odot$ 2 L.	42.8	56.1	9.5	22.8	36.1	49.4	21. 45. 2.9		21. 44. 22.80	E
	45	Aldebaran.	18.4	31.8	45.2	58.8	12.2	25.4	4. 26. 38.8		4. 25. 58.66	E

ILLUMINATED END OF AXIS WEST. Order of Wires for Stars above the Pole, G, F, E, D, C, B, A.

4. Cloudy: the night perplexing.
8. Cloudy: the intervals irregular.
9. The evening very stormy and cloudy.

16. Very cloudy.
21, 27. The intervals irregular.
31. Very tremulous and confused: the observation not good.

CALCULATION OF APPARENT RIGHT ASCENSIONS.

[41]

No. for Reference.	Error of Collimation.	Level Error.	Seconds of Transit cor. for two Errors.	Azimuthal Error.	Seconds of Transit Corrected.	Tabular R. A. of Known Stars.	Clock apparently Slow.	Adopted Losing Rate.	Clock Slow at 0 ^h Sidereal.	Correction for Duration of Passage of Semidiameter.	Apparent R.A. of Center from the Observation.	NAME OF OBJECT.	Correction to Mean R.A. 1843, Jan. 1.
	"	"	"	"	"	"	"	"	"	m s	h m s	"	"
1	+0.08	+2.88		+4.41	1.13			0.80	46.70		14. 25. 48.31	γ Bootis.	- 3.18
2					15.52						14. 33. 2.70	β Bootis.	- 3.22
3					23.72	10.97	47.25				14. 38. 10.91	ϵ Bootis.	- 3.21
4					28.64	15.78	47.14				14. 42. 15.83	α Libræ.	- 3.64
5		+2.15			44.67	33.19	48.52	...	...		....	Arcturus.	
6					28.56			0.85	49.87		14. 51. 18.53	β Ursæ Min. S.P.	- 4.03
7					6.04					- 0.42	2. 57. 55.60	Venus.	
8					46.70					-1. 8.63	5. 3. 28.12	$\odot$	
9					59.60					+1. 10.83	13. 49. 0.78	$\odot$	
10					45.45	37.50	52.05		51.57		15. 8. 37.56	β Libræ.	- 3.63
11					13.50	5.70	52.20				15. 28. 5.62	α Coronæ Borealis.	- 3.29
12					12.50						15. 31. 4.62	42 Libræ.	- 4.02
13					6.48						15. 32. 58.60	κ Libræ.	- 3.94
14					43.53	35.69	52.16				15. 36. 35.65	α Serpentis.	- 3.50
15					28.37						15. 44. 20.49	Piazzi XV. 198.	- 3.42
16					9.62					+1. 13.85	15. 54. 15.60	$\odot$	
17					18.85	11.01	52.16				16. 6. 10.99	δ Ophiuchi.	- 3.70
18					59.55	51.65	52.10				16. 19. 51.70	Antares.	- 4.28
19					54.19						16. 21. 46.34	Groombridge 2345.	- 3.39
20		+1.98		+9.86	1.01	56.39	55.38	0.85	55.24		4. 26. 56.41	Aldebaran.	- 1.36
21					11.78						5. 5. 7.20	Capella.	- 1.55
22					4.82	0.56	55.74				5. 7. 0.24	Rigel.	- 0.91
23					31.94						5. 32. 27.38	$\odot$	
24					46.27	41.57	55.30				5. 46. 41.71	α Orionis.	- 1.20
25					19.25	14.57	55.32				6. 38. 14.72	Sirius.	- 0.74
26					0.27	56.40	56.13	0.92	55.87		4. 26. 56.31	Aldebaran.	- 1.37
27					4.51	0.57	56.06				5. 7. 0.58	Rigel.	- 0.92
28					40.37						5. 36. 36.45	$\odot$	
29					45.25	41.58	56.33				5. 46. 41.34	α Orionis.	- 1.21
30					18.52	14.57	56.05				6. 38. 14.64	Sirius.	- 0.71
31					59.21	55.88	56.67				....	Polaris S.P.	
32			43.29		2.37	58.76	56.39				13. 16. 58.75	Spica.	- 3.06
33			1.78		51.82						14. 25. 48.24	γ Bootis.	- 3.07
34					6.28						14. 33. 2.71	β Bootis.	- 3.09
35					14.46	10.90	56.44				14. 38. 10.89	ϵ Bootis.	- 3.14
36					7.94						14. 42. 4.37	8 Libræ.	- 3.62
37					19.31	15.76	56.45				14. 42. 15.74	α Libræ.	- 3.62
38					20.84						14. 51. 17.28	β Ursæ Minoris.	- 3.58
39					41.32	37.49	56.17				15. 8. 37.77	β Libræ.	- 3.62
40					52.39						16. 38. 49.60	Mars.	
41					34.58	31.49	56.91	0.95	56.14	+ 0.70	21. 36. 31.57	ϵ Pegasi.	- 3.06
42					23.45					-1. 3.33	21. 44. 17.11	$\odot$	
43					59.17	56.42	57.25		57.09		4. 26. 56.43	Aldebaran.	- 1.39

June 7 and 8. The planetary observations of these days are almost worthless, through the want of clock-stars; the assumed rate is very nearly equal to the mean loss in 24^h for the interval of time between the clock-stars preceding and following.

June 9, 21^h, and 16, 21^h. The Transit instrument was levelled.

June 16 and 17. The azimuthal error is the mean of those determined by the tabular places of Polaris S.P. and Spica, allowing in each case 0^s.01 for clock-rate.

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	I.	II.	III.	IV.	V.	VI.	VII. WIRE.	Correction to Mean of Wires Observed.	Concluded Transit over Mean of the Seven Wires.	Observer.
			m s	m s	m s	m s	m s	m s	h m s			
June 17	1*	Sirius.....	36.6	49.4	3.1	16.8	30.4	43.2	6. 37. 56.8		6. 37. 16.62	E
	2	Castor.....	52.8	7.8	23.0	38.1	53.4	8.4	7. 24. 23.5		7. 23. 38.15	E
	3	Procyon.....	29.3	42.2	55.0	7.9	20.9	33.7	7. 30. 46.6		7. 30. 7.95	E
	4	Pollux.....	...	...	...	45.7	0.3	14.8	7. 35. 29.6		7. 34. 45.66	E
	5	Polaris S.P. ...	...	...	53. 43.0	1. 46.0	9. 49.0	...	13.	+ 21.94	13. 1. 47.26	E
	6	Spica.....	21.3	34.2	47.4	0.4	13.3	26.4	13. 16. 39.5		13. 16. 0.35	E
	7	γ Libræ.....	10.9	24.0	37.2	50.5	...	...	15. 25.	+ 19.90	15. 25. 50.55	E
	8	A. S. C. 1769...	27.0	41.1	55.8	9.8	24.4	38.3	15. 27. 52.8		15. 27. 9.89	E
	9	42 Libræ.....	24.2	38.3	52.2	6.2	20.4	34.4	15. 30. 48.4		15. 30. 6.30	E
	10	κ Libræ.....	...	...	...	0.2	13.8	27.3	15. 32. 41.0	- 20.43	15. 32. 0.15	E
	11	α Serpentis.....	58.8	11.7	24.5	37.4	50.3	3.3	15. 36. 16.1		15. 35. 37.45	E
	12	b Scorpii.....	56.1	10.2	24.3	38.4	52.8	7.1	15. 41. 21.4		15. 40. 38.62	E
	13	Piazzi X V. 198,	...	...	...	22.8	51.1	19.3	15. 44. 47.8	- 42.64	15. 43. 22.61	E
	14	β ¹ Scorpii.....	43.8	57.3	11.1	24.8	38.4	51.6	15. 56. 5.3		15. 55. 24.61	E
	15	δ Ophiuchi.....	34.1	46.9	59.9	12.8	25.8	38.6	16. 5. 51.5		16. 5. 12.80	E
June 20	16	α Persei.....	9.6	29.2	49.1	8.9	28.7	48.1	3. 13. 7.7		3. 12. 8.76	E
	17	Venus 2 L.	10.7	24.2	37.8	51.4	5.1	18.7	4. 0. 32.3		3. 59. 51.45	E
	18	Aldebaran.....	14.7	27.8	41.0	54.2	8.0	21.5	4. 26. 34.5		4. 25. 54.53	E
	19	Capella.....	...	28.8	47.2	6.0	24.4	42.6	5. 4.	- 0.01	5. 4. 5.79	E
	20	Rigel.....	19.8	32.8	45.7	58.8	11.7	24.7	5. 6. 37.8		5. 5. 58.76	E
June 21	21	⊙ 1 L.	30.6	44.8	58.4	12.7	26.8	40.7	5. 55. 55.3		5. 55. 12.76	E
	22	⊙ 2 L.	48.6	2.7	16.7	31.0	45.0	59.2	5. 58. 13.3		5. 57. 30.92	E
	23*	Castor.....	...	3.8	18.9	34.1	49.0	4.7	7. 24.	- 0.01	7. 23. 34.09	E
	24	Procyon.....	...	38.1	51.1	4.1	17.0	29.9	7. 30.	- 0.01	7. 30. 4.03	E
June 22	25	⊙ 1 L.	39.5	53.0	7.5	21.5	35.6	49.7	6. 0. 3.8		5. 59. 21.51	H
	26	⊙ 2 L.	57.0	11.5	25.5	39.6	53.6	7.8	6. 2. 21.6		6. 1. 39.52	H
	27	Arcturus.....	...	2.6	16.3	29.6	43.6	57.2	14. 7.	- 0.01	14. 7. 29.85	H
	28	ε Bootis.....	23.7	38.6	53.0	7.7	22.5	36.7	14. 37. 51.1		14. 37. 7.62	H
	29*	8 Libræ.....	20.7	...	47.5	...	14.5	...	14. 41. 40.8		14. 41. 0.88	H
	30*	α Libræ.....	31.6	...	58.6	...	25.5	...	14. 41. 52.5		14. 41. 12.05	H
	31	β Ursæ Minoris..	...	36.5	25.5	14.7	3.7	52.5	14. 51.	- 0.02	14. 50. 14.56	H
	32	β Libræ.....	55.0	8.4	21.0	34.5	47.5	0.5	15. 8. 13.6		15. 7. 34.36	H
	33*	Antares.....	5.5	19.7	34.0	48.7	2.7	16.7	16. 19. 31.5		16. 18. 49.40	H
	34	Groombridge 2345	...	...	...	43.5	10.8	38.4	16. 22. 5.7	- 41.20	16. 20. 43.40	H
	35*	Mars 1 L.	23.5	37.7	51.8	6.5	20.8	34.8	16. 30. 49.0		16. 30. 6.30	H
	36	25 Scorpii.....	33.5	47.6	1.7	15.8	30.3	44.5	16. 36. 58.6		16. 36. 16.00	H
	37	Saturn 1 L.	...	...	40.8	...	8.5	...	19. 43. 36.0	- 13.80	19. 42. 54.63	R
	38	Saturn 2 L.	...	28.4	...	56.2	...	24.0	19. 43.		19. 42. 56.20	R
	39	Polaris.....	37. 55.0	45. 59.5	54. 2.5	2. 7.0	...	...	1.	+ 12. 3.95	1. 2. 4.95	H
June 23	40	⊙ 2 L.	0.7	14.4	28.5	42.7	56.4	10.1	2. 23. 24.2		2. 22. 42.43	WR
	41*	Aldebaran.....	...	...	...	52.5	...	...	4. 26. 6.2	- 6.75	4. 25. 52.60	WR
	42*	⊙ 1 L.	47.6	1.6	15.5	30.3	43.6	57.4	6. 4. 12.0		6. 3. 29.71	WR
	43*	⊙ 2 L.	5.5	19.3	33.8	47.5	1.6	15.9	6. 6. 30.2		6. 5. 47.69	WR
	44*	Sirius.....	...	...	56.8	10.4	24.0	37.2	6. 37. 50.6	- 13.42	6. 37. 10.38	WR
	45*	Procyon.....	...	36.0	48.6	1.7	14.7	27.5	7. 30. 40.4	- 6.47	7. 30. 1.68	WR
	46	Pollux.....	55.4	10.0	24.6	39.2	53.8	8.5	7. 35. 23.3		7. 34. 39.26	WR
	47	Polaris S.P. ...	...	...	53. 41.0	1. 45.0	9. 48.0	...	13.	+ 1.26	13. 1. 45.93	WR
	48	Spica.....	14.6	27.9	40.9	54.1	7.3	20.3	13. 16. 33.3		13. 15. 54.06	WR
	49	β Libræ.....	53.7	6.8	19.9	32.9	45.9	58.8	15. 8. 11.7		15. 7. 32.81	WR
ILLUMINATED END OF AXIS WEST. Order of Wires for Stars above the Pole, G, F, E, D, C, B, A.												
1. The intervals are not good.						33. Tremulous and confused.						
23. Very faint.						35. Not well defined.						
29, 30. Very faint: the observation not good.						41, 44, 45. Cloudy.			42, 43. Extremely tremulous.			

CALCULATION OF APPARENT RIGHT ASCENSIONS.

[43]

No. for Reference.	Error of Collimation.	Level Error.	Seconds of Transit cor. for two Errors.	Azimuthal Error.	Seconds of Transit Corrected.	Tabular R.A. of Known Stars.	Clock apparently Slow.	Adopted Losing Rate.	Clock Slow at 0 ^h Sidereal.	Correction for Duration of Passage of Semidiameter.	Apparent R.A. of Center from the Observation.	NAME OF OBJECT.	Correction to Mean R.A. 1843, Jan. 1.
"	"	"	"	"	"	"	"	"	"	m s	h m s	"	"
1	+0.08	+1.98		+9.86	17.32	14.56	57.24	0.95	57.09		6. 38. 14.67	Sirius.	— 0.73
2					38.56	36.04	57.48				7. 24. 35.94	Castor.	— 1.61
3					8.52	6.01	57.49				7. 31. 5.91	Procyon.	— 1.30
4					46.11	43.59	57.48				7. 35. 43.50	Pollux.	— 1.58
5			43.26		59.18	56.60	57.42				....	Polaris S.P.	
6			0.43		1.01	58.75	57.74				13. 16. 58.63	Spica.	— 3.05
7					51.24						15. 26. 48.94	γ Libræ.	— 3.80
8					10.64						15. 28. 8.34	A. S. C. 1769.	— 4.09
9					7.04						15. 31. 4.74	42 Libræ.	— 4.04
10					0.86						15. 32. 58.57	κ Libræ.	— 3.94
11					38.01	35.69	57.68				15. 36. 35.72	α Serpentis.	— 3.50
12					39.37						15. 41. 37.08	δ Scorpii.	— 4.14
13					22.62						15. 44. 20.33	Piazzi XV. 198.	— 3.30
14					25.33	22.95	57.62				15. 56. 23.05	β Scorpii.	— 4.04
15					13.41	11.04	57.63				16. 6. 11.14	δ Ophiuchi.	— 3.73
16		+3.11		+10.06	9.13			1.10	61.07		3. 13. 10.34	α Persei.	— 1.86
17					52.02					— 0.40	4. 0. 52.87	Venus.	
18					55.12	56.50	61.38				4. 26. 56.39	Aldebaran.	— 1.47
19					6.19						5. 5. 7.49	Capella.	— 1.67
20					59.46	0.64	61.18				5. 7. 0.76	Rigel.	— 0.99
21													
22					22.40						5. 57. 23.74	$\odot$	
23					34.59	36.06	61.47				7. 24. 36.00	Castor.	— 1.63
24					4.67	6.02	61.35				7. 31. 6.08	Procyon.	— 1.31
25								1.10	61.97		6. 1. 33.33	$\odot$	
26					31.08								
27					30.42	33.07	62.65				14. 8. 33.03	Arcturus.	— 3.00
28					8.14	10.85	62.71				14. 38. 10.78	ϵ Bootis.	— 3.09
29					1.61						14. 42. 4.25	8 Libræ.	— 3.60
30					12.78	15.74	62.96				14. 42. 15.42	α Libræ.	— 3.60
31					14.30						14. 51. 16.95	β Ursæ Minoris.	— 3.23
32					35.05	37.48	62.43				15. 8. 37.72	β Libræ.	— 3.61
33					49.18	51.71	62.53				16. 19. 51.89	Antares.	— 4.34
34					43.59						16. 21. 46.31	Groombridge 2345.	— 3.24
35					7.08					+ 0.70	16. 31. 10.50	Mars.	
36					16.78						16. 37. 19.51	25 Scorpii.	— 4.37
37													
38					56.18				63.07		19. 43. 59.05	Saturn.	
39			11.38		56.17	61.06	64.89	1.00	63.32	— 1. 5.01	1. 2. 59.29	Polaris.	— 0.72
40					43.00						2. 22. 41.40	δ	
41					53.19	56.55	63.36				4. 26. 56.69	Aldebaran.	— 1.52
42													
43					39.26						6. 5. 42.83	$\odot$	
44					11.12	14.60	63.48				6. 38. 14.72	Sirius.	— 0.77
45					2.32	6.03	63.71				7. 31. 5.95	Procyon.	— 1.32
46					39.79	43.61	63.82				7. 35. 43.42	Pollux.	— 1.60
47			39.76		56.01	1.52	65.51				1. 2. 59.88	Polaris S.P.	— 1.18
48					54.77	58.70	63.93				13. 16. 58.64	Spica.	— 3.00
49					33.50	37.48	63.98				15. 8. 37.45	β Libræ.	— 3.61

June 22 and 23. The azimuthal error by Polaris and Polaris S. P., allowing 0^s.18 for clock-rate and change of R.A.

[44]

TRANSITS OBSERVED AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1843.

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	I.	II.	III.	IV.	V.	VI.	VII. WIRE.	Correction to Mean of Wires Observed.	Concluded Transit over Mean of the Seven Wires.	Observer.
			m s	m s	m s	m s	m s	m s	h m s	m s	h m s	
June 23	1	α Coronæ Borealis	17.5	32.2	46.6	1.2	15.7	30.0	15. 27. 44.4		15. 27. 1.08	WR
	2	α Serpentis.....	52.3	5.1	18.3	31.2	44.2	56.9	15. 36. 9.8		15. 35. 31.11	WR
	3	β^1 Scorpii.....	37.4	51.1	4.7	18.6	32.1	45.5	15. 55. 59.4		15. 55. 18.40	WR
	4	δ Ophiuchi.....	27.6	40.6	53.4	6.5	19.4	31.9	16. 5. 44.9		16. 5. 6.33	WR
	5	Antares.....	4.2	18.4	32.6	47.1	1.5	15.6	16. 19. 30.0		16. 18. 47.06	WR
	6	Groombridge 2345	...	...	...	...	9.6	36.6	16. 22. 3.9	— 54.87	16. 20. 41.83	WR
	7	Mars 1 L.....	13.6	28.0	42.4	56.7	10.8	24.8	16. 29. 39.3		16. 28. 56.52	WR
	8	Bradley 2134....	19.5	32.5	45.5	58.4	11.1	23.6	16. 38. 36.7		16. 37. 58.19	WR
	9	α Herculis.....	48.3	1.5	15.0	28.3	41.3	54.5	17. 7. 8.0		17. 6. 28.13	WR
June 24	10	$\odot$ 1 L.....	56.5	10.4	24.5	38.6	52.7	6.7	6. 9. 20.8		6. 8. 38.60	H
	11*	Procyon.....	...	...	...	...	13.5	26.5	7. 31. 39.5	— 25.84	7. 31. 0.66	H
June 26	12	$\odot$ 1 L.....	12.7	26.8	41.0	55.2	9.4	23.1	6. 17. 37.3		6. 16. 55.07	H
	13	$\odot$ 2 L.....	30.8	44.9	59.2	13.0	27.0	41.0	6. 19. 55.5		6. 19. 13.06	H
	14	Sirius.....	...	...	54.5	7.8	20.8	34.0	6. 38. 48.0	— 13.42	6. 38. 7.60	H
	15	Castor.....	43.0	58.5	13.7	29.0	44.3	58.9	7. 25. 14.6		7. 24. 28.86	H
	16	Procyon.....	19.8	32.7	45.8	58.7	11.6	24.5	7. 31. 37.5		7. 30. 58.66	H
	17	β Libræ.....	50.7	3.7	16.7	29.8	42.8	55.7	15. 9. 8.7		15. 8. 29.73	H
	18	α Coronæ Borealis	14.6	29.0	43.6	58.5	12.7	27.0	15. 28. 41.6		15. 27. 58.15	H
	19	α Serpentis.....	49.1	2.0	15.0	28.0	41.0	53.8	15. 37. 6.7		15. 36. 27.95	H
	20	α Scorpii.....	25.7	39.8	53.7	8.5	22.6	36.7	15. 44. 50.7		15. 44. 8.25	H
	21	β^1 Scorpii.....	34.4	47.7	1.5	15.6	29.4	42.7	15. 56. 56.5		15. 56. 15.40	H
	22	δ Ophiuchi.....	24.7	37.6	50.5	3.5	16.6	29.0	16. 6. 41.9		16. 6. 3.40	H
	23	Antares.....	0.7	15.4	29.7	44.0	58.5	12.6	16. 20. 26.8		16. 19. 43.96	H
	24*	Mars 1 L.....	1.8	16.4	30.5	44.7	58.7	12.8	16. 27. 27.5		16. 26. 44.63	H
	25*	γ Aquilæ.....	...	...	30.5	43.6	56.7	9.7	19. 39. 22.6	— 13.08	19. 38. 43.54	H
	26*	Saturn 1 L.....	2.5	...	30.5	...	57.7	...	19. 43. 25.5		19. 42. 44.05	H
	27*	Saturn 2 L.....	...	17.7	...	45.6	...	12.6	19. 43.		19. 42. 45.30	H
	28	β Aquilæ.....	52.8	5.9	18.7	31.8	44.7	57.6	19. 48. 10.6		19. 47. 31.73	H
	29	Aldebaran.....	...	...	34.6	48.5	1.7	...	4. 27. 28.3	— 10.07	4. 26. 48.21	WR
	30	Venus 2 L.....	11.0	24.6	38.4	52.3	6.3	20.1	4. 31. 33.5		4. 30. 52.31	WR
	31	Capella.....	4.0	22.4	40.6	59.5	18.1	36.1	5. 5. 54.6		5. 4. 59.33	WR
	32	Rigel.....	...	...	...	...	5.2	18.4	5. 7. 31.4	— 26.00	5. 6. 52.33	WR
June 27	33	Castor.....	...	57.3	12.4	27.5	42.6	57.8	7. 25. 13.0	— 7.61	7. 24. 27.49	WR
	34	Procyon.....	18.6	31.5	44.4	57.6	10.4	23.4	7. 31.	+ 6.46	7. 30. 57.44	WR
	35	Pollux.....	51.2	5.8	20.3	35.2	49.6	4.2	7. 36. 18.8		7. 35. 35.01	WR
June 29	36	β Libræ.....	...	...	13.6	27.0	39.9	52.8	15. 9. 6.0	— 13.02	15. 8. 26.84	H
	37	α Coronæ Borealis	11.6	26.0	40.7	55.4	9.7	24.0	15. 28. 38.5		15. 27. 55.13	H
	38	δ Ophiuchi.....	21.7	34.7	47.6	0.7	13.5	26.5	16. 6. 39.1		16. 6. 0.54	H
	39	Antares.....	...	...	...	41.3	55.7	9.7	16. 20.	— 14.34	16. 19. 41.22	H
July 1	40	β^1 Scorpii.....	29.3	43.0	56.7	10.6	23.8	37.7	15. 56. 51.3		15. 56. 10.34	H
	41	δ Ophiuchi.....	19.7	32.8	45.7	58.6	11.7	24.2	16. 6. 37.3		16. 5. 58.57	H
	42	Antares.....	56.5	10.7	24.8	39.5	53.6	7.8	16. 20. 22.0		16. 19. 39.28	H
July 2	43*	Sirius.....	20.0	33.6	46.7	0.4	13.7	26.9	6. 38. 40.5		6. 38. 0.25	WR
July 3	44*	$\odot$ 1 L.....	6.9	21.1	34.6	49.2	3.3	17.0	6. 46. 31.0		6. 45. 49.02	WR
	45*	$\odot$ 2 L.....	24.3	38.3	52.4	6.2	20.4	34.3	6. 48. 48.3		6. 48. 6.32	WR
ILLUMINATED END OF AXIS WEST. Order of Wires for Stars above the Pole, G, F, E, D, C, B, A.												
11. Very much clouded and faint. 24, 25. The images much distorted: the observation not considered good.							26, 27. The image bad; the planet is necessarily very ill-defined on account of its small altitude. 43, 44, 45. Very tremulous.					

CALCULATION OF APPARENT RIGHT ASCENSIONS.

[45]

No. for Reference.	Error of Collimation.	Level Error.	Seconds of Transit cor. for two Errors.	Azimuthal Error.	Seconds of Transit Corrected.	Tabular R.A. of Known Stars.	Clock apparently Slow.	Adopted Losing Rate.	Clock Slow at 0 ^h Sidereal.	Correction for Duration of Passage of Semidiameter.	Apparent R.A. of Center from the Observation.	NAME OF OBJECT.	Correction to Mean R.A. 1843, Jan. 1.
	"	"	s	"	s	s	s	s	s	m s	h m s		s
1	+0.08	+3.11		+10.06	1.62	5.65	64.03	1.00	63.32		15. 28. 5.58	α Coronæ Borealis.	— 3.24
2					31.74	35.68	63.94				15. 36. 35.71	α Serpentis.	— 3.49
3					19.15	22.97	63.82				15. 56. 23.13	β^1 Scorpii.	— 4.05
4					7.00	11.05	64.05				16. 6. 10.99	δ Ophiuchi.	— 3.74
5					47.84	51.72	63.88				16. 19. 51.84	Antares.	— 4.35
6					42.01						16. 21. 46.01	Groombridge 2345.	— 3.24
7					57.30					+ 0.70	16. 30. 2.01	Mars.	
8					58.83						16. 39. 2.84	Bradley 2134.	— 3.73
9					28.72	32.96	64.24				17. 7. 32.76	α Herculis.	— 3.59
10					39.16			1.00	4.43	+1. 8.86	6. 9. 52.70	$\odot$	
11					1.30	6.04	4.74				....	Procyon.	
12					4.63			1.00	6.33		6. 18. 11.22	$\odot$	
13					8.34	14.62	6.28				6. 38. 14.95	Sirius.	— 0.79
14					29.36	36.09	6.73				7. 24. 36.00	Castor.	— 1.66
15					59.30	6.05	6.75				7. 31. 5.94	Procyon.	— 1.34
16					30.42	37.47	7.05				15. 8. 37.38	β Libræ.	— 3.60
17					58.69	5.63	6.94				15. 28. 5.67	α Coronæ Borealis.	— 3.22
18					28.58	35.68	7.10				15. 36. 35.56	α Serpentis.	— 3.49
19					9.03						15. 44. 16.01	λ Scorpii.	— 4.14
20					16.15	22.97	6.82				15. 56. 23.14	β^1 Scorpii.	— 4.05
21					4.07	11.05	6.98				16. 6. 11.07	δ Ophiuchi.	— 3.74
22					44.74	51.72	6.98				16. 19. 51.75	Antares.	— 4.35
23					45.41					+ 0.69	16. 26. 53.11	Mars.	
24					44.16	51.28	7.12				19. 38. 51.31	γ Aquilæ.	— 3.65
25					45.44						19. 42. 52.59	Saturn.	
26					32.37	39.66	7.35				19. 47. 39.52	β Aquilæ.	— 3.70
27					48.80	56.64	7.84	1.00	7.68		4. 26. 56.67	Aldebaran.	— 1.61
28					52.88					— 0.39	4. 31. 0.36	Venus.	
29					59.73						5. 5. 7.62	Capella.	— 1.83
30					53.02	0.74	7.72				5. 7. 0.91	Rigel.	— 1.09
31					27.99	36.10	8.11				7. 24. 35.98	Castor.	— 1.67
32					58.08	6.05	7.97				7. 31. 6.07	Procyon.	— 1.34
33					35.54	43.64	8.10				7. 35. 43.54	Pollux.	— 1.63
34					27.54	37.46	9.92	0.95	9.22		15. 8. 37.36	β Libræ.	— 3.59
35					55.68	5.60	9.92				15. 28. 5.51	α Coronæ Borealis.	— 3.19
36					1.22	11.05	9.83				16. 6. 11.08	δ Ophiuchi.	— 3.74
37					42.00	51.73	9.73				16. 19. 51.86	Antares.	— 4.36
38					11.10	22.97	11.87	...	...		....	β^1 Scorpii.	
39					59.25	11.05	11.80				....	δ Ophiuchi.	
40					40.06	51.73	11.67				....	Antares.	
41					1.00	14.67	13.67	0.92	13.42		....	Sirius.	
42					58.25						6. 47. 11.94	$\odot$	

June 23. After the observation of α Herculis the Transit clock was put forward 1^m.June 23, 21^h, and 30, 21^h. The Transit instrument was levelled.

[46]

TRANSITS OBSERVED AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1843.

MONTH and DAY.	No. for References	NAME OF OBJECT.	I.	II.	III.	IV.	V.	VI.	VII. WIRE.	Correction to Mean of Wires Observed.	Concluded Transit over Mean of the Seven Wires.	Observer.
			m s	m s	m s	m s	m s	m s	h m s	m s	h m s	
July 4	1	β Libræ.....	43.0	56.2	9.4	22.4	35.5	48.2	15. 9. 1.5		15. 8. 22.31	H
	2	α Coronæ Borealis	6.7	21.6	35.7	50.5	4.8	19.6	15. 28. 33.8		15. 27. 50.38	H
	3	α Serpentis.....	41.6	54.5	7.5	20.5	33.6	46.2	15. 36. 59.4		15. 36. 20.47	H
	4	δ Ophiuchi.....	17.0	29.7	42.8	55.8	8.7	21.6	16. 6. 34.5		16. 5. 55.73	H
	5*	Antares.....	53.6	7.7	22.1	36.7	50.8	4.8	16. 20. 19.4		16. 19. 36.44	H
	6	Jupiter 1 L.....	12.6	...	38.8	...	5.5	...	21. 58. 31.8		21. 57. 52.18	H
	7	Jupiter 2 L.....	...	29.0	...	55.6	...	21.7	21. 58.		21. 57. 55.43	H
July 5	8*	Aldebaran.....	...	...	...	...	53.5	6.7	4. 27. 20.4	— 26.78	4. 26. 40.09	WR
July 6	9*	Rigel.....	...	...	30.5	43.7	56.7	9.5	5. 7. 22.5	— 13.01	5. 6. 43.57	H
	10	Venus 2 L.	30.7	44.7	58.6	12.7	26.7	40.8	5. 22. 54.6		5. 22. 12.68	H
July 7	11*	α Coronæ Borealis	4.7	19.0	33.6	48.0	2.7	16.7	15. 28. 31.6		15. 27. 48.05	H
	12	α Serpentis.....	39.0	52.1	5.0	18.0	31.0	43.7	15. 36. 56.7		15. 36. 17.93	H
	13	β Scorpii.....	24.6	38.0	51.7	5.5	19.0	32.6	15. 56. 46.4		15. 56. 5.40	H
	14*	Mars 1 L.....	33.7	48.6	2.7	16.7	30.9	44.8	16. 19. 59.8		16. 19. 16.74	H
July 8	15	α Serpentis.....	38.6	51.6	4.6	17.6	30.4	43.0	15. 36. 56.2		15. 36. 17.43	H
	16	δ Ophiuchi.....	13.7	26.7	39.8	52.6	5.7	18.5	16. 6. 31.6		16. 5. 52.65	H
	17	Antares.....	50.5	4.8	18.9	33.6	47.7	1.7	16. 20. 16.5		16. 19. 33.38	H
	18	γ 1 L.....	30.8	45.7	0.6	15.0	29.8	44.6	16. 31. 58.6		16. 31. 15.01	H
	19	η Ophiuchi.....	28.2	41.6	54.9	8.5	21.8	35.0	17. 1. 48.2		17. 1. 8.32	H
	20	θ Ophiuchi.....	26.2	40.0	54.0	8.3	22.6	36.5	17. 12. 50.8		17. 12. 8.35	H
	21	α Ophiuchi.....	44.5	57.5	10.7	24.0	37.2	50.2	17. 28. 3.5		17. 27. 23.74	H
July 9	22	α Ophiuchi.....	43.6	56.8	10.1	23.5	36.5	49.5	17. 28. 2.7		17. 27. 23.24	WR
	23	γ 1 L.....	58.6	13.3	28.0	42.6	57.4	11.8	17. 35. 26.3		17. 34. 42.57	WR
	24	4 Sagittarii.....	15.6	29.7	43.6	57.8	12.0	25.9	17. 50. 39.6		17. 49. 57.74	WR
	25	μ Sagittarii.....	26.3	40.1	53.9	7.6	21.6	25.0	18. 4. 48.9		18. 4. 7.63	WR
	26	Aldebaran.....	57.4	10.6	23.8	37.4	50.7	4.0	4. 27. 17.6		4. 26. 37.36	H
July 11	27	Capella.....	51.3	9.7	28.4	46.6	5.4	23.3	5. 5. 41.9		5. 4. 46.66	WR
	28	Rigel.....	...	...	...	39.4	52.4	5.4	5. 7. 18.4	— 19.51	5. 6. 39.39	WR
	29*	Venus 2 L.....	38.1	52.6	6.7	21.1	34.6	48.4	5. 49. 2.6		5. 48. 20.58	WR
July 14	30	$\odot$ 2 L.....	18.2	32.0	46.0	0.1	14.0	27.7	7. 33. 41.8		7. 32. 59.97	H
	31*	λ Capricorni.....	...	...	31.6	44.6	57.7	10.6	21. 38. 23.9	— 13.16	21. 37. 44.52	H
	32	Jupiter 1 L.....	20.5	...	46.8	...	13.7	...	21. 55. 39.8		21. 55. 0.20	H
	33	Jupiter 2 L.....	...	36.7	...	3.5	...	29.6	21. 55.		21. 55. 3.27	H
	34	α Aquarii.....	44.0	56.7	9.7	22.7	35.6	48.5	21. 58. 1.5		21. 57. 22.67	H
	35	γ 2 L.....	8.7	21.7	35.3	48.6	1.7	14.8	22. 12. 28.4		22. 11. 48.46	H
	36*	Rigel.....	57.6	10.7	23.5	36.3	49.2	2.2	5. 7. 15.2		5. 6. 36.39	M
	37	β Tauri.....	16.0	30.5	45.2	59.9	14.7	29.0	5. 16. 43.7		5. 15. 59.86	M
	38	δ Orionis.....	57.7	10.6	23.4	36.3	49.1	1.9	5. 24. 14.8		5. 23. 36.26	M
	39	ϵ Orionis.....	13.1	26.0	39.0	51.8	4.7	17.5	5. 28. 30.3		5. 27. 51.77	M
	40*	α Orionis.....	...	...	...	17.2	30.4	43.4	5. 46. 56.2	— 19.46	5. 46. 17.34	M
	41*	Venus 2 L.....	...	39.1	53.2	7.2	21.3	35.2	6. 4. 49.2	— 7.02	6. 4. 7.18	M
	42*	Mercury 2 L....	31.0	44.9	58.8	12.4	26.8	40.3	6. 8.	+ 6.93	6. 8. 12.63	M
July 15	43*	$\odot$ 1 L.....	4.5	18.3	32.1	46.0	0.0	13.8	7. 35. 27.7		7. 34. 46.06	M
	44*	$\odot$ 2 L.....	20.3	34.2	48.1	...	...	...	7. 36.	+ 27.75	7. 37. 1.95	M
	45*	Mars 1 L.....	44.5	58.9	12.8	27.7	41.7	55.8	16. 19. 10.0		16. 18. 27.35	M
ILLUMINATED END OF AXIS WEST. Order of Wires for Stars above the Pole, G, F, E, D, C, B, A.												
5, 8, 9, 40, 41, 42, 43, 44. Cloudy. 11, 14. The intervals rather irregular. 14. Cloudy: the image very bad.							29. Very cloudy: the intervals irregular. 31. Very tremulous. 36. Tremulous. 45. The intervals irregular.					

CALCULATION OF APPARENT RIGHT ASCENSIONS.

[47]

No. for Reference.	Error of Collimation.	Level Error.	Seconds of Transit cor. for two Errors.	Azimuthal Error.	Seconds of Transit Corrected.	Tabular R.A. of Known Stars.	Clock apparently Slow.	Adopted Losing Rate.	Clock Slow at 0 ^h Sidereal.	Correction for Duration of Passage of Semidiameter.	Apparent R.A. of Center from the Observation.	NAME OF OBJECT.	Correction to Mean R.A. 1843, Jan. 1.
"	"	"	"	"	"	"	"	"	"	m s	h m s	"	"
1	+0.08	+3.23		+10.06	23.01	37.43	14.42	0.86	13.98		15. 8. 37.53	β Libræ.	— 3.56
2					50.93	5.56	14.63				15. 28. 5.46	α Coronæ Borealis.	— 3.15
3					21.11	35.64	14.53				15. 36. 35.65	α Serpentis.	— 3.45
4					56.41	11.04	14.63				16. 6. 10.97	δ Ophiuchi.	— 3.73
5					37.22	51.72	14.50				16. 19. 51.78	Antares.	— 4.35
6					54.54						21. 58. 9.31	Jupiter.	
7													
8		+3.24			40.68	56.85	16.17	...	...		....	Aldebaran.	
9					44.27	0.93	16.66	0.74	16.46		5. 7. 0.89	Rigel.	— 1.28
10					13.25					— 0.42	5. 22. 29.46	Venus.	
11					48.59	5.54	16.95				15. 28. 5.53	α Coronæ Borealis.	— 3.13
12					18.57	35.62	17.05				15. 36. 35.51	α Serpentis.	— 3.43
13					6.15	22.94	16.79				15. 56. 23.10	β^1 Scorpii.	— 4.02
14					17.52					+ 0.66	16. 19. 35.14	Mars.	
15					18.06	35.61	17.55	0.65	17.25		15. 36. 35.73	α Serpentis.	— 3.42
16					53.32	11.00	17.68				16. 6. 11.00	δ Ophiuchi.	— 3.69
17					34.16	51.71	17.55				16. 19. 51.85	Antares.	— 4.34
18					15.79					+ 1. 13.16	16. 32. 46.65	δ	
19					9.06						17. 1. 26.77	η Ophiuchi.	— 4.21
20					9.13						17. 12. 26.84	θ Ophiuchi.	— 4.52
21					24.55	42.52	17.97				17. 27. 42.27	α Ophiuchi.	— 3.69
22					23.85	42.52	18.67	0.70	18.09		....	α Ophiuchi.	
23					43.35					+ 1. 12.65	17. 36. 14.60	δ	
24					58.52						17. 50. 17.13	4 Sagittarii.	— 4.60
25					8.39	26.94	18.55				....	μ Sagittarii.	
26					37.96	56.95	18.99	...	...		....	Aldebaran.	
27		+2.69			47.02			0.92	20.76		5. 5. 7.97	Capella.	— 2.25
28					40.07	1.03	20.96				....	Rigel.	
29					21.11					— 0.39	5. 48. 41.70	Venus.	
30					0.50			1.00	22.57	— 1. 8.05	7. 32. 15.33	$\odot$	
31					45.22						21. 38. 8.69	λ Capricorni.	— 4.02
32					2.46						21. 55. 25.94	Jupiter.	
33													
34					23.32	46.80	23.48				....	α Aquarii.	
35					49.14					— 1. 2.68	22. 11. 9.95	δ	
36					37.07	1.10	24.03	1.00	23.74		5. 7. 1.02	Rigel.	— 1.45
37					0.36	21.31	23.95				5. 16. 24.32	β Tauri.	— 2.08
38					36.90	0.75	23.85				5. 24. 0.86	δ Orionis.	— 1.57
39					52.42	16.41	23.99				5. 28. 16.39	ϵ Orionis.	— 1.54
40					17.95	42.03	24.08				5. 46. 41.93	α Orionis.	— 1.66
41					7.71					— 0.39	6. 4. 31.31	Venus.	
42					13.16					— 0.25	6. 8. 36.90	Mercury.	
43					54.54						7. 36. 18.59	$\odot$	
44													
45					28.13					+ 0.62	16. 18. 53.17	Mars.	

July 7, 21^h, and 14, 21^h. The Transit instrument was levelled.

[48]

TRANSITS OBSERVED AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1843.

MONTH and DAY.	No. for Reference.	NAME of OBJECT.	I.	II.	III.	IV.	V.	VI.	VII. WIRE.	Correction to Mean of Wires Observed.	Concluded Transit over Mean of the Seven Wires.	Observer.
			m s	m s	m s	m s	m s	m s	h m s	m s	h m s	
July 15	1	25 Scorpii.....	11.8	26.0	40.1	54.6	8.8	22.8	16. 37. 37.0		16. 36. 54.44	M
	2	Bradley 2134...	...	...	...	...	51.0	3.7	16. 39. 16.7	— 25.74	16. 38. 38.06	M
	3	Piazzi XVI. 291,	...	20.1	43.7	7.3	31.1	54.2	16. 56.	— 0.01	16. 56. 7.27	M
	4	α Herculis.....	28.1	41.3	54.7	8.1	21.3	34.6	17. 7. 47.9		17. 7. 8.00	M
July 16	5	Rigel.....	55.7	8.6	21.6	34.6	47.8	0.6	5. 7. 13.6		5. 6. 34.64	H
	6*	β Tauri.....	13.7	28.5	43.3	57.7	12.7	26.7	5. 16. 41.6		5. 15. 57.75	H
	7	ε Orionis.....	11.4	24.0	36.9	49.6	2.8	15.6	5. 28. 28.5		5. 27. 49.83	H
	8	α Orionis.....	36.2	49.5	2.4	15.5	28.5	41.4	5. 46. 54.3		5. 46. 15.40	H
July 17	9	ζ Aquilæ.....	...	...	...	48.5	1.7	14.8	18. 58. 28.0	— 19.86	18. 57. 48.39	H
	10	Saturn 1 L.	21.7	...	49.7	...	17.5	...	19. 36. 44.8		19. 36. 3.43	H
	11	Saturn 2 L.	...	36.8	...	4.8	...	32.2	19. 36.		19. 36. 4.60	H
	12	γ Aquilæ.....	45.5	58.5	11.6	24.6	37.6	50.5	19. 39. 3.7		19. 38. 24.57	H
	13	α Orionis.....	...	...	1.3	14.5	...	40.2	5. 46. 53.3	— 12.96	5. 46. 14.37	M
July 18	14	⊙ 1 L.	8.2	22.0	35.9	49.9	3.7	17.2	7. 47. 31.3		7. 46. 49.75	M
	15	⊙ 2 L.	23.8	37.7	51.7	5.5	19.2	32.8	7. 49. 46.9		7. 49. 5.37	M
	16	Sirius.....	6.5	19.8	33.4	46.7	0.0	13.4	6. 38. 26.8		6. 37. 46.66	H
July 19	17	δ Ophiuchi.....	...	16.7	29.6	42.6	55.5	8.5	16. 6.	— 0.01	16. 5. 42.57	H
	18*	Antares.....	40.0	54.6	8.7	23.5	37.6	51.8	16. 20. 6.0		16. 19. 23.17	H
	19*	Bradley 2134...	55.7	8.7	21.6	34.5	47.6	59.8	16. 39. 12.8		16. 38. 34.38	H
	20	α Herculis.....	24.5	37.6	51.0	4.6	17.7	30.8	17. 7. 44.5		17. 7. 4.39	H
	21*	Jupiter 1 L.	30.8	...	57.4	...	23.6	...	21. 53. 50.6		21. 53. 10.60	H
	22*	Jupiter 2 L.	...	47.9	...	14.3	...	40.6	21. 53.		21. 53. 14.27	H
	23*	α Aquarii.....	39.6	52.6	5.3	18.5	31.3	43.8	21. 57. 57.0		21. 57. 18.30	H
	24	α Arietis.....	12.2	26.4	40.2	54.1	8.1	22.0	1. 58. 36.0		1. 57. 54.14	M
	25	⊙ 2 L.	5.0	18.8	32.8	46.6	0.0	13.7	2. 3. 27.7		2. 2. 46.37	M
	26*	⊙ 1 L.	9.0	23.0	36.8	50.9	4.7	18.3	7. 55. 31.8		7. 54. 50.64	M
July 20	27*	⊙ 2 L.	24.5	38.3	52.0	...	19.7	33.6	7. 57. 47.2	+ 0.01	7. 57. 5.89	M
July 21	28*	⊙ 1 L.	8.7	22.7	36.6	50.5	4.0	17.7	7. 59. 31.8		7. 58. 50.28	H
	29*	⊙ 2 L.	23.8	37.8	51.9	5.5	19.5	32.8	8. 1. 46.7		8. 1. 5.43	H
	30	ζ Cygni.....	...	...	34.7	49.5	4.2	19.0	21. 6. 34.0	— 14.80	21. 5. 49.48	H
	31	β Aquarii.....	12.8	25.7	38.5	51.5	4.6	17.2	21. 23. 30.2		21. 22. 51.50	H
	32	ε Pegasi.....	23.4	36.3	49.4	2.4	15.5	28.3	21. 36. 41.3		21. 36. 2.37	H
	33*	Jupiter 1 L.	44.0	...	10.7	24.0	...	...	21. 52.	+ 17.66	21. 52. 23.89	H
	34*	Jupiter 2 L.	...	0.3	...	27.3	...	...	21. 53. 7.3	— 4.42	21. 52. 27.21	H
	35*	⊙ 2 L.	43.6	57.8	12.2	26.5	41.0	55.0	3. 47. 9.2		3. 46. 26.47	R
	36	Antares.....	38.1	52.2	6.9	21.2	...	...	16. 19.	+ 21.48	16. 19. 21.08	M
	37	Mars 1 L.	...	24.9	89.1	53.6	7.9	21.9	16. 21. 36.2	— 7.12	16. 20. 53.48	M
July 22	38	Aldebaran.....	46.1	59.7	13.1	26.7	40.0	53.2	4. 27. 6.7		4. 26. 26.50	M
	39	⊙ 2 L.	43.8	58.2	12.7	27.2	41.7	...	4. 42.	+ 14.43	4. 42. 27.15	M
July 24	40	δ Aquilæ.....	28.3	41.2	54.1	7.0	19.9	32.7	19. 17. 45.6		19. 17. 6.97	E
	41	Saturn 1 L.	7.4	...	35.0	...	2.8	...	19. 34. 30.3		19. 33. 48.88	E
	42	Saturn 2 L.	...	22.7	...	50.3	...	17.7	19. 34.		19. 33. 50.23	E
	43	γ Aquilæ.....	40.7	53.7	6.8	19.8	32.9	45.8	19. 38. 58.8		19. 38. 19.79	E
	44	α Aquilæ.....	0.5	13.4	26.4	39.3	52.3	5.2	19. 43. 18.2		19. 42. 39.33	E
	45	β Aquilæ.....	29.4	42.2	55.1	8.0	21.0	33.9	19. 47. 46.8		19. 47. 8.06	E
ILLUMINATED END OF AXIS WEST. Order of Wires for Stars above the Pole, G, F, E, D, C, B, A.												
6, 19, 23. The intervals irregular. 18, 19, 33, 34. Very cloudy. 21, 22, 23. The images indistinct.							26, 27. The limbs frequently clouded during the passage. 28, 29. Very faint: cloudy. 35. Cloudy.					

CALCULATION OF APPARENT RIGHT ASCENSIONS.

[49]

No. for Reference.	Error of Collimation.	Level Error.	Seconds of Transit cor. for two Errors.	Azimuthal Error.	Seconds of Transit Corrected.	Tabular R. A. of Known Stars.	Clock apparently Slow.	Adopted Losing Rate.	Clock Slow at 0 ^h Sidereal.	Correction for Duration of Passage of Semidiameter.	Apparent R.A. of Center from the Observation.	NAME OF OBJECT.	Correction to Mean R.A. 1843, Jan. 1.
	"	"	s	"	s	s	s	s	s	m s	h m s		s
1	+0.08	+2.69		+10.06	55.22			1.00	23.74		16. 37. 19.65	25 Scorpii.	— 4.38
2					38.69						16. 39. 3.12	Bradley 2134.	— 3.71
3					7.49						16. 56. 31.93	Piazzi XVI. 291.	— 2.95
4					8.57	32.96	24.39				17. 7. 33.02	α Herculis.	— 3.59
5					35.32	1.14	25.82	1.10	25.68		5. 7. 1.23	Rigel.	— 1.49
6					58.25	24.37	26.12				5. 16. 24.16	β Tauri.	— 2.14
7					50.48	16.46	25.98				5. 28. 16.41	ε Orionis.	— 1.59
8					16.01	42.08	26.07				5. 46. 41.95	α Orionis.	— 1.71
9					48.97	15.44	26.47				18. 58. 15.51	ζ Aquilæ.	— 3.84
10					4.77						19. 36. 31.34	Saturn.	
11					25.17	51.55	26.38				19. 38. 51.75	γ Aquilæ.	— 3.92
12					14.98	42.10	27.12	0.90	26.90		....	α Orionis.	
13					58.09						7. 48. 25.28	☉	
14					47.37	14.89	27.52	0.90	27.21		6. 38. 14.83	Sirius.	— 1.06
15		+2.11			43.20	10.96	27.76				16. 6. 11.02	δ Ophiuchi.	— 3.65
16					23.93	51.66	27.73				16. 19. 51.75	Antares.	— 4.29
17					34.98						16. 39. 2.82	Bradley 2134.	— 3.69
18					4.93	32.94	28.01				17. 7. 32.78	α Herculis.	— 3.57
19					13.14						21. 53. 41.17	Jupiter.	
20					18.92	46.91	27.99				21. 57. 46.95	α Aquarii.	— 3.90
21					54.63	22.93	28.30	0.85	28.23		....	α Arietis.	
22					46.89					—1. 4.16	2. 2.11.03	☽	
23					58.77						7. 56. 27.28	☉	
24					58.36			0.64	28.71		8. 0. 27.28	☉	
25					49.93	19.12	29.19				....	ζ Cygni.	
26					52.16	21.42	29.26				....	β Aquarii.	
27					2.94	32.34	29.40				....	ε Pegasi.	
28					26.25						21. 52. 55.54	Jupiter.	
29					26.97				29.35	—1. 7.73	3. 45. 48.69	☽	
30					21.84	51.63	29.79	0.62	29.46		....	Antares.	
31					54.25					+ 0.60	16. 21. 24.73	Mars.	
32					27.03	57.31	30.28		30.08		....	Aldebaran.	
33					27.64					—1. 9.26	4. 41. 48.58	☽	
34					7.57	38.87	31.30	0.58	30.36		19. 17. 38.89	δ Aquilæ.	— 4.09
35					50.30						19. 34. 21.63	Saturn.	
36					20.36	51.60	31.24				19. 38. 51.69	γ Aquilæ.	— 3.97
37					39.90	11.31	31.41				19. 43. 11.23	α Aquilæ.	— 4.03
38					8.65	40.01	31.36				19. 47. 39.98	β Aquilæ.	— 4.05

July 21, 21^h. The Transit instrument was levelled.

[50]

TRANSITS OBSERVED AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1843.

MONTH and DAY.	No. for Reference	NAME OF OBJECT.	I.	II.	III.	IV.	V.	VI.	VII. WIRE.	Correction to Mean of Wires Observed.	Concluded Transit over Mean of the Seven Wires.	Observer.
			m s	m s	m s	m s	m s	m s	h m s			
July 24	1	Jupiter 1 L.	29.3	...	55.8	...	22.3	...	21.51.48.4		21.51. 8.95	E
	2	Jupiter 2 L.	...	45.8	...	12.4	...	38.8	21.51.		21.51. 12.33	E
July 25	3	μ Sagittarii	13.2	26.9	40.8	54.6	8.5	21.9	18. 4.35.6		18. 3.54.50	WR
	4	γ Aquilæ	39.6	53.0	5.9	19.3	32.4	45.4	19.38.58.4		19.38. 19.15	WR
	5	α Aquilæ	59.6	12.8	25.6	38.8	51.5	4.5	19.43. 17.6		19.42.38.63	WR
	6	β Aquilæ	28.5	41.6	54.6	7.6	20.5	33.4	19.47.46.4		19.47. 7.52	WR
	7*	Juno	44.3	57.5	10.6	23.3	36.3	49.0	21.42. 2.0		21.41.23.28	WR
	8	Jupiter 1 L.	3.6	...	30.1	...	56.6	...	21.51.22.6		21.50.43.23	WR
	9	Jupiter 2 L.	...	20.3	...	46.7	...	13.2	21.51.		21.50.46.73	WR
	10	α Aquarii	35.6	48.4	1.6	14.5	27.4	40.3	21.57.53.1		21.57.14.41	WR
July 27	11*	Polaris S.P. ...	...	46.46.0	54.43.0	2.45.0	...	18.45.0	13.	+ 2. 0.97	13. 2.45.72	M
	12	Sirius	0.8	14.2	27.6	41.0	54.5	7.8	6.38.21.3		6.37.41.03	E
July 29	13	Antares	33.7	48.0	2.3	16.8	31.1	45.3	16.19.59.8		16.19.16.72	E
	14	η Draconis	...	...	53.1	20.3	48.0	...	16.21.	- 0.07	16.21.20.40	E
	15	Mars 1 L.	24.8	38.8	52.9	7.3	21.8	35.9	16.26.50.1		16.26. 7.37	E
	16	Bradley 2134. ...	49.1	2.0	15.1	28.0	41.0	53.8	16.39. 6.7		16.38.27.96	E
	17	Piazzi XVI. 291	46.1	9.9	33.1	57.0	20.7	44.0	16.57. 7.5		16.55.56.90	E
	18	* N.P.D. 87°.41'..	17.1	30.1	42.8	55.9	8.8	21.7	17. 4.34.6		17. 3.55.86	E
	19	α Herculis	18.1	31.6	44.5	57.8	11.2	24.6	17. 7.37.8		17. 6.57.95	E
	20	α Ophiuchi.	28.1	41.0	54.4	7.7	20.8	33.9	17.27.47.1		17.27. 7.57	E
	21	Saturn 1 L.	34.0	...	1.8	...	29.4	...	19.32.57.0		19.32.15.55	E
	22	Saturn 2 L.	...	49.1	...	16.7	...	44.3	19.32.		19.32.16.70	E
	23	γ Aquilæ	37.8	50.8	3.7	16.8	30.0	42.9	19.38.56.0		19.38.16.86	E
	24	α Aquilæ	57.4	10.3	23.3	36.4	49.4	2.5	19.43.15.6		19.42.36.42	E
	25	β Aquilæ	...	...	...	5.3	18.1	30.9	19.47.43.7	- 19.41	19.47. 5.09	E
	26	Groombridge 2990	55.6	15.8	35.8	56.2	16.3	36.2	19.52.56.8		19.51.56.10	E
July 30	27*	Polaris	...	...	55. 0.0	...	11. 5.0	...	1.	- 1.01	1. 3. 1.49	P
July 31	28*	☉ 1 L.	34.0	47.8	1.5	...	28.7	...	8.38.55.7	+ 5.44	8.38.14.98	M
	29	Saturn 1 L.	57.2	...	25.0	...	52.8	...	19.32.20.3		19.31.38.83	M
	30	Saturn 2 L.	...	12.7	...	40.2	...	7.9	19.32.		19.31.40.27	M
	31	γ Aquilæ	36.2	49.2	2.4	15.7	28.8	41.8	19.38.54.9		19.38.15.57	M
	32	α Aquilæ	56.1	9.1	22.2	35.2	48.2	1.1	19.43.14.1		19.42.35.14	M
	33	β Aquilæ	25.1	38.1	51.0	4.0	17.0	29.8	19.47.42.8		19.47. 3.97	M
	34	α^2 Capricorni ...	...	...	35.4	48.4	1.8	14.9	20. 9.28.1	- 13.21	20. 8.48.51	M
	35	ϵ Pegasi	17.2	30.2	43.1	56.1	9.2	22.3	21.36.35.3		21.35.56.20	M
	36	Jupiter 1 L.	20.0	...	46.8	...	13.5	...	21.48.40.0		21.48. 0.08	M
	37	Jupiter 2 L.	...	36.9	...	3.3	...	29.7	21.48.		21.48. 3.30	M
	38	Polaris	...	...	...	3. 4.0	11. 7.0	19. 7.0	1.27.10.0	-12. 4.88	1. 3. 2.12	D
	39	α Orionis	27.1	40.0	52.8	5.9	18.8	31.9	5.46.44.8		5.46. 5.90	E
	40	Sirius	58.6	11.9	25.1	38.6	52.1	5.4	6.38.18.8		6.37.38.65	E
	41*	Procyon	...	...	...	30.0	42.9	55.8	7.31. 8.7	- 19.39	7.30.29.06	E
	42*	Venus 2 L.	3.8	17.8	31.9	45.8	...	...	7.33.	+ 20.88	7.33.45.71	E
Aug. 1	43	Polaris S.P. ...	...	...	54.49.0	2.51.0	10.55.0	...	13.	+ 1.26	13. 2.52.93	E
	44	Antares	31.8	46.0	0.3	14.7	29.1	43.3	16.19.57.7		16.19.14.70	E
	45	η Draconis	...	...	51.0	18.2	45.6	...	16.21.	- 0.07	16.21.18.20	E
	46	Mars 1 L.	26.8	41.0	55.4	9.8	24.0	38.2	16.29.52.5		16.29. 9.68	E
	47	ϵ Ursæ Minoris..	56.53.5	58.29.5	0. 5.6	1.42.0	...	...	17.	+ 2.23.76	17. 1.41.41	E
ILLUMINATED END OF AXIS WEST. Order of Wires for Stars above the Pole, G, F, E, D, C, B, A.												
7. The 2nd wire was set down 58°.5: very faint. 11. Interrupted by clouds. 27, 28, 41, 42. Cloudy.												

CALCULATION OF APPARENT RIGHT ASCENSIONS.

[51]

No. for Reference.	Error of Collimation.	Level Error.	Seconds of Transit cor. for two Errors.	Azimuthal Error.	Seconds of Transit Corrected.	Tabular R. A. of Known Stars.	Clock apparently Slow.	Adopted Losing Rate.	Clock Slow at 0 ^h Sidereal.	Correction for Duration of Passage of Semidiameter.	Apparent R.A. of Center from the Observation.	NAME OF OBJECT.	Correction to Mean R.A. 1843, Jan. 1.
	"	"	s	"	s	s	s	s	s	m s	h m s		s
1	+0.08	+2.11		+10.06	11.34			0.58	30.86		21. 51. 42.73	Jupiter.	
2													
3					55.23	26.98	31.75	0.61	31.43		18. 4. 27.12	μ Sagittarii.	- 4.57
4					19.72	51.61	31.89				19. 38. 51.64	γ Aquilæ.	- 3.98
5					39.20	11.32	32.12				19. 43. 11.12	α Aquilæ.	- 4.04
6					8.11	40.02	31.91				19. 47. 40.04	β Aquilæ.	- 4.03
7					23.91						21. 41. 55.89	Juno.	
8					45.68						21. 51. 17.66	Jupiter.	
9					15.03	47.02	31.99				21. 57. 47.02	α Aquarii.	- 4.01
10													
11	+1.69	42.27	+9.02	56.84	29.78	32.94	...	...			....	Polaris S.P.	
12		41.08		41.67	15.05	33.38					....	Sirius.	
13					17.41	51.57	34.16	0.75	33.78		16. 19. 51.70	Antares.	- 4.20
14					20.41						16. 21. 54.70	η Draconis.	- 2.23
15					8.06					+ 0.57	16. 26. 42.93	Mars.	
16					28.49						16. 39. 2.79	Bradley 2134.	- 3.62
17					57.01						16. 56. 31.32	Piazzi XVI. 291.	- 2.59
18					56.40						17. 4. 30.72	* N.P.D. 87°.41'.	- 3.73
19					58.42	32.87	34.45				17. 7. 32.74	α Herculis.	- 3.50
20					8.06	42.45	34.39				17. 27. 42.39	α Ophiuchi.	- 3.62
21					16.80						19. 32. 51.19	Saturn.	
22					17.36	51.62	34.26				19. 38. 51.75	γ Aquilæ.	- 3.99
23					36.92	11.31	34.39				19. 43. 11.31	α Aquilæ.	- 4.06
24					5.61	40.04	34.43				19. 47. 40.01	β Aquilæ.	- 4.08
25					56.32						19. 52. 30.72	Groombridge 2990	- 3.61
26													
27		5.08	+5.37	56.97	32.17	35.20	0.60	35.32			....	Polaris.	
28					15.29					+ 1. 6.70	8. 39. 57.53	$\odot$	
29					39.97						19. 32. 15.78	Saturn.	
30					15.91	51.63	35.72				19. 38. 51.72	γ Aquilæ.	- 4.00
31		15.67			35.48	11.35	35.87				19. 43. 11.29	α Aquilæ.	- 4.07
32					4.32	40.05	35.73				19. 47. 40.13	β Aquilæ.	- 4.09
33					48.90	24.74	35.84				20. 9. 24.72	α^2 Capricorni.	- 4.50
34					56.53	32.48	35.95				21. 36. 32.39	ϵ Pegasi.	- 4.05
35					2.09						21. 48. 37.95	Jupiter.	
36					58.07	32.93	34.86	0.43	35.92		1. 3. 34.02	Polaris.	-32.59
37		5.71	+5.06	6.23	42.42	36.19			36.08		5. 46. 42.41	α Orionis.	- 2.05
38					39.05	15.12	36.07				6. 38. 15.25	Sirius.	- 1.29
39					30.29	6.43	36.14				7. 31. 6.50	Procyon.	- 1.72
40					46.01					- 0.36	7. 34. 21.86	Venus.	
41													
42													
43		49.48			57.65	33.33	35.68				1. 3. 33.96	Polaris S.P.	-32.99
44					15.11	51.54	36.43				16. 19. 51.48	Antares.	- 4.17
45					18.31						16. 21. 54.68	η Draconis.	- 2.11
46					10.09					+ 0.55	16. 29. 47.01	Mars.	
47					40.88						17. 2. 17.27	ϵ Ursæ Minoris.	+ 0.02

July 27. The azimuthal error by tabular places of Polaris S.P. and Sirius, allowing 0^s.44 for clock-rate.

July 28, 21^h. The Transit instrument was levelled.

July 30 and 31. The azimuthal error by tabular places of Polaris and γ Aquilæ, allowing 0^s.52 for clock-rate.

July 31 and Aug. 1. The azimuthal error by three consecutive passages of Polaris.

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	I.	II.	III.	IV.	V.	VI.	VII. WIRE.	Correction to Mean of Wires Observed.	Concluded Transit over Mean of the Seven Wires.	Observer.
			m s	m s	m s	m s	m s	m s	h m s			
Aug. 1	1	* N.P.D. 87°.41'..	15.5	28.2	41.0	54.0	6.8	19.6	17. 4. 32.5		17. 3. 53.94	E
	2	α Herculis	...	29.6	42.8	56.1	9.4	22.7	17. 7.	- 0.01	17. 6. 56.11	E
	3	Saturn 1 L.	39.0	...	6.8	...	34.8	...	19. 32. 2.4		19. 31. 20.75	E
	4	Saturn 2 L.	...	54.3	...	22.2	...	49.8	19. 31.		19. 31. 22.10	E
	5	γ Aquilæ.....	35.8	48.8	1.8	14.9	28.0	41.0	19. 38. 54.1		19. 38. 14.91	E
	6	α Aquilæ.....	55.7	8.6	21.5	34.5	47.5	0.4	19. 43. 13.3		19. 42. 34.50	E
	7	β Aquilæ.....	...	37.4	50.4	3.3	16.2	29.0	19. 47.	- 0.01	19. 47. 3.25	E
	8	Groombridge 2990	53.8	14.0	34.0	54.4	14.7	34.8	19. 52. 54.9		19. 51. 54.37	E
	9	Groombridge 3041	5.2	28.4	51.4	14.3	37.3	0.2	20. 2. 23.1		20. 1. 14.27	E
	10*	α^2 Capricorni ...	8.7	21.4	35.0	48.2	1.2	14.1	20. 9. 27.3		20. 8. 47.99	E
	11	Juno	4.1	16.8	29.8	42.8	55.7	8.0	21. 37. 21.1		21. 36. 42.61	E
	12	Jupiter 1 L.	51.7	...	18.0	...	44.3	...	21. 48. 11.0		21. 47. 31.25	E
	13	Jupiter 2 L.	...	8.3	...	34.8	...	1.2	21. 48.		21. 47. 34.77	E
	14	Polaris	...	46. 52.0	...	3. 6.0	...	...	1.	+ 8. 2.27	1. 3. 1.27	JH
Aug. 2	15	Mars 1 L.	33.9	48.0	2.2	16.7	31.2	45.1	16. 30. 59.7		16. 30. 16.69	M
	16	* N.P.D. 87°.41'..	0.1	13.4	26.4	39.3	...	...	17. 3.	+ 19.30	17. 3. 39.10	M
	17	Δ^1 Ophiuchi....	...	...	54.7	9.2	23.3	37.9	17. 5. 52.0	- 14.36	17. 5. 9.06	M
	18*	α Herculis.....	...	...	43.0	55.9	9.2	22.2	17. 7. 35.8	- 13.30	17. 6. 55.92	M
	19	α Ophiuchi	25.8	39.1	52.1	5.2	18.7	31.8	17. 27. 45.0		17. 27. 5.39	M
	20	Groombridge 2822	28.9	50.7	12.9	...	...	...	19. 15.	+ 43.87	19. 15. 34.70	M
	21	δ Aquilæ.....	23.1	36.1	49.0	1.9	14.8	27.7	19. 17. 40.5		19. 17. 1.87	M
	22	Piazzi XIX. 140	52.0	12.0	32.0	52.0	12.0	31.8	19. 20. 51.8		19. 19. 51.94	M
	23*	Saturn 1 L.	21.7	...	...	3.0	17.0	...	19. 31.	+ 9.20	19. 31. 3.10	M
	24*	Saturn 2 L.	...	36.8	...	...	...	32.0	19. 31.	+ 0.03	19. 31. 4.43	M
	25*	γ Aquilæ.....	35.2	48.3	1.3	14.4	27.8	40.7	19. 38. 53.9		19. 38. 14.51	M
	26*	α Aquilæ.....	55.2	8.2	21.1	34.1	47.1	0.1	19. 43. 13.0		19. 42. 34.11	M
	27	β Aquilæ.....	...	37.0	50.1	3.1	16.0	28.8	19. 47. 41.8	- 6.47	19. 47. 3.00	M
	28	Groombridge 2990	53.2	13.7	33.8	54.1	14.2	34.1	19. 52. 54.5		19. 51. 53.94	M
	29	Groombridge 3041	5.0	28.0	51.0	13.9	36.9	59.7	20. 2. 22.7		20. 1. 13.88	M
	30	α^2 Capricorni ...	8.0	21.1	34.3	47.6	1.0	14.1	20. 9. 27.2		20. 8. 47.62	M
	31*	Juno	20.2	33.1	46.0	59.0	12.0	24.8	21. 36. 37.7		21. 35. 58.98	M
	32*	Jupiter 1 L.	23.0	36.3	...	2.8	...	29.3	21. 47.	+ 9.97	21. 47. 2.82	M
	33*	Jupiter 2 L.	...	...	52.9	...	19.7	...	21. 47. 45.9	- 13.29	21. 47. 6.21	M
	34	α Orionis.....	25.9	38.8	51.9	4.8	17.8	30.7	5. 46. 43.7		5. 46. 4.80	E
Aug. 4	35	Sirius	57.4	10.9	24.3	37.8	51.1	4.5	6. 38. 17.9		6. 37. 37.70	E
	36	Castor	13.4	28.6	43.8	59.0	14.1	29.2	7. 24. 44.5		7. 23. 58.95	E
	37*	Pollux.....	22.7	37.1	51.6	6.0	...	...	7. 35.	+ 21.93	7. 35. 6.28	E
	38	Venus 2 L.	30.8	44.8	58.7	12.7	26.7	40.5	7. 44. 54.4		7. 44. 12.66	E
	39*	$\odot$ 1 L.	3.0	16.7	30.4	44.0	57.5	10.8	8. 54. 24.2		8. 53. 43.80	M
	40*	$\odot$ 2 L.	15.8	29.7	43.0	56.6	10.0	23.2	8. 56. 36.8		8. 55. 56.44	M
	41	δ Scorpii	47.2	1.1	15.1	29.1	43.0	56.8	15. 51. 10.7		15. 50. 29.00	M
	42	δ Ophiuchi	53.8	6.8	19.7	32.6	45.3	58.1	16. 6. 11.0		16. 5. 32.47	M
	43*	η 1 L.	49.0	3.5	18.0	32.8	47.3	1.9	16. 11. 16.4		16. 10. 32.70	M
	44*	Antares.....	30.1	...	58.9	13.2	...	41.8	16. 19. 56.1	- 2.86	16. 19. 13.16	M
	45*	τ Scorpii	...	...	18.2	...	...	...	16. 25.	+ 14.55	16. 25. 32.75	M
	46*	Mars 1 L.	...	10.2	24.8	39.0	53.3	7.4	16. 33. 21.8	- 7.14	16. 32. 38.94	M
	47	β Lyrae	56.0	11.6	26.9	42.2	57.7	12.9	18. 44. 28.2		18. 43. 42.21	M
	48	λ Lyrae	5.0	23.0	40.8	58.7	16.5	34.0	18. 50. 52.0		18. 49. 58.58	M
	49	ζ Aquilæ.....	57.3	10.5	24.0	37.2	50.5	3.4	18. 58. 16.9		18. 57. 37.12	M
	50	Groombridge 2822	27.8	50.0	11.5	33.6	...	...	19. 15.	+ 32.90	19. 15. 33.63	M
	51	δ Aquilæ.....	22.1	35.0	47.8	0.8	13.7	26.3	19. 17. 39.1		19. 17. 0.68	M

ILLUMINATED END OF AXIS WEST. Order of Wires for Stars above the Pole, G, F, E, D, C, B, A.

10. The intervals irregular.
 18. The intervals irregular and generally too small.
 23, 24, 44, 45. Very cloudy.
 25. Blurred at intervals.
 31. Well seen; a good observation.

26, 37. Clouded.

32. The 4th wire was set down 55°.8.
 33. The 3rd wire was set down 45°.9.
 39, 40. The limbs clouded and very faint.
 43. An oscillating motion of the limb.
 46. Clouded and very faint.

CALCULATION OF APPARENT RIGHT ASCENSIONS.

[53]

No. for Reference.	Error of Collimation.	Level Error.	Seconds of Transit cor. for two Errors.	Azimuthal Error.	Seconds of Transit Corrected.	Tabular R.A. of Known Stars.	Clock apparently Slow.	Adopted Losing Rate.	Clock Slow at 0 ^h Sidereal.	Correction for Duration of Passage of Semidiameter.	Apparent R.A. of Center from the Observation.	NAME OF OBJECT.	Correction to Mean R.A. 1843, Jan. 1.
	"	"	s	"	s	s	s	s	s	m s	h m s		s
1	+0.08	+1.69		+5.06	54.28			0.43	36.08		17. 4. 30.67	* N.P.D. 87°.41'.	— 3.69
2					56.42	32.84	36.42				17. 7. 32.81	α Herculis.	— 3.47
3					21.83						19. 31. 58.26	Saturn.	
4					15.24	51.63	36.39				19. 38. 51.67	γ Aquilæ.	— 4.00
5					34.82	11.35	36.53				19. 43. 11.25	α Aquilæ.	— 4.07
6					3.58	40.05	36.47				19. 47. 40.01	β Aquilæ.	— 4.09
7					54.58						19. 52. 31.01	Groombridge 2990	— 3.59
8					14.43						20. 1. 50.87	Groombridge 3041	— 3.62
9					48.36	24.75	36.39				20. 9. 24.80	α ² Capricorni.	— 4.51
10					42.96						21. 37. 19.43	Juno.	
11					33.39						21. 48. 9.86	Jupiter.	
12					57.22	33.74	36.52		36.51		1. 3. 33.75	Polaris.	—33.40
13			4.86		17.08								
14		+1.54			39.44			0.57	36.30	+ 0.55	16. 30. 54.32	Mars.	
15					9.45						17. 4. 16.15	* N.P.D. 87°.41'.	— 3.69
16					56.22	32.83	36.61				17. 5. 46.16	α ¹ Ophiuchi.	— 4.42
17					5.70	42.41	36.71				17. 7. 32.93	α Herculis.	— 3.46
18					34.85						17. 27. 42.42	α Ophiuchi.	— 3.58
19					2.20	38.89	36.69				19. 16. 11.61	Groombridge 2822	— 3.38
20					52.13						19. 17. 38.96	δ Aquilæ.	— 4.11
21					4.16						19. 20. 28.89	Piazzi XIX.140.	— 3.43
22					14.83	51.63	36.80				19. 31. 40.92	Saturn.	
23					34.43	11.35	36.92				19. 38. 51.59	γ Aquilæ.	— 4.00
24					3.32	40.06	36.74				19. 43. 11.20	α Aquilæ.	— 4.07
25					54.13						19. 47. 40.09	β Aquilæ.	— 4.10
26					14.02						19. 52. 30.90	Groombridge 2990	— 3.59
27					47.98	24.76	36.78				20. 1. 50.79	Groombridge 3041	— 3.62
28					59.32						20. 9. 24.76	α ² Capricorni.	— 4.52
29					4.89						21. 36. 36.13	Juno.	
30					5.12	42.47	37.35				21. 47. 41.71	Jupiter.	
31					38.08	15.16	37.08	0.57	37.19		5. 46. 42.45	α Orionis.	— 2.10
32					59.20	36.62	37.42				6. 38. 15.43	Sirius.	— 1.33
33					6.55	44.10	37.55				7. 24. 36.56	Castor.	— 2.19
34					12.95						7. 35. 43.92	Pollux.	— 2.09
35					50.46			0.70	37.42	— 0.36	7. 44. 49.96	Venus.	
36				+6.10	29.46						8. 55. 28.14	☉	
37					32.87	10.80	37.93				15. 51. 7.34	δ Scorpii.	— 3.92
38					33.17						16. 6. 10.76	δ Ophiuchi.	— 3.49
39					13.63	51.50	37.87			+ 1. 12.45	16. 12. 23.51	δ	
40					33.23						16. 19. 51.53	Antares.	— 4.13
41					39.41						16. 26. 11.13	τ Scorpii.	— 4.23
42					42.49	20.47	37.98			+ 0.54	16. 33. 17.85	Mars.	
43					58.80						18. 44. 20.45	β Lyræ.	— 3.49
44					37.47	15.45	37.98				18. 50. 36.77	13 Lyræ.	— 3.36
45					33.78						18. 58. 15.44	ζ Aquilæ.	— 3.85
46					1.06	38.89	37.83				19. 16. 11.76	Groombridge 2822	— 3.36
47											19. 17. 39.04	δ Aquilæ.	— 4.11

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	I.	II.	III.	IV.	V.	VI.	VII. WIRE.	Correction to Mean of Wires Observed.	Concluded Transit over Mean of the Seven Wires.	Observer.
			m s	m s	m s	m s	m s	m s	h m s			
Aug. 4	1	Piazzi XIX. 140	50.7	10.5	30.8	50.9	10.9	30.5	19. 20. 50.7		19. 19. 50.71	M
	2	Saturn 1 L.	46.2	...	14.0	...	41.7	...	19. 31. 9.3		19. 30. 27.80	M
	3	Saturn 2 L.	...	1.7	...	29.4	...	57.0	19. 30.		19. 30. 29.37	M
	4	γ Aquilæ.....	34.0	47.1	0.3	13.2	26.3	39.3	19. 38. 52.6		19. 38. 13.26	M
	5	α Aquilæ.....	53.9	7.0	19.9	33.1	46.0	59.0	19. 43. 12.0		19. 42. 32.98	M
	6	β Aquilæ.....	23.0	35.9	48.9	1.7	14.8	27.7	19. 47. 40.3		19. 47. 1.75	M
	7	Groombridge 3041	3.9	26.8	49.9	12.9	35.9	58.4	20. 2. 21.7		20. 1. 12.78	M
	8	α^2 Capricorni ...	6.9	20.1	33.3	46.3	...	12.8	20. 9. 25.5	+ 2.21	20. 8. 46.36	M
	9	ϵ Pegasi.....	15.0	27.9	40.9	54.0	7.1	20.0	21. 36. 33.1		21. 35. 54.00	M
	10*	Jupiter 1 L.	24.4	...	51.0	...	17.8	...	21. 46. 44.0		21. 46. 4.30	M
	11*	Jupiter 2 L.	...	41.0	...	7.6	...	34.1	21. 46.		21. 46. 7.57	M
	12*	Polaris	...	46. 58.0	55. 1.0	...	...	...	0.	+ 12. 4.56	1. 3. 4.06	J H
Aug. 5	13*	Polaris S.P. ...	...	...	54. 48.0	2. 51.0	10. 54.0	...	13. 27. 0.0	- 6. 1.78	13. 2. 51.47	R
	14	α Herculis	13.6	27.0	40.2	53.5	6.9	20.2	17. 7. 33.4		17. 6. 53.54	R
	15*	δ 1 L.	7.0	21.6	36.1	51.0	5.6	19.8	17. 13. 34.8		17. 12. 50.84	R
	16	α Ophiuchi.....	23.6	36.8	50.0	3.3	16.5	29.6	17. 27. 42.8		17. 27. 3.23	R
	17	58 Ophiuchi....	...	...	12.5	26.5	40.6	54.2	17. 34. 8.2	- 13.84	17. 33. 26.56	R
	18*	Groombridge 2822	...	...	10.1	32.2	54.2	16.2	19. 16.	- 10.99	19. 15. 32.19	R
	19	Piazzi XIX. 131	...	1.1	21.0	41.1	1.2	21.2	19. 19.	- 0.01	19. 18. 41.11	R
	20	γ Aquilæ.....	33.2	46.2	59.3	12.5	25.6	38.7	19. 38. 51.8		19. 38. 12.50	R
	21	α Aquilæ.....	53.0	5.8	19.0	32.2	45.0	58.1	19. 43. 11.2		19. 42. 32.04	R
	22	β Aquilæ.....	22.2	35.0	47.8	0.8	14.0	26.6	19. 47. 39.6		19. 47. 0.85	R
Aug. 6	23	58 Ophiuchi....	44.5	58.2	12.0	26.0	39.8	53.4	17. 34. 7.5		17. 33. 25.91	M
	24	4 Sagittarii.....	55.0	9.0	23.1	37.2	51.3	5.2	17. 50. 19.2		17. 49. 37.14	M
	25	μ Sagittarii.....	5.8	19.5	33.1	47.1	1.1	14.5	18. 4. 28.3		18. 3. 47.06	M
	26	δ 1 L.	23.0	37.8	52.0	6.7	21.2	35.8	18. 14. 50.2		18. 14. 6.67	M
	27	A. S. C. 2125 ...	59.4	12.9	26.2	39.3	52.8	6.0	18. 20. 19.2		18. 19. 39.40	M
	28	A. S. C. 2127 ...	34.3	47.3	1.0	14.2	27.4	40.5	18. 20. 54.1		18. 20. 14.11	M
	29	δ Ursæ Minoris..	11. 30.0	...	...	22. 21.8	25. 59.5	...	18. 33. 11.0	- 0.54.46	18. 22. 21.12	M
	30	Piazzi XVIII. 137	40.3	57.0	13.3	30.0	...	3.0	18. 30.	+ 13.21	18. 29. 29.93	M
	31	α Lyrae	11.5	28.1	44.4	0.8	17.5	33.7	18. 31. 50.2		18. 31. 0.88	M
	32	β Lyrae	54.5	10.1	25.3	40.9	56.2	11.3	18. 44. 26.9		18. 43. 40.74	M
	33	σ Sagittarii.....	...	...	...	56.2	11.1	25.2	18. 45. 39.7	- 21.56	18. 44. 56.49	M
	34	13 Lyrae	3.8	21.4	39.3	...	15.1	32.7	18. 50. 50.3	+ 0.01	18. 49. 57.11	M
	35	ϵ Sagittarii.....	59.7	13.3	27.1	41.1	55.2	8.8	18. 55. 22.8		18. 54. 41.14	M
	36	ζ Aquilæ.....	55.9	9.2	22.4	35.8	49.0	2.1	18. 58. 15.3		18. 57. 35.67	M
	37	Polaris	...	...	...	...	11. 8.0	...	1. 27. 13.5	- 16. 7.16	1. 3. 3.59	P
Aug. 7	38	α Ophiuchi.....	22.2	35.3	48.5	1.8	15.0	28.2	17. 27. 41.3		17. 27. 1.75	R
	39	A. S. C. 2125 ...	58.5	12.2	25.3	38.6	52.0	...	18. 19.	+ 13.28	18. 19. 38.60	R
	40	A. S. C. 2127 ...	...	...	...	13.2	26.5	39.6	18. 20. 53.0	- 19.95	18. 20. 13.13	R
	41*	Piazzi XVIII. 137	...	...	12.5	29.0	45.5	1.4	18. 30.	- 8.27	18. 29. 28.83	R
	42*	α Lyrae	10.2	26.7	43.2	0.0	16.7	32.8	18. 31. 49.3		18. 30. 59.84	R
	43	β Lyrae	53.6	9.0	24.3	40.0	55.4	10.3	18. 44. 35.9		18. 43. 39.78	R
	44	δ 1 L.	12.5	26.7	41.0	55.4	9.7	23.5	19. 13. 37.8		19. 12. 55.23	R
	45	δ Aquilæ.....	19.5	32.4	35.2	58.2	11.3	23.9	19. 17. 36.8		19. 16. 58.19	R
	46	Saturn 1 L.	54.2	...	21.8	...	49.8	...	19. 30. 17.5		19. 29. 35.83	R
	47	Saturn 2 L.	...	9.3	...	37.2	...	4.8	19. 30.		19. 29. 37.10	R
	48*	ϵ^2 Sagittarii.....	15.5	29.0	42.2	55.5	9.0	22.4	19. 33. 36.0		19. 32. 55.66	R
	49	γ Aquilæ.....	31.6	44.8	57.9	10.9	24.0	37.2	19. 38. 50.4		19. 38. 10.97	R
	50	57 Sagittarii....	47.2	0.8	14.4	28.2	42.0	55.8	19. 43. 9.3		19. 42. 28.25	R
ILLUMINATED END OF AXIS WEST. Order of Wires for Stars above the Pole, G, F, E, D, C, B, A.												
10, 11. Very cloudy.			12. Clouded at each wire.			Aug. 6. A beautiful night.						
13. Clouded.			15. Tremulous.			41, 42. Cloudy.						
18. The 3rd wire was set down 12.1.						48. Very faint.						

CALCULATION OF APPARENT RIGHT ASCENSIONS.

[55]

No. for Reference.	Error of Collimation.	Level Error.	Seconds of Transit cor. for two Errors.	Azimuthal Error.	Seconds of Transit Corrected.	Tabular R.A. of Known Stars.	Clock apparently Slow.	Adopted Losing Rate.	Clock Slow at 0 ^h Sidereal.	Correction for Duration of Passage of Semidiameter.	Apparent R.A. of Center from the Observation.	NAME OF OBJECT.	Correction to Mean R.A. 1843, Jan. 1.
	"	"	s	"	s	s	s	s	s	m s	h m s		s
1	+0.08	+1.54		+6.10	50.90			0.70	37.42		19. 20. 28.88	Piazzi XIX. 140.	- 3.43
2					29.05						19. 31. 7.04	Saturn.	
3					13.63	51.62	37.99				19. 38. 51.63	γ Aquilæ.	- 3.99
4					33.35	11.35	38.00				19. 43. 11.34	α Aquilæ.	- 4.07
5					2.12	40.06	37.94				19. 47. 40.11	β Aquilæ.	- 4.10
6					12.91						20. 1. 50.91	Groombridge 3041.	- 3.61
7					46.79	24.77	37.98				20. 9. 24.79	α^2 Capricorni.	- 4.53
8					54.37	32.53	38.16				21. 36. 32.42	ϵ Pegasi.	- 4.10
9					6.37						21. 46. 44.42	Jupiter.	
10					58.14	36.27	38.13		38.12		1. 3. 36.29	Polaris.	-35.93
11			7.35										
12													
13			48.31		58.16	36.69	38.53	0.74	38.28		1. 3. 36.85	Polaris S.P.	-36.35
14					53.88	32.79	38.91				17. 7. 32.69	α Herculis.	- 3.42
15					51.31					+1. 12.23	17. 14. 42.35	δ	
16					3.58	42.38	38.80				17. 27. 42.40	α Ophiuchi.	- 3.55
17					27.02						17. 34. 5.84	58 Ophiuchi.	- 4.40
18					32.34						19. 16. 11.21	Groombridge 2822	- 3.34
19					41.30						19. 19. 20.17	Piazzi XIX. 131.	- 3.42
20					12.87	51.64	38.77				19. 38. 51.75	γ Aquilæ.	- 4.01
21					32.41	11.36	38.95				19. 43. 11.30	α Aquilæ.	- 4.08
22					1.22	40.07	38.85				19. 47. 40.11	β Aquilæ.	- 4.11
23				+6.11	26.37			0.74	38.85		17. 34. 5.76	58 Ophiuchi.	- 4.40
24					37.61						17. 50. 17.01	4 Sagittarii.	- 4.56
25					47.52	26.93	39.41				18. 4. 26.93	μ Sagittarii.	- 4.52
26					7.14					+1. 11.04	18. 15. 57.60	δ	
27					39.83						18. 20. 19.25	A. S. C. 2125.	- 4.38
28					14.54						18. 20. 53.96	A. S. C. 2127.	- 4.38
29			22.61		18.67						....	δ Ursæ Minoris.	
30					30.18						18. 30. 9.60	Piazzi XVIII. 137.	- 3.33
31					1.14	40.58	39.44				18. 31. 40.56	α Lyræ.	- 3.33
32			40.87		41.02	20.45	39.43				18. 44. 20.45	β Lyræ.	- 3.47
33					56.96						18. 45. 36.39	σ Sagittarii.	- 4.85
34					57.33						18. 50. 36.76	13 Lyræ.	- 3.34
35					41.60						18. 55. 21.03	ϕ Sagittarii.	- 4.71
36			35.76		36.02	15.45	39.43				18. 58. 15.45	ζ Aquilæ.	- 3.85
37			6.88		57.65	37.84	40.19				....	Polaris.	
38					2.10	42.36	40.26	0.80	39.73		17. 27. 42.41	α Ophiuchi.	- 3.53
39					39.03						18. 20. 19.38	A. S. C. 2125.	- 4.37
40					13.56						18. 20. 53.91	A. S. C. 2127.	- 4.37
41					29.08						18. 30. 9.43	Piazzi XVIII. 137.	- 3.30
42					0.10	40.57	40.47				18. 31. 40.45	α Lyræ.	- 3.32
43					40.06	20.45	40.39				18. 44. 20.41	β Lyræ.	- 3.47
44					55.69					+1. 9.13	19. 14. 45.19	δ	
45					58.58	38.89	40.31				19. 17. 38.95	δ Aquilæ.	- 4.11
46					36.93						19. 30. 17.31	Saturn.	
47					56.10						19. 33. 36.48	ϵ^2 Sagittarii.	- 4.60
48					11.33	51.64	40.31				19. 38. 51.71	γ Aquilæ.	- 4.01
49					28.70						19. 43. 9.08	57 Sagittarii.	- 4.70
50													

Aug. 4 and 5. The azimuthal error by Polaris and Polaris S.P., allowing 0^s.01 for clock-rate and change of R.A.

Aug. 4, 21^h. The Transit instrument was levelled.

Aug. 6. The azimuthal error is the mean of those determined by tabular places of δ Ursæ Minoris and β Lyræ, and by tabular places of ζ Aquilæ and Polaris, allowing respectively 0^s.01 and 0^s.17 for clock-rate.

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	I.		II.		III.		IV.		V.		VI.		VII. WIRE.			Correction to Mean of Wires Observed.	Concluded Transit over Mean of the Seven Wires.			Observer.
			m	s	m	s	m	s	m	s	m	s	m	s	h	m	s		h	m	s	
Aug. 8	1	⊙ 1 L.	21.9		35.4		48.9		2.2		15.8		29.1		9. 9. 42.7				9. 9. 2.28			M
	2	⊙ 2 L.	33.8		47.7		0.9		14.5		27.9		41.3		9. 11. 54.7				9. 11. 14.40			M
	3*	Polaris S.P. ...	...		...		...		...		...		18. 55.0		13. 26. 59.0		-20. 8.86		13. 2. 48.14			M
	4*	Venus 2 L.	33.8		47.3		1.2		15.0		28.8		42.4		8. 15. 56.2				8. 15. 14.96			M
Aug. 9	5*	⊙ 2 L.	21.8		35.2		48.7		2.1		...		...		9. 15.		+ 20.12		9. 15. 2.07			M
	6*	Polaris S.P. ...	...		46. 47.0		...		...		...		...		12.		+16. 4.12		13. 2. 51.12			M
	7	α Herculis.	...		23.8		...		50.3		3.9		16.9		17. 7.		- 0.01		17. 6. 50.37			M
	8	β Lyræ.	...		...		...		...		12.3		29.9		18. 50. 47.8		- 35.50		18. 49. 54.50			M
	9	ζ Aquilæ.	53.1		6.7		19.8		33.0		46.2		59.3		18. 58. 12.7				18. 57. 32.97			M
	10	δ Aquilæ.	17.8		30.7		43.5		56.4		9.3		22.1		19. 17. 35.0				19. 16. 56.40			M
	11	α Aquilæ.	49.9		3.0		16.0		29.0		42.0		54.9		19. 43. 8.0				19. 42. 28.97			M
	12	β Aquilæ.	18.9		31.8		44.7		57.7		10.8		23.5		19. 47. 36.4				19. 46. 57.69			M
	13	α ¹ Capricorni ...	39.0		51.9		5.0		18.4		...		...		20. 8.		+ 19.80		20. 8. 18.38			M
	14	α ² Capricorni ...	2.9		...		...		42.0		55.7		8.7		20. 9. 21.9		- 7.92		20. 8. 42.32			M
	15	ν Capricorni	47.7		1.4		14.9		28.5		42.1		55.4		20. 31. 9.1				20. 30. 28.45			M
	16	μ Aquarii.	53.4		6.5		19.5		32.9		45.9		58.9		20. 44. 12.0				20. 43. 32.73			M
	17	δ 1 L.	2.3		16.0		29.7		43.2		56.9		10.3		21. 1. 24.0				21. 0. 43.20			M
	18*	δ 2 L.	12.2		25.9		39.5		53.0		6.7		20.0		21. 3. 33.7				21. 2. 53.00			M
	19	ζ Cygni.	...		...		...		37.0		51.8		6.3		21. 6. 21.1		- 22.19		21. 5. 36.86			M
	20	β Aquarii.	0.3		13.2		26.1		39.1		52.1		5.0		21. 23. 18.0				21. 22. 39.12			M
	21*	* N.P.D. 93°.15'.	...		...		...		44.2		57.3		10.2		21. 32. 23.0		- 19.33		21. 31. 44.35			M
	22	ε Pegasi.	11.0		23.9		36.9		50.0		3.1		16.0		21. 36. 29.1				21. 35. 50.00			M
	23	δ Capricorni	...		17.1		30.6		44.1		57.5		10.8		21. 38. 24.3		- 6.72		21. 37. 44.01			M
	24	Jupiter 1 L.	52.7		...		19.2		...		45.9		...		21. 44. 12.4				21. 43. 32.55			M
	25	Jupiter 2 L.	...		9.2		...		35.9		...		2.4		21. 44.				21. 43. 35.83			M
Aug. 10	26	δ Ophiuchi.	48.8		1.7		14.6		27.5		40.4		53.2		16. 6. 6.1				16. 5. 27.47			R
	27	Antares.	25.2		39.4		53.7		8.1		22.5		36.6		16. 19. 51.0				16. 19. 8.07			R
	28	Mars 1 L.	6.8		21.1		35.5		49.8		4.3		18.6		16. 41. 32.8				16. 40. 49.85			R
	29	α ¹ Ophiuchi.	19.5		34.2		48.3		2.8		17.3		31.3		17. 5. 45.7				17. 5. 2.73			R
	30*	α Ophiuchi.	19.4		32.5		45.7		59.2		12.4		25.2		17. 27. 38.6				17. 26. 59.00			R
	31*	μ Sagittarii.	2.2		15.8		30.1		43.5		57.3		10.8		18. 4. 24.8				18. 3. 43.50			R
	32	δ Aquilæ.	16.8		29.7		42.6		55.5		8.5		21.3		19. 17. 34.2				19. 16. 55.51			R
	33	Saturn 1 L.	3.6		...		31.5		...		59.2		...		19. 29. 27.1				19. 28. 45.35			R
	34	Saturn 2 L.	...		19.1		...		46.8		...		14.3		19. 29.				19. 28. 46.73			R
	35	β Aquarii.	59.5		12.5		25.4		38.3		51.4		4.3		21. 23. 17.3				21. 22. 38.39			R
	36	Juno.	4.2		17.5		30.2		43.3		56.2		8.9		21. 30. 21.5				21. 29. 43.11			R
	37	δ Capricorni	2.8		16.3		29.8		43.2		56.8		10.1		21. 38. 23.4				21. 37. 43.20			R
	38	Jupiter 1 L.	21.7		...		48.3		...		14.8		...		21. 43. 41.5				21. 43. 1.58			R
	39	Jupiter 2 L.	...		38.2		...		5.1		...		31.4		21. 43.				21. 43. 4.90			R
	40	δ 2 L.	28.2		41.5		54.8		8.3		21.6		34.8		21. 52. 48.2				21. 52. 8.20			R
	41	θ Aquarii.	14.4		27.5		40.5		53.6		6.5		19.4		22. 8. 32.3				22. 7. 53.46			R
	42	Polaris.	...		...		54. 59.0		3. 1.0		11. 6.0		19. 5.0		1.		- 4. 2.01		1. 3. 0.74			D
	43	Sirius.	51.8		5.0		18.5		31.8		45.3		58.7		6. 38. 12.1				6. 37. 31.88			M
	44	Procyon.	44.3		57.3		10.1		23.2		36.1		48.9		7. 31. 1.8				7. 30. 23.10			M
	45	Pollux.	16.8		31.3		46.1		0.8		15.5		30.0		7. 35. 44.7				7. 35. 0.74			M
	46*	Venus 2 L.	48.3		1.9		15.7		29.8		43.3		56.8		8. 26. 10.8				8. 25. 29.52			M
Aug. 11	47	⊙ 1 L.	44.5		57.9		11.0		24.7		38.0		51.4		9. 21. 4.9				9. 20. 24.63			M
	48	⊙ 2 L.	56.0		9.5		22.9		36.4		49.8		3.0		9. 23. 16.5				9. 22. 36.30			M
	49	α Ursæ Majoris..	53.1		21.0		49.1		17.0		45.1		12.8		10. 54. 40.9				10. 53. 17.00			M
	50	Polaris S.P. ...	...		...		54. 45.0		2. 48.0		10. 54.0		18. 59.0		13. 27. 1.0		- 8. 2.84		13. 2. 50.56			M
ILLUMINATED END OF AXIS WEST. Order of Wires for Stars above the Pole, G, F, E, D, C, B, A.																						
3. Not used for the determination of the azimuthal error.											21. Observed by mistake for Juno, which was not seen, probably on account of the light of the Moon.											
4. Exceedingly faint.											30. Tremulous.											
5. Very cloudy.											31. The intervals irregular.											
6. Clouded and tremulous.											46. Very much blurred and tremulous.											
18. The limb ragged.																						

CALCULATION OF APPARENT RIGHT ASCENSIONS.

[57]

No. for Reference.	Error of Collimation.	Level Error.	Seconds of Transit cor. for two Errors.	Azimuthal Error.	Seconds of Transit Corrected.	Tabular R. A. of Known Stars.	Clock apparently Slow.	Adopted Losing Rate.	Clock Slow at 0 ^h Sidereal.	Correction for Duration of Passage of Semidiameter.	Apparent R.A. of Center from the Observation.	NAME OF OBJECT.	Correction to Mean R.A. 1843, Jan. 1.
	"	"	s	"	s	s	s	s	s	m s	h m s		s
1	+0.08	+2.15		+6.11	8.71			0.85	40.48		9. 10. 49.51	☉	
2					53.68	38.87	45.19		41.33		....	Polaris S.P.	
3					15.34					- 0.35	8. 15. 56.61	Venus.	
4				+6.76									
5					2.47					- 1. 5.93	9. 14. 38.20	☉	
6			46.79		57.71	39.52	41.81				....	Polaris S.P.	
7			50.50		50.78	32.75	41.97				17. 7. 32.72	α Herculis.	- 3.38
8					54.79						18. 50. 36.78	13 Lyrae.	- 3.30
9					33.38	15.44	42.06				18. 58. 15.38	ζ Aquilæ.	- 3.84
10					56.84	38.89	42.05				19. 17. 38.85	δ Aquilæ.	- 4.11
11					29.40	11.36	41.96				19. 43. 11.42	α Aquilæ.	- 4.08
12					58.12	40.07	41.95				19. 47. 40.14	β Aquilæ.	- 4.11
13					18.87						20. 9. 0.92	α ¹ Capricorni.	- 4.55
14					42.81	24.79	41.98				20. 9. 24.86	α ² Capricorni.	- 4.55
15					28.96						20. 31. 11.02	ν Capricorni.	- 4.69
16					33.21						20. 44. 15.27	μ Aquarii.	- 4.46
17					43.69					+ 1. 4.83	21. 2. 30.59	♄	
18					53.49					- 1. 4.83	21. 2. 30.74	♄	
19					37.22	19.31	42.09				21. 6. 19.30	ζ Cygni.	- 3.96
20					39.60	21.67	42.07				21. 23. 21.68	β Aquarii.	- 4.37
21					44.81						21. 32. 26.90	* N.P.D. 93°.15'.	- 4.31
22					50.42	32.59	42.17				21. 36. 32.52	ε Pegasi.	- 4.16
23					44.52						21. 38. 26.62	δ Capricorni.	- 4.55
24													
25					34.69						21. 44. 16.79	Jupiter.	
26				+5.85	27.88	10.73	42.85	0.75	42.35		16. 6. 10.73	δ Ophiuchi.	- 3.42
27					8.53	51.42	42.89				16. 19. 51.39	Antares.	- 4.05
28					50.31					+ 0.51	16. 41. 33.69	Mars.	
29					3.19						17. 5. 46.08	α ¹ Ophiuchi.	- 4.33
30					59.37	42.33	42.96				17. 27. 42.26	α Ophiuchi.	- 3.50
31					43.96	26.90	42.94				18. 4. 26.88	μ Sagittarii.	- 4.49
32					55.90	38.89	42.99				19. 17. 38.85	δ Aquilæ.	- 4.11
33													
34					46.50						19. 29. 29.46	Saturn.	
35					38.81	21.68	42.87				21. 23. 21.83	β Aquarii.	- 4.38
36					43.52						21. 30. 26.54	Juno.	
37					43.65						21. 38. 26.67	δ Capricorni.	- 4.56
38													
39					3.68						21. 43. 46.71	Jupiter.	
40					8.63					- 1. 3.12	21. 51. 48.54	♄	
41					53.89						22. 8. 36.93	θ Aquarii.	- 4.34
42			5.25		56.42	40.44	44.02		43.10		1. 3. 39.55	Polaris.	- 40.10
43					32.33	15.32	42.99	0.75	42.90		6. 38. 15.44	Sirius.	- 1.49
44					23.49	6.60	43.11				7. 31. 6.62	Procyon.	- 1.89
45					1.08	44.26	43.18				7. 35. 44.22	Pollux.	- 2.25
46					29.88					- 0.35	8. 26. 12.69	Venus.	
47													
48					30.84						9. 22. 14.03	☉	
49					17.16						10. 54. 0.40	α Ursæ Majoris.	- 1.24
50			46.23		55.68	40.75	45.07				1. 3. 38.99	Polaris S.P.	- 40.41

Aug. 9. The azimuthal error by tabular places of Polaris S.P. and α Herculis, allowing 0^s.16 for clock-rate.Aug. 9. ♄ 2 L. The correction + 0^s.11, for defect of illumination, has yet to be applied.

Aug. 10, 11, and 12. The azimuthal error by four consecutive passages of Polaris.

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	I.		II.		III.		IV.		V.		VI.		VII. WIRE.			Correction to Mean of Wires Observed.	Concluded Transit over Mean of the Seven Wires.			Observer.
			m	s	m	s	m	s	m	s	m	s	m	s	h	m	s		h	m	s	
Aug. 11	1	Spica.....	35.2		48.2		1.1		14.3		27.5		40.5		13. 16. 53.7				13. 16. 14.36			M
	2	Antares.....	24.7		38.9		53.2		7.4		21.9		36.0		16. 19. 50.3				16. 19. 7.49			M
	3	Mars 1 L.....	37.9		52.3		6.7		21.0		35.3		49.5		16. 43. 3.8				16. 42. 20.92			M
	4	A ¹ Ophiuchi....	19.2		33.4		47.9		2.2		16.8		30.9		17. 5. 45.2				17. 5. 2.23			M
	5	α Herculis.....	...		...		...		49.0		2.2		15.4		17. 7. 28.7		19.94		17. 6. 48.89			M
	6	α Ophiuchi.....	18.8		32.0		45.2		58.4		11.8		24.9		17. 27. 38.0				17. 26. 58.45			M
	7	μ Sagittarii....	1.5		15.3		29.2		43.1		56.9		10.4		18. 4. 24.3				18. 3. 42.96			M
	8	δ Ursæ Minoris..	...		...		18. 37.5		22. 15.5		...		...		18.		+ 3. 36.57		18. 22. 14.57			M
	9	Cephei51 (Hev.) S.P.	10. 53.0		...		19. 48.7		24. 18.0		...		...		18.		+ 5. 58.97		18. 24. 18.87			M
	10	Saturn 1 L.	47.2		...		15.3		...		43.2		...		19. 29. 11.1				19. 28. 29.20			M
	11	Saturn 2 L.	...		2.9		...		30.8		...		58.4		19. 28.				19. 28. 30.70			M
	12	γ Aquilæ.....	28.6		41.7		54.8		8.0		21.0		34.0		19. 38. 47.1				19. 38. 7.89			M
	13	α Aquilæ.....	48.4		1.4		14.2		27.2		40.4		53.2		19. 43. 6.2				19. 42. 27.29			M
	14	β Aquilæ.....	17.5		30.3		43.1		56.1		9.1		22.0		19. 47. 35.0				19. 46. 56.16			M
	15	β Aquarii.....	59.0		12.0		24.9		37.9		50.9		3.7		21. 23. 16.4				21. 22. 37.83			M
	16	Juno.....	15.7		28.4		41.3		54.2		7.0		19.9		21. 29. 32.7				21. 28. 54.17			M
	17	ε Pegasi.....	9.3		22.6		...		48.8		1.8		14.7		21. 36. 27.7		2.17		21. 35. 48.65			M
	18	Jupiter 1 L.	51.0		...		17.7		...		44.4		...		21. 43. 10.9				21. 42. 31.00			M
	19	Jupiter 2 L.	...		7.6		...		34.3		...		0.9		21. 43.				21. 42. 34.27			M
	20	θ Aquarii.....	14.1		27.1		40.1		53.1		6.1		19.1		22. 8. 32.1				22. 7. 53.10			M
	21*	ζ Aquarii (southstar)	26.3		39.1		52.1		5.0		18.0		30.7		22. 20. 43.7				22. 20. 4.99			M
	22	ζ Pegasi.....	19.0		31.9		45.0		58.1		11.2		24.1		22. 33. 37.2				22. 32. 58.07			M
	23	η 2 L.	34.4		47.7		0.8		14.1		27.3		40.3		22. 39. 53.5				22. 39. 14.01			M
	24	β Piscium.....	24.8		47.7		0.5		13.4		26.3		39.1		22. 55. 52.0				22. 55. 13.40			M
	25	α Andromedæ ..	53.2		8.0		22.6		37.2		52.0		6.0		0. 0. 20.8				23. 59. 37.12			J H
	26	γ Pegasi.....	49.4		3.0		16.0		29.4		42.4		56.0		0. 5. 9.2				0. 4. 29.35			J H
	27	Uranus.....	...		39.4		52.6		5.6		18.6		31.6		0. 7. 44.2		6.43		0. 7. 5.57			J H
	28	Polaris.....	...		46. 52.0		54. 55.0		3. 1.0		11. 6.0		...		1.		+ 4. 0.73		1. 2. 59.23			J H
	29	Procyon.....	...		...		9.3		22.3		35.2		48.1		7. 31. 1.0		12.93		7. 30. 22.25			E
	30	Pollux.....	16.1		30.4		45.0		59.8		14.2		28.8		7. 35. 43.3				7. 34. 59.66			E
	31	Venus 2 L.	54.3		7.8		21.5		35.1		48.7		2.3		8. 31. 16.0				8. 30. 35.10			E
Aug. 12	32	⊙ 1 L.	30.8		44.1		57.4		10.8		24.1		37.4		9. 24. 50.8				9. 24. 10.77			E
	33	⊙ 2 L.	42.1		55.8		9.0		22.2		35.7		49.0		9. 27. 2.3				9. 26. 22.30			E
	34	Mercury, center,	...		14.7		28.1		41.2		54.7		8.0		9. 48.		0.01		9. 47. 41.33			E
	35	Polaris S.P.	...		...		54. 43.0		2. 47.0		10. 53.0		...		13.		+ 1.27		13. 2. 48.94			E
	36	Mars 1 L.	11.0		25.4		39.8		54.1		8.4		22.6		16. 44. 37.2				16. 43. 54.07			E
	37	ε Ursæ Minoris..	...		58. 19.5		59. 56.8		1. 32.5		3. 8.8		4. 43.5		17.		0.05		17. 1. 32.17			E
	38	α Herculis.....	8.1		21.4		34.7		48.0		1.2		14.4		17. 7. 27.7				17. 6. 47.93			E
	39	δ Ursæ Minoris..	...		...		18. 37.0		22. 15.0		25. 52.0		29. 27.0		18.		1. 48.59		18. 22. 14.16			E
	40	Cephei51 (Hev.) S.P.	...		15. 21.0		19. 46.0		24. 16.0		28. 46.0		33. 15.0		18.		+ 0.15		18. 24. 16.95			E
	41	Saturn 1 L.	31.8		...		59.3		...		27.1		...		19. 28. 55.0				19. 28. 13.30			E
	42	Saturn 2 L.	...		46.8		...		14.4		...		42.1		19. 28.				19. 28. 14.43			E
	43	γ Aquilæ.....	27.8		40.8		53.7		6.7		19.8		32.8		19. 38. 45.8				19. 38. 6.77			E
	44	α Aquilæ.....	47.7		0.5		13.3		26.2		39.4		52.2		19. 43. 5.1				19. 42. 26.34			E
	45	β Aquilæ.....	16.4		29.3		42.3		55.1		8.0		21.0		19. 47. 33.8				19. 46. 55.13			E
	46	α ² Capricorni ...	0.2		13.5		26.5		39.8		53.1		6.2		20. 9. 19.0				20. 8. 39.76			E
	47	Juno.....	25.9		38.8		51.7		4.7		17.5		30.3		21. 28. 43.0				21. 28. 4.56			E
	48	Jupiter 1 L.	19.8		...		46.1		...		12.7		...		21. 42. 39.3				21. 41. 59.48			E
	49	Jupiter 2 L.	...		36.7		...		3.2		...		29.8		21. 42.				21. 42. 3.23			E
	50	β Piscium.....	...		46.9		59.5		12.4		25.3		38.0		22. 55.		0.01		22. 55. 12.41			E
	51	γ Piscium.....	42.0		55.0		7.8		20.7		33.6		46.4		23. 8. 59.2				23. 8. 20.67			E
	52	η 2 L.	21.8		34.8		47.8		1.0		14.1		27.2		23. 25. 40.3				23. 25. 1.01			E

ILLUMINATED END OF AXIS WEST. Order of Wires for Stars above the Pole, G, F, E, D, C, B, A.

21. The larger and following star.

CALCULATION OF APPARENT RIGHT ASCENSIONS.

[59]

No. for Reference.	Error of Collimation.	Level Error.	Seconds of Transit cor. for two Errors.	Azimuthal Error.	Seconds of Transit Corrected.	Tabular R. A. of Known Stars.	Clock apparently Slow.	Adopted Losing Rate.	Clock Slow at 0 ^h Sidereal.	Correction for Duration of Passage of Semidiameter.	Apparent R. A. of Center from the Observation.	NAME OF OBJECT.	Correction to Mean R. A. 1843, Jan. 1.
	"	"	s	"	s	s	s	s	s	m s	h m s		s
1	+0.08	+2.15		+5.85	14.79	58.19	43.40	0.75	42.90		13. 16. 58.11	Spica.	- 2.49
2					7.95	51.41	43.46				16. 19. 51.36	Antares.	- 4.04
3					21.38					+ 0.51	16. 43. 5.31	Mars.	
4					2.69						17. 5. 46.12	A ¹ Ophiuchi.	- 4.31
5					49.26	32.72	43.46				17. 7. 32.70	α Herculis.	- 3.35
6					58.83	42.31	43.48				17. 27. 42.28	α Ophiuchi.	- 3.48
7					43.42	26.89	43.47				18. 4. 26.89	μ Sagittarii.	- 4.48
8					12.85						18. 22. 56.32	δ Ursæ Minoris.	+ 2.27
9					21.89						6. 25. 5.37	Cephei51(Hev.)S.P.	- 9.44
10					30.41						19. 29. 13.92	Saturn.	
11													
12					8.27	51.63	43.36				19. 38. 51.78	γ Aquilæ.	- 4.00
13					27.68	11.35	43.67				19. 43. 11.19	α Aquilæ.	- 4.07
14					56.55	40.06	43.51				19. 47. 40.06	β Aquilæ.	- 4.10
15					38.25	21.68	43.43				21. 23. 21.82	β Aquarii.	- 4.38
16					54.58						21. 29. 38.15	Juno.	
17					49.03	32.61	43.58				21. 36. 32.60	ϵ Pegasi.	- 4.18
18					33.08						21. 43. 16.66	Jupiter.	
19													
20					53.53						22. 8. 37.12	θ Aquarii.	- 4.35
21					5.40						22. 20. 49.00	ζ Aquarii (southstar)	- 4.24
22					58.45	42.05	43.60			-1. 1.96	22. 33. 42.06	ζ Pegasi.	- 4.13
23					14.42						22. 38. 56.07	δ	
24					13.79						22. 55. 57.41	β Piscium.	- 4.13
25					37.46	20.96	43.50	0.75	42.79		....	α Andromedæ.	
26					29.73	13.31	43.58				....	γ Pegasi.	
27					5.97				43.54		0. 7. 49.51	Uranus.	
28			3.74		54.91	41.06	46.15				1. 3. 38.48	Polaris.	-40.72
29					22.64	6.62	43.98	0.80	43.89		7. 31. 6.78	Procyon.	- 1.91
30					0.00	44.28	44.28				7. 35. 44.14	Pollux.	- 2.27
31					35.46					- 0.35	8. 31. 19.28	Venus.	
32					16.91								
33											9. 26. 1.11	$\odot$	
34					41.70						9. 48. 25.91	Mercury.	
35					54.06	41.35	47.29				1. 3. 38.38	Polaris S.P.	-41.01
36					54.53					+ 0.51	16. 44. 39.49	Mars.	
37					31.64						17. 2. 16.10	ϵ Ursæ Minoris.	+ 1.75
38					48.30	32.71	44.41				17. 7. 32.76	α Herculis.	- 3.34
39					12.44						18. 22. 56.94	δ Ursæ Minoris.	+ 2.57
40					19.97						6. 25. 4.48	Cephei51(Hev.)S.P.	- 9.82
41					14.33						19. 28. 58.86	Saturn.	
42													
43					7.15	51.63	44.48				19. 38. 51.69	γ Aquilæ.	- 4.00
44					26.73	11.35	44.62				19. 43. 11.27	α Aquilæ.	- 4.07
45					55.52	40.06	44.54				19. 47. 40.06	β Aquilæ.	- 4.10
46					40.19	24.79	44.60				20. 9. 24.75	α^2 Capricorni.	- 4.55
47					4.97						21. 28. 49.58	Juno.	
48					1.80						21. 42. 46.41	Jupiter.	
49													
50					12.81						22. 55. 57.47	β Piscium.	- 4.15
51					21.07						23. 9. 5.73	γ Piscium.	- 4.17
52					1.41					-1. 1.41	23. 24. 44.67	δ	

Aug. 11, 22^h. The Transit instrument was levelled.

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	I.	II.	III.	IV.	V.	VI.	VII. WIRE.	Correction to Mean of Wires Observed.	Concluded Transit over Mean of the Seven Wires.	Observer.		
			m s	m s	m s	m s	m s	m s	h m s	m s	h m s			
Aug. 12	1	ω Piscium	...	...	20.5	33.6	46.4	59.5	23. 51. 12.6	—	12.94	23. 50. 33.58	E	
	2	Uranus	19.8	32.8	45.6	58.7	11.6	24.4	0. 7. 37.2			0. 6. 58.59	E	
Aug. 13	3*	Venus 2 L.	3.1	16.5	30.2	44.1	57.8	11.2	8. 41. 25.1			8. 40. 44.00	M	
Aug. 14	4*	$\odot$ 1 L.	...	15.3	...	...	55.5	8.7	9. 32. 22.0	—	13.31	9. 31. 42.07	M	
	5*	$\odot$ 2 L.	12.8	26.3	39.8	52.8	6.4	19.6	9. 34. 32.8			9. 33. 52.93	M	
	6*	Polaris S.P.	...	46. 43.0	54. 40.0	2. 43.0	10. 49.0	18. 51.0	13.	+	0.27	13. 2. 45.47	M	
	7*	Spica.	32.4	45.8	58.9	12.0	25.1	38.0	13. 16. 51.0			13. 16. 11.88	M	
	8*	α Ophiuchi.	16.3	29.4	42.7	55.9	9.1	22.1	17. 27.	+	6.59	17. 26. 55.84	M	
Aug. 16	9	Mars 1 L.	47.4	1.8	15.9	30.3	44.7	59.0	16. 51. 13.3			16. 50. 30.34	E	
	10	α Herculis	4.8	17.7	30.8	44.1	57.4	10.7	17. 7. 24.0			17. 6. 44.21	E	
	11	β Draconis	4.1	25.2	46.2	7.3	...	...	17. 26.	+	31.63	17. 26. 7.33	E	
	12	α Ophiuchi.	...	27.6	40.8	54.0	7.3	20.4	17. 27.	—	0.01	17. 26. 54.01	E	
	13	γ Draconis	10.1	31.0	51.4	12.2	32.7	53.1	17. 53. 14.1			17. 52. 12.09	E	
	14	μ Sagittarii.	57.3	10.9	24.3	38.1	52.1	5.9	18. 4. 19.7			18. 3. 38.33	E	
	15	Piazzi XVIII.137	...	48.0	4.8	21.1	37.7	53.8	18. 29.	—	0.01	18. 29. 21.07	E	
	16	α Lyrae	...	19.3	35.8	52.3	8.8	25.2	18. 31.	—	0.01	18. 30. 52.27	E	
	17	β Lyrae	46.0	1.3	16.8	32.1	47.4	2.8	18. 44. 18.1			18. 43. 32.07	E	
	18	ζ Aquilæ	47.2	0.7	13.8	27.0	40.2	53.4	18. 58. 6.8			18. 57. 27.02	E	
	19	δ Aquilæ	12.0	24.8	37.7	50.6	3.4	16.2	19. 17. 29.1			19. 16. 50.54	E	
	20	Saturn 1 L.	29.8	...	57.7	...	25.0	...	19. 27. 53.0			19. 27. 11.38	E	
	21	Saturn 2 L.	...	44.8	...	12.8	...	40.0	19. 27.			19. 27. 12.53	E	
	22*	Jupiter 1 L.	14.2	...	40.8	...	7.2	...	21. 40. 33.8			21. 39. 54.00	E	
	23*	Jupiter 2 L.	...	31.0	...	57.5	...	24.2	21. 40.			21. 39. 57.57	E	
	24*	Polaris	38. 52.0	46. 56.0	54. 55.0	...	...	...	0.	+ 16.	7.19	1. 3. 1.52	P	
	25*	Venus 2 L.	9.3	22.9	36.5	50.1	3.7	17.2	8. 56. 30.8			8. 55. 50.07	M	
	Aug. 17	26*	$\odot$ 1 L.	14.7	27.8	40.9	54.0	7.3	20.7	9. 43. 33.9			9. 42. 54.19	M
		27*	$\odot$ 2 L.	25.2	38.4	51.7	5.1	18.3	31.4	9. 45. 44.8			9. 45. 4.99	M
		28	Mercury 1 L.	...	27.0	40.2	53.7	6.9	19.9	10. 24. 33.0	—	6.60	10. 23. 53.52	M
29		Polaris S.P.	...	...	...	2. 42.0	10. 49.0	18. 51.0	13. 26. 57.0	—	12. 4.97	13. 2. 44.78	M	
30		Spica.	30.1	43.1	56.2	9.5	22.7	35.3	13. 16. 48.7			13. 16. 9.38	M	
31		Mars 1 L.	32.0	46.6	0.8	15.2	29.7	44.0	16. 52. 58.2			16. 52. 15.21	M	
32		α Herculis	3.9	17.2	30.3	43.8	57.1	10.2	17. 7. 23.6			17. 6. 43.73	M	
33		α Ophiuchi.	...	...	...	53.2	6.7	19.7	17. 27. 33.0	—	19.78	17. 26. 53.37	M	
34		γ Draconis	9.6	30.2	50.9	11.8	32.4	52.9	17. 53. 13.7			17. 52. 11.64	M	
35		μ Sagittarii.	...	10.4	24.2	38.0	51.8	5.4	18. 4. 19.3	—	6.89	18. 3. 37.96	M	
36		A. S. C. 2125.	50.3	3.8	17.0	30.2	43.2	56.1	18. 19.	+	6.64	18. 19. 30.07	M	
37		A. S. C. 2127.	25.0	38.3	51.5	4.9	18.0	31.3	18. 20. 44.8			18. 20. 4.83	M	
38		δ Ursæ Minoris..	11. 18.5	14. 56.5	...	22. 10.0	...	...	18.	+	6. 1.24	18. 22. 9.57	M	
39		Cephei 51 (Hev.) S.P.	10. 48.0	15. 18.0	...	24. 12.5	...	...	18.	+	7. 27.83	18. 24. 14.00	M	
40		Saturn 1 L.	15.1	...	42.8	...	10.7	...	19. 27. 38.2			19. 26. 56.70	M	
41		Saturn 2 L.	...	30.3	...	58.0	...	25.7	19. 27.			19. 26. 58.00	M	
42		γ Aquilæ.	23.2	36.4	49.7	2.8	15.9	28.9	19. 38. 41.9			19. 38. 2.68	M	
43		α Aquilæ.	43.2	56.1	9.1	22.1	35.3	48.2	19. 43. 1.2			19. 42. 22.17	M	
44		β Aquilæ.	12.2	25.1	38.2	51.1	4.1	17.0	19. 47. 29.9			19. 46. 51.08	M	
45		α^2 Capricorni.	...	...	...	36.1	49.2	2.2	20. 9. 15.3	—	19.81	20. 8. 35.89	M	
46		λ Ursæ Minoris..	...	57. 21.0	8. 1.0	18. 42.0	29. 20.0	39. 52.0	20.	—	0.37	20. 18. 38.83	M	
47		ζ Cygni.	...	...	15.7	30.4	45.2	59.9	21. 6. 14.8	—	14.80	21. 5. 30.40	M	
48		Juno.	...	...	...	...	7.0	19.8	21. 24. 32.7	—	25.78	21. 23. 54.05	M	
49		ϵ Pegasi.	4.5	17.4	30.2	43.6	56.4	9.5	21. 36. 22.7			21. 35. 43.47	M	
ILLUMINATED END OF AXIS WEST. Order of Wires for Stars above the Pole, G, F, E, D, C, B, A.														
3, 4, 5, 8. Very cloudy.						24. A thick fog.								
7. The sky brilliant and without cloud.						25. The image very much blurred.								
22, 23. Very hazy.						26, 27. The limbs very confused and unsteady.								

No. for Reference.	Error of Collimation.	Level Error.	Seconds of Transit cor. for two Errors.	Azimuthal Error.	Seconds of Transit Corrected.	Tabular R.A. of Known Stars.	Clock apparently Slow.	Adopted Losing Rate.	Clock Slow at 0 ^h Sidereal.	Correction for Duration of Passage of Semidiameter.	Apparent R.A. of Center from the Observation.	NAME OF OBJECT.	Correction to Mean R.A. 1843, Jan. 1.
"	"	"	"	"	"	"	"	"	"	m s	h m s	"	"
1	+0.08	+2.15		+5.85	33.97			0.80	43.89		23. 51. 18.65	ω Piscium.	— 3.99
2					59.39				44.69		0. 7. 44.08	Uranus.	
3				+9.86	44.51			0.86	45.21	— 0.35	8. 41. 29.68	Venus.	
4					48.04						9. 33. 33.59	$\odot$	
5												Polaris S.P.	
6			41.14		57.06	42.66	45.60				....	Spica.	
7			11.96		12.55	58.16	45.61				....	α Ophiuchi.	
8					56.38	42.28	45.90				....		
9		+1.72		+8.22	30.97			0.86	47.23	+ 0.49	16. 51. 19.29	Mars.	
10					44.65	32.65	48.00				17. 7. 32.49	α Herculis.	— 3.28
11					7.51						17. 26. 55.37	β Draconis.	— 2.41
12					54.46	42.25	47.79				17. 27. 42.32	α Ophiuchi.	— 3.42
13					12.28						17. 53. 0.15	γ Draconis.	— 2.61
14					38.94	26.84	47.90				18. 4. 26.82	μ Sagittarii.	— 4.43
15					21.37						18. 30. 9.26	Piazzi XVIII.137	— 3.19
16					52.58	40.44	47.86				18. 31. 40.47	α Lyræ.	— 3.19
17					32.42	20.35	47.93				18. 44. 20.32	β Lyræ.	— 3.37
18					27.47	15.38	47.91				18. 58. 15.38	ζ Aquilæ.	— 3.78
19					51.04	38.86	47.82				19. 17. 38.96	δ Aquilæ.	— 4.08
20					12.58						19. 28. 0.51	Saturn.	
21					56.37						21. 40. 44.37	Jupiter.	
22					52.76	44.40	51.64		48.09		1. 3. 40.88	Polaris.	—44.06
23			5.17		50.49			0.95	47.72	— 0.34	8. 56. 38.22	Venus.	
24					0.04						9. 44. 48.15	$\odot$	
25					53.97						10. 24. 42.26	Mercury.	
26					54.56	44.82	50.26			+ 0.16	1. 3. 42.80	Polaris S.P.	—44.48
27			41.28		9.93	58.12	48.19				13. 16. 58.18	Spica.	— 2.42
28					15.84					+ 0.48	16. 53. 4.71	Mars.	
29					44.17	32.64	48.47				17. 7. 32.57	α Herculis.	— 3.27
30					53.82	42.24	48.42				17. 27. 42.23	α Ophiuchi.	— 3.41
31					11.83						17. 53. 0.26	γ Draconis.	— 2.59
32					38.57	26.83	48.26				18. 4. 27.01	μ Sagittarii.	— 4.42
33					30.65						18. 20. 19.09	A. S. C. 2125.	— 4.29
34					5.41						18. 20. 53.86	A. S. C. 2127.	— 4.29
35					5.93						18. 22. 54.38	δ Ursæ Minoris.	+ 4.10
36					19.65						6. 25. 8.10	Cephei 51 (Hev.) S.P.	—11.73
37					57.97						19. 27. 46.46	Saturn.	
38					3.15	51.61	48.46				19. 38. 51.65	γ Aquilæ.	— 3.98
39					22.64	11.34	48.70				19. 43. 11.14	α Aquilæ.	— 4.06
40					51.57	40.05	48.48				19. 47. 40.07	β Aquilæ.	— 4.09
41					36.46	24.79	48.33				20. 9. 24.98	α^2 Capricorni.	— 4.55
42					27.14						20. 19. 15.67	λ Ursæ Minoris.	— 9.49
43					30.77	19.33	48.56				21. 6. 19.33	ζ Cygni.	— 3.98
44					54.57						21. 24. 43.13	Juno.	
45					43.94	32.65	48.71				21. 36. 32.51	ϵ Pegasi.	— 4.22

Aug. 14. The azimuthal error by tabular places of Polaris S. P. and Spica, allowing 0^s.01 for clock-rate.

Aug. 16 to 19. The azimuthal error by six consecutive passages of Polaris.

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	I.	II.	III.	IV.	V.	VI.	VII. WIRE.	Correction to Mean of Wires Observed.	Concluded Transit over Mean of the Seven Wires.	Observer.
			m s	m s	m s	m s	m s	m s	h m s			
Aug. 17	1	Jupiter 1 L.	43.0	...	9.8	...	36.4	...	21.40. 3.1		21. 39. 23.08	M
	2	Jupiter 2 L.	...	59.8	...	26.6	...	53.0	21. 39.		21. 39. 26.47	M
	3	α Andromedæ ..	48.1	3.0	17.3	32.0	46.6	1.2	0. 0. 16.1		23. 59. 32.04	D
	4	Uranus	...	58.5	11.2	24.3	37.2	50.0	0. 7. 3.0	— 6.43	0. 6. 24.27	D
	5	Polaris	38. 52.0	46. 56.0	55. 1.0	...	11. 9.0	...	1.	+ 10. 4.19	1. 3. 3.69	D
	6*	Castor	1.6	16.6	32.2	47.4	2.5	17.5	7. 24. 32.5		7. 23. 47.19	R
	7	Procyon	38.0	41.2	4.0	17.1	30.0	42.8	7. 30. 56.0		7. 30. 17.02	R
	8*	Venus 2 L.	...	22.6	36.5	50.2	3.5	17.2	9. 1.	— 0.01	9. 0. 49.09	R
Aug. 18	9	Polaris S.P.	...	...	54. 40.0	2. 43.0	10. 47.0	...	13. 26. 55.0	— 6. 2.00	13. 2. 44.25	R
	10	Spica	29.1	42.2	55.2	8.2	21.3	34.3	13. 16. 47.5		13. 16. 8.26	R
	11	Arcturus	1.4	15.0	28.8	42.5	56.2	9.8	14. 8. 23.3		14. 7. 42.43	R
	12	Mars 1 L.	19.1	33.3	47.8	2.0	16.2	30.8	16. 54. 44.9		16. 54. 2.01	R
	13	α Herculis.	2.8	16.2	29.5	42.8	56.2	9.2	17. 7. 22.4		17. 6. 42.73	R
	14	A. S. C. 2125.	49.3	2.4	15.7	29.4	...	...	18. 19.	+ 19.94	18. 19. 29.14	R
	15	A. S. C. 2127.	...	...	50.6	3.8	17.2	30.5	18. 20. 43.5	— 13.30	18. 20. 3.82	R
	16	δ Ursæ Minoris..	11. 19.0	14. 55.0	...	...	...	29. 20.0	18. 32. 58.0	+ 0.43	18. 22. 8.43	R
	17	Cephei 51 (Hev.) S.P.	10. 48.0	15. 18.5	...	24. 11.5	...	...	18. 37. 40.0	+ 2. 14.14	18. 24. 13.64	R
	18	Saturn 1 L.	0.2	...	28.0	...	55.8	...	19. 27. 23.2		19. 26. 41.80	R
	19	Saturn 2 L.	...	15.5	...	43.2	...	10.8	19. 27.		19. 26. 43.17	R
	20	λ Ursæ Minoris..	...	...	8. 0.0	18. 39.0	29. 15.0	...	20.	— 1.68	20. 18. 36.32	R
	21*	Jupiter 1 L.	11.5	...	38.0	...	4.2	...	21. 39. 31.5		21. 38. 51.30	R
	22	Jupiter 2 L.	...	28.2	...	54.8	...	...	21. 3.		21. 38. 54.77	R
	23	ι Piscium	28.1	41.1	54.0	6.9	20.0	32.4	23. 31. 45.5		23. 31. 6.86	JH
	24*	α Andromedæ ..	47.3	2.1	17.0	31.2	46.0	0.1	0. 0. 15.1		23. 59. 31.25	JH
	25	Uranus	38.4	51.1	4.0	17.0	30.0	42.8	0. 6. 55.8		0. 6. 17.02	JH
	26	Polaris	38. 52.0	46. 55.0	54. 58.0	...	...	...	0.	+ 16. 7.30	4. 3. 2.30	JH
	27	δ 2 L.	58.6	12.9	27.3	41.8	56.0	10.2	4. 18. 24.8		4. 17. 41.65	M
	28	Aldebaran.	27.8	41.1	54.6	8.0	21.3	34.7	4. 26. 48.1		4. 26. 7.95	M
	29	Procyon	37.8	50.7	3.7	16.7	29.6	42.3	7. 30. 55.2		7. 30. 16.57	M
	30	Pollux.	10.2	25.0	39.7	54.1	8.9	23.3	7. 35. 37.8		7. 34. 54.14	M
	31*	Venus 2 L.	8.2	22.0	35.5	49.2	2.8	16.2	9. 6. 29.7		9. 5. 49.09	M
Aug. 19	32	$\odot$ 1 L.	40.4	53.7	6.8	19.9	33.3	46.3	9. 50. 59.2		9. 50. 19.95	M
	33	$\odot$ 2 L.	50.7	3.9	16.9	30.2	43.5	56.7	9. 53. 9.8		9. 52. 30.24	M
	34	Mercury 1 L.	45.3	58.7	11.8	24.9	37.9	51.0	10. 38. 4.0		10. 37. 24.80	M
	35	β Leonis	...	...	1.0	14.1	27.3	40.8	11. 40. 54.1	— 13.35	11. 40. 14.11	M
	36*	Polaris S.P.	...	46. 41.0	54. 38.0	2. 41.0	10. 46.0	...	13.	+ 4. 2.10	13. 2. 43.60	M
	37	γ Aquilæ	21.8	34.8	47.9	1.0	14.0	27.0	19. 38. 40.0		19. 38. 0.93	M
	38	α Aquilæ	41.6	54.4	7.6	20.7	33.7	46.7	19. 42. 59.7		19. 42. 20.62	M
	39	β Aquilæ	10.4	23.4	36.3	49.3	2.3	15.1	19. 47. 28.1		19. 46. 49.28	M
	40	α^2 Capricorni ...	...	...	...	34.2	47.3	0.3	20. 9. 13.7	— 19.81	20. 8. 34.07	M
	41	λ Ursæ Minoris..	...	57. 20.0	8. 0.0	18. 38.0	29. 17.0	...	20.	+ 5. 18.36	20. 18. 37.11	M
Aug. 20	42	Polaris	...	46. 54.5	54. 57.5	3. 4.5	...	...	1.	+ 8. 2.79	1. 3. 1.62	P
	43*	δ 2 L.	7.1	...	...	...	4.8	19.0	6. 12. 33.3	— 10.77	6. 11. 50.28	M
	44*	Procyon	...	...	2.0	15.0	...	40.7	7. 30.	— 4.31	7. 30. 14.92	M
	45	Pollux.	8.9	23.4	38.0	52.7	7.5	22.0	7. 35. 36.8		7. 34. 52.75	M
Aug. 21	46*	$\odot$ 1 L.	...	17.8	31.0	44.1	57.4	10.4	9. 58. 23.7	— 6.60	9. 57. 44.13	M
	47	$\odot$ 2 L.	14.4	27.7	40.9	54.0	7.2	20.4	10. 0. 33.7		9. 59. 54.04	M
	48*	Polaris S.P.	...	...	...	...	10. 52.0	...	13.	— 8. 3.05	13. 2. 48.95	P
	49	Mars 1 L.	52.9	7.1	21.7	36.0	50.7	4.8	17. 0. 19.1		16. 59. 36.04	M
ILLUMINATED END OF AXIS WEST. Order of Wires for Stars above the Pole, G, F, E, D, C, B, A.												
6. Tremulous.						43. Exceedingly faint, but the observed wires may be de-						
21, 24. The intervals irregular.						pended on.						
31. The image very unsteady and frequently appearing to be						44. Exceedingly faint; barely observable.						
split into two.						46. Clouded.						
36. Very unsteady: the sky brilliant during the afternoon; the						48. Faint: very cloudy.						
evening generally cloudy.												

CALCULATION OF APPARENT RIGHT ASCENSIONS.

[63]

No. for Reference.	Error of Collimation.	Level Error.	Seconds of Transit cor. for two Errors.	Azimuthal Error.	Seconds of Transit Corrected.	Tabular R.A. of Known Stars.	Clock apparently Slow.	Adopted Losing Rate.	Clock Slow at 0 ^h Sidereal.	Correction for Duration of Passage of Semidiameter.	Apparent R.A. of Center from the Observation.	NAME OF OBJECT.	Correction to Mean R.A. 1843, Jan. 1.
"	"	"	"	"	"	"	"	"	"	m s	h m s	"	"
1	+0.08	+1.72		+8.22	25.37			0.95	47.72		21. 40. 13.95	Jupiter.	
2					32.42	21.10	48.68	1.00	47.68		....	α Andromedæ.	
3					24.78				48.68		0. 7. 13.46	Uranus.	
4			7.34		54.93	45.20	50.27				1. 3. 43.65	Polaris.	-44.86
5					47.54	36.96	49.42	1.10	48.84		7. 24. 36.72	Castor.	-2.53
6					17.50	6.73	49.23				7. 31. 6.68	Procyon.	-2.02
7					50.42					- 0.34	9. 1. 39.33	Venus.	
8													
9			40.75		54.02	45.56	51.54				1. 3. 43.46	Polaris S.P.	-45.22
10					8.81	58.11	49.30				13. 16. 58.26	Spica.	-2.41
11					42.84	32.34	49.50				14. 8. 32.33	Arcturus.	-2.27
12					2.64					+ 0.48	16. 54. 52.73	Mars.	
13					43.17	32.62	49.45				17. 7. 32.79	α Herculis.	-3.25
14					29.72						18. 20. 19.40	A. S. C. 2125.	-4.29
15					4.40						18. 20. 54.08	A. S. C. 2127.	-4.29
16					4.79						18. 22. 54.47	δ Ursæ Minoris.	+4.45
17					19.29						6. 25. 8.97	Cephei 51 (Hev.) S.P.	-12.16
18					43.11						19. 27. 32.84	Saturn.	
19					24.63						20. 19. 14.40	λ Ursæ Minoris.	-9.02
20					53.62						21. 39. 43.46	Jupiter.	
21					7.35	56.60	49.25	1.00	48.38		....	ι Piscium.	
22					31.63	21.12	49.49				....	α Andromedæ.	
23					17.53				49.38		0. 7. 6.91	Uranus.	
24			5.95		53.54	45.93	52.39				1. 3. 42.95	Polaris.	-45.59
25					42.05			0.94	49.51	-1. 8.10	4. 17. 23.63	δ	
26					8.39	58.13	49.74				4. 26. 58.07	Aldebaran.	-3.10
27					17.06	6.75	49.69				7. 31. 6.86	Procyon.	-2.04
28					54.52	44.44	49.92				7. 35. 44.32	Pollux.	-2.43
29					49.52					- 0.34	9. 6. 39.05	Venus.	
30													
31					25.55						9. 52. 15.44	$\odot$	
32					25.27					+ 0.16	10. 38. 15.36	Mercury.	
33					14.56	4.72	50.16				11. 41. 4.53	β Leonis.	-1.93
34					53.37	46.29	52.92				1. 3. 43.40	Polaris S.P.	-45.95
35			40.10		1.40	51.60	50.20				19. 38. 51.68	γ Aquilæ.	-3.97
36					21.09	11.33	50.24				19. 43. 11.37	α Aquilæ.	-4.05
37					49.76	40.04	50.28				19. 47. 40.04	β Aquilæ.	-4.08
38					34.64	24.79	50.15				20. 9. 24.94	α^2 Capricorni.	-4.55
39					25.42						20. 19. 15.72	λ Ursæ Minoris.	-8.49
40													
41					55.65	47.31	51.66	0.50	51.24		1. 3. 46.91	Polaris.	-46.97
42			5.27	+6.37	50.62					-1. 9.98	6. 11. 32.00	δ	
43					15.32	6.79	51.47				7. 31. 6.72	Procyon.	-2.08
44					53.07	44.48	51.41				7. 35. 44.47	Pollux.	-2.47
45													
46					49.46						9. 59. 40.91	$\odot$	
47					55.74	47.63	51.89				1. 3. 47.25	Polaris S.P.	-47.29
48			45.45		36.54					+ 0.47	17. 0. 28.60	Mars.	
49													

Aug. 18, 22^h. The Transit instrument was levelled.

Aug. 20 and 21. The azimuthal error by three consecutive passages of Polaris.

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	I.	II.	III.	IV.	V.	VI.	VII. WIRE.	Correction to Mean of Wires Observed.	Concluded Transit over Mean of the Seven Wires.	Observer.	
			m s	m s	m s	m s	m s	m s	h m s	m s	h m s		
Aug. 21	1*	α Herculis	...	14.0	27.1	...	53.9	7.0	17. 7. 20.3	—	7.97	17. 6. 40.49	M
	2	Saturn 1 L.	19.0	...	46.8	...	14.6	...	19. 26. 42.1			19. 26. 0.63	M
	3	Saturn 2 L.	...	34.1	...	2.0	...	29.8	19. 26.			19. 26. 1.97	M
	4	γ Aquilæ.....	20.2	33.2	46.3	59.6	12.9	25.7	19. 38. 38.9			19. 37. 59.55	M
	5	α Aquilæ.....	40.1	53.2	6.2	19.1	32.1	45.1	19. 42. 58.1			19. 42. 19.13	M
	6	β Aquilæ.....	9.1	22.1	35.0	48.0	1.0	13.9	19. 47. 26.8			19. 46. 47.99	M
	7	α^2 Capricorni ...	...	...	...	33.0	46.1	59.1	20. 9. 12.3	—	19.81	20. 8. 32.82	M
	8	λ Ursæ Minoris..	...	57. 18.0	7. 58.0	18. 40.0	...	...	20.	+ 10. 37.64		20. 18. 36.31	M
	9	61 Cygni (1st star)	15.0	...	47.7	...	20.3	...	20. 59. 53.0	—	0.01	20. 59. 3.99	M
	10	61 Cygni (2nd star)	...	32.8	...	5.7	...	38.0	20. 59.	+	0.01	20. 59. 5.51	M
	11	ζ Cygni	43.0	57.8	12.7	27.3	42.2	56.9	21. 6. 11.8			21. 5. 27.39	M
	12	Juno	55.7	8.5	21.4	34.4	47.2	0.1	21. 21. 13.0			21. 20. 34.33	M
	13	β Aquarii	51.0	3.9	16.9	29.8	42.8	55.7	21. 23. 8.5			21. 22. 29.80	M
	14	ϵ Pegasi	1.6	14.5	27.5	40.6	...	...	21. 35.	+	19.54	21. 35. 40.59	M
	15	Jupiter 1 L.	38.2	...	5.0	...	31.8	...	21. 37. 58.2			21. 37. 18.30	M
	16	Jupiter 2 L.	...	54.9	...	21.8	...	48.2	21. 37.			21. 37. 21.63	M
	17*	Polaris	38. 50.0	46. 55.0	54. 58.0	...	...	...	0.	+ 16. 7.44		1. 3. 1.77	D
Aug. 22	18	ζ Aquilæ.....	43.0	56.3	9.6	22.8	36.1	49.3	18. 57. 2.4			18. 56. 22.78	E
	19	A. S. C. 2236...	...	48.0	1.2	14.6	28.0	41.3	19. 9.	—	0.01	19. 9. 14.61	E
	20	ρ^2 Sagittarii....	12.2	26.1	39.9	...	...	...	19. 11.	+	27.15	19. 11. 53.22	E
	21	ν Sagittarii....	...	...	...	...	9.3	22.5	19. 12. 35.8	—	26.79	19. 11. 55.74	E
	22	δ Aquilæ.....	7.8	20.7	33.5	46.3	59.0	11.7	19. 17. 24.6			19. 16. 46.23	E
	23	Uranus	...	21.2	34.2	47.1	0.1	13.0	0. 6. 25.9	—	6.43	0. 5. 47.15	JH
	24	Polaris	38. 49.0	46. 57.0	54. 59.0	3. 3.0	...	...	1.	+ 12. 5.13		1. 3. 2.13	JH
	25	Castor	...	...	29.3	44.4	59.8	14.8	7. 24. 30.2	—	15.21	7. 23. 44.49	M
	26	Procyon	35.3	48.4	1.3	14.2	27.1	39.9	7. 30. 52.9			7. 30. 14.16	M
	27	Pollux.....	8.0	22.2	37.1	...	...	...	7. 34.	+	29.26	7. 34. 51.69	M
	28*	δ 2 L.	50.9	4.9	18.8	32.7	46.4	...	8. 8.	+	13.83	8. 8. 32.57	M
Aug. 24	29	α Herculis	59.0	12.2	25.4	38.7	52.0	5.2	17. 7. 18.5			17. 6. 38.57	E
	30	β Draconis	...	...	41.0	2.2	23.4	...	17. 26.	—	0.06	17. 26. 2.14	E
	31	α Ophiuchi	...	...	35.8	48.7	1.8	14.8	17. 27. 27.9	—	13.19	17. 26. 48.61	E
	32	γ Draconis	4.6	25.5	45.8	6.9	27.1	47.7	17. 53. 8.2			17. 52. 6.54	E
	33	μ Sagittarii....	51.8	5.6	19.3	33.0	46.8	0.5	18. 4. 14.3			18. 3. 33.04	E
	34	A. S. C. 2125...	45.8	59.0	12.3	25.6	38.8	...	18. 19.	+	13.28	18. 19. 25.58	E
	35	A. S. C. 2127...	...	...	46.8	0.0	13.3	...	18. 20.	—	0.03	18. 20. 0.00	E
	36*	δ Ursæ Minoris..	11. 12.5	14. 49.5	...	...	...	...	18.	+ 9. 2.33		18. 22. 3.33	E
	37*	α Lyrae	57.3	...	...	47.0	3.3	19.5	18. 31. 36.2	—	9.88	18. 30. 46.78	E
	38	β Lyrae	40.7	55.8	11.2	26.5	41.9	57.1	18. 44. 12.4			18. 43. 26.52	E
	39	Juno	29.5	42.4	55.3	8.1	21.0	33.8	21. 18. 46.7			21. 18. 8.12	E
	40	β Aquarii	49.3	2.1	15.0	28.0	40.8	53.7	21. 23. 6.7			21. 22. 27.95	E
	41	β Cephei.....	55.5	33.2	10.3	48.0	25.5	2.3	21. 27. 40.1			21. 25. 47.85	E
	42	Jupiter 1 L.	6.0	...	32.8	...	59.6	...	21. 36. 26.3			21. 35. 46.18	E
	43	Jupiter 2 L.	...	22.9	...	49.7	...	16.4	21. 36.			21. 35. 49.67	E
	44	α Andromedæ ..	43.6	58.3	13.0	28.0	42.5	57.0	0. 0. 11.2			23. 59. 27.66	D
	45	Uranus	...	6.0	19.0	32.1	44.7	57.4	0. 6. 10.4	—	6.43	0. 5. 31.84	D
	46*	Polaris	38. 51.0	...	...	...	...	...	0.	+ 24. 12.28		1. 3. 3.28	D
Aug. 26	47	$\odot$ 1 L.	27.6	...	54.0	7.1	20.2	33.3	10. 16. 46.5	—	4.37	10. 16. 7.08	M
	48	$\odot$ 2 L.	37.3	50.3	3.5	16.7	29.8	42.8	10. 18. 55.9			10. 18. 16.62	M
	49	Mercury 1 L.	22.1	35.3	48.3	1.3	14.3	26.9	11. 21. 40.1			11. 21. 1.18	M
	50	β Leonis	...	...	...	9.8	23.2	36.4	11. 40. 49.7	—	20.03	11. 40. 9.75	M

ILLUMINATED END OF AXIS WEST. Order of Wires for Stars above the Pole, G, F, E, D, C, B, A.

1. Very cloudy. 17. Faint: cloudy immediately after the transit of the 3rd wire.
 28. Sufficiently well seen: cloudy after the transit of the 5th wire. 36, 37, 46. Cloudy.

CALCULATION OF APPARENT RIGHT ASCENSIONS.

[65]

No. for Reference.	Error of Collimation.	Level Error.	Seconds of Transit cor. for two Errors.	Azimuthal Error.	Seconds of Transit Corrected.	Tabular R. A. of Known Stars.	Clock apparently Slow.	Adopted Losing Rate.	Clock Slow at 0 ^h Sidereal.	Correction for Duration of Passage of Semidiameter.	Apparent R.A. of Center from the Observation.	NAME OF OBJECT.	Correction to Mean R.A. 1843, Jan. 1.
	"	"	"	"	"	"	"	"	"	m s	h m s	"	"
1	+0.08	+1.72		+6.37	40.85	32.58	51.73	0.50	51.24		17. 7. 32.45	α Herculis.	— 3.21
2					1.79						19. 26. 53.43	Saturn.	
3					59.94	51.59	51.65				19. 38. 51.59	γ Aquilæ.	— 3.96
4					19.51	11.32	51.81				19. 43. 11.16	α Aquilæ.	— 4.04
5					48.39	40.03	51.64				19. 47. 40.04	β Aquilæ.	— 4.07
6					33.27	24.78	51.51				20. 9. 24.93	α^2 Capricorni.	— 4.54
7					28.33						20. 19. 19.99	λ Ursæ Minoris.	— 7.02
8					4.27						20. 59. 55.95	61 Cygni (1st star).	— 4.14
9					5.79						20. 59. 57.47	61 Cygni (2nd star).	— 4.14
10					27.70	19.34	51.64				21. 6. 19.38	ζ Cygni.	— 3.99
11					34.76						21. 21. 26.45	Juno.	
12					30.23	21.74	51.51				21. 23. 21.92	β Aquarii.	— 4.44
13					40.98	32.68	51.70				21. 36. 32.67	ϵ Pegasi.	— 4.25
14					20.43						21. 38. 12.12	Jupiter.	
15			5.42		55.80	47.94	52.14		51.74		1. 3. 47.56	Polaris.	—47.60
16					23.09	15.33	52.24	0.30	52.00		....	ζ Aquilæ.	
17		+0.48			15.04						19. 10. 7.28	A. S. C. 2236.	— 4.47
18					53.66						19. 12. 45.90	ρ^2 Sagittarii.	— 4.56
19					56.17						19. 12. 48.41	ν Sagittarii.	— 4.49
20					46.58	38.81	52.23	0.40	52.37		....	δ Aquilæ.	
21				+4.70	47.42						0. 6. 39.79	Uranus.	
22			3.29		56.19	48.52	52.33				....	Polaris.	
23					44.66	37.09	52.43				....	Castor.	
24			14.19		14.42	6.84	52.42				....	Procyon.	
25					51.87	44.53	52.66				....	Pollux.	
26					32.79					—1. 9.56	8. 8. 15.73	D	
27					38.89	32.53	53.64	0.55	52.96		17. 7. 32.24	α Herculis.	— 3.16
28				+6.77	2.19						17. 26. 55.55	β Draconis.	— 2.18
29					48.94	42.14	53.20				17. 27. 42.30	α Ophiuchi.	— 3.31
30					6.60						17. 52. 59.97	γ Draconis.	— 2.39
31			33.06		33.52	26.74	53.22				18. 4. 26.90	μ Sagittarii.	— 4.33
32					26.03						18. 20. 19.41	A. S. C. 2125.	— 4.23
33					0.45						18. 20. 53.83	A. S. C. 2127.	— 4.23
34					59.49						....	δ Ursæ Minoris.	
35			3.86		46.96	40.30	53.34				18. 31. 40.34	α Lyræ.	— 3.05
36					26.74	20.23	53.49				18. 44. 20.13	β Lyræ.	— 3.25
37					8.53						21. 19. 1.98	Juno.	
38					28.37	21.75	53.38				21. 23. 21.82	β Aquarii.	— 4.45
39					47.54						21. 26. 40.99	β Cephei.	— 4.43
40					48.38						21. 36. 41.83	Jupiter.	
41			27.70		27.90	21.23	53.33	0.55	52.78		....	α Andromedæ.	
42					32.22				53.33		0. 6. 25.55	Uranus.	
43			4.44		54.22	49.55	55.33				....	Polaris.	
44				+7.06	12.20			0.70	54.15		10. 18. 6.65	$\odot$	
45					1.55						11. 21. 56.20	Mercury.	
46					10.08	4.71	54.63			+ 0.17	11. 41. 4.57	β Leonis.	— 1.92

Aug. 22. The azimuthal error by tabular places of Polaris and Procyon, allowing 0^s.10 for clock-rate.

Aug. 24. The azimuthal error is the mean of those determined by tabular places of μ Sagittarii and δ Ursæ Minoris, and of α Andromedæ and Polaris, allowing respectively 0^s.01 and 0^s.02 for clock-rate.

Aug. 25, 21^h. The Transit instrument was levelled.

K

MONTH and DAY.	No. for Reference	NAME OF OBJECT.	I.	II.	III.	IV.	V.	VI.	VII. WIRE.	Correction to Mean of Wires Observed.	Concluded Transit over Mean of the Seven Wires.	Observer.
			m s	m s	m s	m s	m s	m s	m s	h m s	m s	
Aug. 26	1*	Polaris S.P. ...	38. 34.0	46. 40.0	54. 41.0	...	...	...	12.	+ 16. 7.03	13. 2. 45.36	E
	2	α Herculis	57.6	10.9	24.1	37.5	50.9	4.0	17. 7. 17.2		17. 6. 37.46	M
	3	Mars 1 L.	50.3	4.8	19.2	33.8	48.1	2.3	17. 10. 16.9		17. 9. 33.63	M
	4	β Draconis	57.2	18.2	39.3	0.7	...	...	17. 26.	+ 31.62	17. 26. 0.47	M
	5	α Ophiuchi	...	...	33.9	47.1	0.3	13.2	17. 27. 26.6	- 13.19	17. 26. 47.03	M
	6	γ Draconis	3.1	24.0	44.4	5.3	26.0	46.3	17. 53. 7.2		17. 52. 5.19	M
	7	μ Sagittarii	...	4.1	17.9	31.8	45.7	59.2	18. 4. 13.0	- 6.89	18. 3. 31.73	M
	8	α Lyræ	55.9	12.3	28.7	45.3	1.9	18.2	18. 31. 34.7		18. 30. 45.29	M
	9	ζ Aquilæ	40.3	53.8	7.0	20.3	33.5	46.7	18. 58. 0.0		18. 57. 20.23	M
	10	A. S. C. 2236 ...	...	...	...	12.2	25.7	38.8	19. 9. 52.2	- 20.06	19. 9. 12.17	M
	11	ρ^2 Sagittarii	9.9	23.3	37.1	50.7	...	...	19. 11.	+ 20.35	19. 11. 50.60	M
	12	ν Sagittarii	...	...	...	...	...	20.1	19. 12. 33.3	- 33.46	19. 11. 53.24	M
	13	δ Aquilæ	5.1	18.0	31.0	43.9	56.9	9.3	19. 17. 22.3		19. 16. 43.78	M
	14	Saturn 1 L.	16.7	...	44.3	...	12.4	...	19. 25. 40.0		19. 24. 58.35	M
	15	Saturn 2 L.	...	31.9	...	59.8	...	27.3	19. 25.		19. 24. 59.67	M
	16	Juno	54.1	7.1	20.0	33.0	46.0	58.8	21. 17. 11.7		21. 16. 32.96	M
	17	β Aquarii	47.9	0.9	13.8	26.8	39.7	52.4	21. 23. 5.3		21. 22. 26.69	M
	18	Jupiter 1 L.	5.3	...	32.0	...	58.9	...	21. 35. 25.4		21. 34. 45.40	M
	19	Jupiter 2 L.	...	22.3	...	49.0	...	15.5	21. 35.		21. 34. 48.93	M
	20	α Andromedæ ...	42.1	57.0	11.4	26.1	40.9	55.2	0. 0. 9.9		23. 59. 26.09	M
	21	Uranus	37.1	49.9	2.7	15.7	28.4	41.2	0. 5. 54.1		0. 5. 15.59	M
Aug. 28	22*	Juno	21.5	34.0	47.2	0.5	...	...	21. 15.	+ 19.39	21. 15. 0.19	H
	23*	β Aquarii	46.5	59.5	12.3	25.5	38.4	50.8	21. 23. 3.8		21. 22. 25.26	H
	24*	Jupiter 1 L.	5.7	...	32.4	...	58.7	...	21. 34. 25.7		21. 33. 45.62	H
	25*	Jupiter 2 L.	...	22.4	...	48.8	...	15.5	21. 34.		21. 33. 48.90	H
Aug. 30	26	μ Sagittarii	...	0.7	14.6	28.4	42.1	55.8	18. 3.	- 0.01	18. 3. 28.31	H
	27	α Lyræ	52.6	9.0	25.6	41.9	58.7	14.9	18. 31. 31.5		18. 30. 42.03	H
	28	β Lyræ	35.7	51.1	6.6	21.8	37.4	52.6	18. 44. 7.7		18. 43. 21.84	H
Aug. 31	29	☉ 1 L.	39.5	52.6	5.7	18.7	31.8	44.8	10. 34. 57.8		10. 34. 18.70	E
	30	☉ 2 L.	48.4	1.5	14.7	27.8	40.8	53.7	10. 37. 6.8		10. 36. 27.67	E
	31	Mercury 1 L.	...	41.7	54.5	7.3	20.2	33.1	11. 49. ...	- 0.01	11. 49. 7.35	E
	32	☽ 1 L.	45.0	59.6	14.0	28.5	43.0	57.3	15. 52. 11.8		15. 51. 28.46	E
	33	β^1 Scorpii	...	55.8	9.2	23.0	36.5	50.0	15. 55.	- 0.01	15. 55. 22.89	E
	34	δ Ophiuchi	32.3	45.3	58.1	11.0	23.8	36.7	16. 5. 49.5		16. 5. 10.95	E
	35	Mars 1 L.	33.3	47.8	2.1	16.6	31.0	45.3	17. 20. 59.8		17. 20. 16.59	E
	36	β Draconis	...	...	35.1	56.2	17.5	...	17. 26.	- 0.06	17. 25. 56.21	E
	37	α Ophiuchi	...	...	...	42.8	55.8	8.9	17. 27. 22.0	- 19.78	17. 26. 42.60	E
	38	γ Draconis	58.3	19.2	39.8	0.6	21.2	41.8	17. 53. 2.5		17. 52. 0.48	E
	39	μ Sagittarii	45.8	59.4	13.3	27.0	40.8	54.5	18. 4. 8.4		18. 3. 27.03	E
	40	δ Ursæ Minoris..	11. 3.5	14. 40.0	18. 17.0	21. 56.0	25. 32.0	...	18.	+ 3.36.62	18. 21. 54.32	E
	41	α Lyræ	51.2	7.8	24.4	41.0	57.3	13.8	18. 31. 30.2		18. 30. 40.81	E
	42	β Lyræ	34.8	49.8	5.0	20.9	36.0	51.2	18. 44. 6.8		18. 43. 20.64	E
	43	ζ Aquilæ	36.0	49.0	2.2	15.5	29.0	42.0	18. 57. 55.2		18. 57. 15.56	E
	44	A. S. C. 2236 ...	...	41.0	54.2	7.8	21.1	34.2	19. 9.	- 0.01	19. 9. 7.65	E
	45	ρ^2 Sagittarii	5.6	19.0	32.3	46.0	...	...	19. 11.	+ 20.35	19. 11. 46.08	E
	46	* N.P.D. 110°.56',	...	...	...	...	41.2	55.1	19. 13. 9.0	- 27.53	19. 12. 27.57	E
	47	δ Aquilæ	0.8	13.7	26.5	39.4	52.2	5.0	19. 17. 18.0		19. 16. 39.38	E
	48	Saturn 1 L.	21.7	...	49.3	...	17.1	...	19. 24. 44.8		19. 24. 3.23	E
	49	Saturn 2 L.	...	36.8	...	4.4	...	32.1	19. 24.		19. 24. 4.43	E
	50	ζ Cygni	35.6	50.2	5.0	19.8	34.7	49.3	21. 6. 4.0		21. 5. 19.80	E
ILLUMINATED END OF AXIS WEST. Order of Wires for Stars above the Pole, G, F, E, D, C, B, A.												
1, 23, 24, 25. Cloudy. Aug. 26. A beautiful night. 22. Very cloudy.												

No. for Reference.	Error of Collimation.	Level Error.	Seconds of Transit cor. for two Errors.	Azimuthal Error.	Seconds of Transit Corrected.	Tabular R. A. of Known Stars.	Clock apparently Slow.	Adopted Losing Rate.	Clock Slow at 0 ^h Sidereal.	Correction for Duration of Passage of Semidiameter.	Apparent R. A. of Center from the Observation.	NAME OF OBJECT.	Correction to Mean R. A. 1843, Jan. 1.
	"	"	s	"	s	s	s	s	s	m s	h m s		s
1	+0.08	+0.48	44.24	+7.06	55.64	50.25	54.61	0.70	54.15		....	Polaris S.P.	
2			37.50		37.79	32.50	54.71				17. 7. 32.44	α Herculis.	— 3.13
3					34.16					+ 0.45	17. 10. 29.26	Mars.	
4					0.52						17. 26. 55.18	β Draconis.	— 2.11
5					47.37	42.11	54.74				17. 27. 42.03	α Ophiuchi.	— 3.28
6					5.25						17. 52. 59.92	γ Draconis.	— 2.34
7					32.23	26.72	54.49				18. 4. 26.91	μ Sagittarii.	— 4.31
8					45.47	40.27	54.80				18. 31. 40.16	α Lyrae.	— 3.02
9					20.57	15.28	54.71				18. 58. 15.27	ζ Aquilæ.	— 3.68
10					12.64						19. 10. 7.35	A. S. C. 2236.	— 4.43
11					51.09						19. 12. 45.80	ρ^2 Sagittarii.	— 4.53
12					53.71						19. 12. 48.42	ν Sagittarii.	— 4.46
13					44.16	38.78	54.62				19. 17. 38.87	δ Aquilæ.	— 4.00
14					59.52						19. 25. 54.24	Saturn.	
15					33.39						21. 17. 28.16	Juno.	
16					27.12	21.75	54.63				21. 23. 21.89	β Aquarii.	— 4.45
17					47.62						21. 35. 42.40	Jupiter.	
18					26.34	21.27	54.93				0. 0. 21.19	α Andromedæ.	— 4.36
19					15.99				54.85		0. 6. 10.84	Uranus.	
20					0.62			0.95	55.22		21. 15. 56.68	Juno.	
21					25.69	21.76	56.07				....	β Aquarii.	
22					47.74						21. 34. 43.81	Jupiter.	
23					28.20	26.66	58.46				....	μ Sagittarii.	
24					41.80	40.19	58.39				....	α Lyrae.	
25					21.63	20.13	58.50				....	β Lyrae.	
26	—3.65	+0.44		+2.00	23.06			0.87	58.98		10. 36. 22.42	$\odot$	
27					7.23					+ 0.18	11. 50. 6.82	Mercury.	
28					28.35					+ 1. 12.66	15. 53. 40.56	δ	
29					22.77	22.31	59.54				15. 56. 22.33	β^1 Scorpii.	— 3.39
30					10.84	10.43	59.59				16. 6. 10.40	δ Ophiuchi.	— 3.12
31					16.47					+ 0.44	17. 21. 16.51	Mars.	
32					55.86						17. 26. 55.47	β Draconis.	— 1.95
33					42.46	42.03	59.57				17. 27. 42.07	α Ophiuchi.	— 3.20
34					0.14						17. 52. 59.77	γ Draconis.	— 2.19
35					26.92	26.65	59.73				18. 4. 26.56	μ Sagittarii.	— 4.24
36			26.78		49.33						....	δ Ursæ Minoris.	
37			50.62		40.58	40.17	59.59				18. 31. 40.23	α Lyrae.	— 2.92
38					20.43	20.11	59.68				18. 44. 20.08	β Lyrae.	— 3.13
39					15.41	15.22	59.81				18. 58. 15.07	ζ Aquilæ.	— 3.62
40					7.54						19. 10. 7.21	A. S. C. 2236.	— 4.39
41					45.96						19. 12. 45.63	ρ^2 Sagittarii.	— 4.47
42					27.46						19. 13. 27.14	* N.P.D. 110°.56'.	— 4.55
43					39.26	38.73	59.47				19. 17. 38.94	δ Aquilæ.	— 3.95
44					3.72						19. 25. 3.40	Saturn.	
45					19.61	19.32	59.71				21. 6. 19.36	ζ Cygni.	— 3.97

Aug. 26. The azimuthal error by tabular places of Polaris S.P. and α Herculis, allowing 0^s.10 for clock-rate.

Aug. 29, 21^h. The transit instrument was reversed, and the error of collimation determined. It was again reversed about noon on the same morning, and again the next morning (Aug. 30, 21^h), on account of the apparent change in the error of collimation. The three corrections deduced are —3^m.20, —5^m.06, and —2^m.21. The error used is deduced from these, by giving to them weights 3, 3, and 2.

Aug. 31 and Sep. 1. The azimuthal error is the mean of those determined by tabular places of μ Sagittarii and δ Ursæ Minoris, and of Polaris and α Ophiuchi, allowing respectively 0^s.01 and 0^s.54 for clock-rate.

[68]

TRANSITS OBSERVED AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1843.

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	I.	II.	III.	IV.	V.	VI.	VII. WIRE.	Correction to Mean of Wires Observed.	Concluded Transit over Mean of the Seven Wires.	Observer.
			m s	m s	m s	m s	m s	m s	h m s	m s	h m s	
Aug. 31	1	Juno	7.6	20.3	33.1	46.0	59.0	11.8	21. 13. 24.8		21. 12. 46.09	E
	2	β Aquarii	43.7	56.3	9.1	22.0	35.0	48.0	21. 23. 1.1		21. 22. 22.17	E
	3	Jupiter 1 L.	36.8	...	3.7	...	30.4	...	21. 32. 57.1		21. 32. 17.00	E
	4	Jupiter 2 L.	...	53.8	...	20.6	...	47.2	21. 32.		21. 32. 20.53	E
	5	ϵ Pegasi	54.0	7.1	19.9	32.9	46.0	59.0	21. 36. 12.0		21. 35. 32.98	E
Sep. 1	6*	Polaris	38. 52.0	46. 58.0	55. 2.0	3. 7.0	...	...	1.	+ 12. 5.57	1. 3. 5.32	D
	7	Venus 2 L.	13.7	27.1	40.3	53.7	6.9	19.8	10. 14. 33.2		10. 13. 53.53	E
Sep. 2	8	$\odot$ 1 L.	53.7	6.7	19.9	32.7	45.8	58.8	10. 42. 11.9		10. 41. 32.78	E
	9	$\odot$ 2 L.	2.8	15.8	28.7	41.9	54.8	7.8	10. 44. 20.8		10. 43. 41.80	E
	10	Mars 1 L.	2.6	16.9	31.3	45.8	0.2	14.4	17. 25. 28.7		17. 24. 45.70	E
	11	α Ophiuchi	...	...	...	41.0	54.1	7.1	17. 27. 20.2	- 19.78	17. 26. 40.82	E
	12	δ 1 L.	39.1	53.7	8.1	22.7	37.2	51.8	17. 56. 6.2		17. 55. 22.68	E
	13	μ Sagittarii	43.8	57.1	11.4	25.2	39.0	52.8	18. 4. 6.7		18. 3. 25.14	E
	14	λ Sagittarii	37.0	51.2	5.4	19.7	34.0	48.4	18. 18. 2.3		18. 17. 19.72	E
	15	α Lyrae	49.6	6.0	22.3	39.1	55.5	11.7	18. 31. 28.1		18. 30. 38.90	E
	16	ϕ Sagittarii	10.5	24.8	39.2	53.7	8.2	22.6	18. 35. 37.3		18. 34. 53.76	E
	17	β Lyrae	32.8	48.0	3.3	18.8	34.2	49.4	18. 44. 4.8		18. 43. 18.76	E
	18	ζ Aquilæ	34.2	47.3	0.7	14.1	27.1	40.3	18. 57. 53.7		18. 57. 13.91	E
	19	ν Sagittarii	6.9	20.1	33.7	46.8	...	...	19. 11.	+ 20.09	19. 11. 46.97	E
	20	* N.P.D. 110°.56',	...	...	...	25.9	39.6	53.2	19. 13. 7.0	- 20.66	19. 12. 25.77	E
	21	δ Aquilæ	59.0	11.8	24.6	37.4	50.2	3.0	19. 17. 16.0		19. 16. 37.43	E
	22	Saturn 1 L.	2.0	...	29.8	...	57.7	...	19. 24. 25.3		19. 23. 43.70	E
	23	Saturn 2 L.	...	17.1	...	44.8	...	12.6	19. 24.		19. 23. 44.83	E
	24	Juno	...	...	8.9	22.0	34.8	47.3	21. 12. 0.2	- 12.96	21. 11. 21.68	E
	25*	β Aquarii	41.6	54.8	7.3	20.2	33.9	46.0	21. 22. 59.2		21. 22. 20.42	E
	26	Jupiter 1 L.	39.9	...	6.6	...	33.2	...	21. 31. 59.9		21. 31. 19.90	E
	27	Jupiter 2 L.	...	56.7	...	23.3	...	50.0	21. 31.		21. 31. 23.33	E
	28	ϵ Pegasi	52.1	5.1	18.2	31.4	44.4	57.3	21. 36. 10.4		21. 35. 31.27	E
Sep. 3	29*	α Lyrae	49.5	5.8	22.6	38.6	55.5	11.6	18. 31. 28.1		18. 30. 38.82	H
	30	β Lyrae	32.6	47.8	3.2	18.6	33.9	49.4	18. 44. 4.7		18. 43. 18.60	H
	31*	δ 1 L.	41.5	55.6	9.7	24.0	38.6	52.8	18. 55. 7.2		18. 54. 24.20	H
	32*	Venus 2 L.	...	...	8.7	22.1	35.3	48.3	10. 23.	- 6.60	10. 23. 22.00	E
Sep. 4	33*	$\odot$ 1 L.	7.0	20.2	33.2	46.4	59.0	12.0	10. 49. 24.9		10. 48. 46.10	E
	34*	$\odot$ 2 L.	16.0	28.8	42.0	55.3	8.1	21.2	10. 51. 34.0		10. 50. 55.06	E
	35*	Mercury 1 L.	25.0	37.7	50.7	3.6	16.7	29.5	12. 10. 42.4		12. 10. 3.66	E
	36	Polaris S.P.	38. 34.0	46. 43.0	54. 41.0	2. 44.0	...	...	13.	+ 12. 6.10	13. 2. 46.60	E
	37	α Lyrae	48.8	5.1	21.4	38.0	54.4	10.8	18. 31. 27.3		18. 30. 37.97	E
	38	β Lyrae	31.8	47.1	2.4	17.8	33.1	48.6	18. 44. 4.1		18. 43. 17.85	E
	39	ζ Aquilæ	33.3	46.6	59.9	13.1	26.4	39.5	18. 57. 52.8		18. 57. 12.94	E
	40	δ Aquilæ	58.1	10.9	23.7	36.5	49.4	2.2	19. 17. 15.1		19. 16. 36.56	E
	41	β Aquarii	40.8	53.7	6.7	19.7	32.6	45.3	21. 22. 58.2		21. 22. 19.58	E
	42	Jupiter 1 L.	44.8	...	11.7	...	38.3	...	21. 31. 5.0		21. 30. 24.95	E
	43	Jupiter 2 L.	...	1.8	...	28.5	...	55.2	21. 30.		21. 30. 28.50	E
	44*	Polaris	...	...	54. 53.5	3. 3.5	11. 5.0	19. 4.0	1.	- 4. 2.32	1. 2. 59.18	G
	45	θ Ursæ Majoris..	15.8	37.0	58.1	19.5	40.5	1.4	9. 22. 22.5		9. 21. 19.26	H
	46*	Venus 2 L.	25.7	39.1	52.0	5.4	18.5	31.7	10. 28. 44.0		10. 28. 5.20	H
Sep. 5	47	$\odot$ 1 L.	43.5	56.7	9.7	22.9	36.0	48.7	10. 53. 1.8		10. 52. 22.75	H
	48	$\odot$ 2 L.	52.5	5.6	18.6	31.5	44.7	57.5	10. 55. 10.5		10. 54. 31.55	H
ILLUMINATED END OF AXIS WEST. Order of Wires for Stars above the Pole, G, F, E, D, C, B, A.												
6. A thick vapour, by which the star was at times nearly obscured.						31. Very cloudy: the observation bad.						
25, 29, 46. The intervals irregular.						32, 33, 34, 35. The planets unsteady and tremulous, and the observations not good.						
29. Cloudy.						44. The star large and ill defined.						

CALCULATION OF APPARENT RIGHT ASCENSIONS.

[69]

No. for Reference.	Error of Collimation.	Level Error.	Seconds of Transit cor. for two Errors.	Azimuthal Error.	Seconds of Transit Corrected.	Tabular R.A. of Known Stars.	Clock apparently Slow.	Adopted Losing Rate.	Clock Slow at 0 ^h Sidereal.	Correction for Duration of Passage of Semidiameter.	Apparent R.A. of Center from the Observation.	NAME OF OBJECT.	Correction to Mean R.A. 1843, Jan. 1.
	"	"	s	"	s	s	s	s	s	m s	h m s		s
1	-3.65	+0.44		+2.00	45.98			0.87	58.98		21. 13. 45.73	Juno.	
2					22.06	21.76	59.70				21. 23. 21.81	β Aquarii.	- 4.46
3					18.66						21. 33. 18.42	Jupiter.	
4					32.85	32.70	59.85				21. 36. 32.61	ϵ Pegasi.	- 4.27
5													
6			57.04		54.02	54.17	60.15	0.72	60.89		....	Polaris.	
7					53.40					- 0.33	10. 14. 54.27	Venus.	
8													
9					37.16						10. 43. 38.37	$\odot$	
10					45.58					+ 0.43	17. 25. 47.42	Mars.	
11			40.59		40.68	41.99	61.31				17. 27. 42.10	α Ophiuchi.	- 3.16
12					22.56					+ 1. 11.28	17. 57. 35.27	δ	
13					25.03	26.62	61.59				18. 4. 26.46	μ Sagittarii.	- 4.21
14					19.60						18. 18. 21.03	λ Sagittarii.	- 4.43
15					38.65	40.12	61.47				18. 31. 40.10	α Lyræ.	- 2.87
16					53.65						18. 35. 55.10	ϕ Sagittarii.	- 4.58
17					18.55	20.07	61.52				18. 44. 20.00	β Lyræ.	- 3.09
18					13.76	15.19	61.43				18. 58. 15.22	ζ Aquilæ.	- 3.59
19					46.86						19. 12. 48.32	ν Sagittarii.	- 4.38
20					25.66						19. 13. 27.13	* N.P.D. 110°.56'.	- 4.53
21					37.30	38.70	61.40				19. 17. 38.77	δ Aquilæ.	- 3.92
22													
23					44.16						19. 24. 45.63	Saturn.	
24					21.56						21. 12. 23.09	Juno.	
25					20.30	21.75	61.45				21. 23. 21.83	β Aquarii.	- 4.45
26													
27					21.51						21. 32. 23.05	Jupiter.	
28					31.13	32.69	61.56				21. 36. 32.67	ϵ Pegasi.	- 4.26
29			-0.48		38.54	40.10	61.56	0.50	61.25		....	α Lyræ.	
30					18.33	20.05	61.72				....	β Lyræ.	
31					23.92					+ 1. 9.42	18. 56. 34.98	δ	
32					21.75			0.52	62.00	- 0.33	10. 24. 23.64	Venus.	
33													
34					50.33						10. 50. 52.57	$\odot$	
35					3.40								
36			54.91		54.13	55.44	61.31			+ 0.18	12. 11. 5.84	Mercury.	
37					37.69	40.08	62.39				1. 3. 56.41	Polaris S.P.	-55.10
38					17.58	20.03	62.45				18. 31. 40.09	α Lyræ.	- 2.83
39					12.69	15.17	62.48				18. 44. 19.98	β Lyræ.	- 3.05
40					36.31	38.68	62.35				18. 58. 15.10	ζ Aquilæ.	- 3.57
41					19.32	21.75	62.43				19. 17. 38.73	δ Aquilæ.	- 3.90
42											21. 23. 21.78	β Aquarii.	- 4.45
43					26.46						21. 31. 28.93	Jupiter.	
44			50.90		51.62	55.66	64.04		62.52		1. 3. 54.17	Polaris.	-55.32
45					18.91			0.45	62.35		9. 22. 21.43	θ Ursæ Majoris.	- 2.33
46					4.95					- 0.33	10. 29. 7.17	Venus.	
47													
48					26.91						10. 54. 29.47	$\odot$	

Sep. 1, 21^h. The Transit instrument was levelled.

Sep. 4 and 5. The azimuthal error by four consecutive passages of Polaris.

[70]

TRANSITS OBSERVED AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1843.

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	I.	II.	III.	IV.	V.	VI.	VII. WIRE.	Correction to Mean of Wires Observed.	Concluded Transit over Mean of the Seven Wires.	Observer.
			m s	m s	m s	m s	m s	m s	h m s	m s	h m s	
Sep. 5	1	Polaris S.P. ...	38. 34.0	46. 40.0	54. 37.0	2. 40.0	...	...	13.	+ 12. 6.14	13. 2. 43.89	H
	2	δ Ursæ Minoris..	...	14. 34.5	18. 11.5	21. 49.0	25. 26.5	...	18.	+ 1. 48.05	18. 21. 48.43	H
	3	Cephei 51 (Hev.) S.P.	...	...	19. 40.5	24. 8.5	28. 40.0	...	18.	+ 0. 71	18. 24. 10.38	H
	4	α Lyrae	48.5	4.7	21.5	37.7	54.3	10.7	18. 31.27.0		18. 30. 37.77	H
	5	β Lyrae	31.6	46.7	2.1	17.7	33.0	48.5	18. 44. 3.6		18. 43. 17.60	H
	6	ζ Aquilæ	33.0	46.0	59.5	12.7	25.8	38.8	18. 57. 52.4		18. 57. 12.60	H
	7	* N.P.D. 110°.56'	43.1	57.0	10.7	24.5	38.5	51.8	19. 13. 5.6		19. 12. 24.46	H
	8	δ Aquilæ	57.6	10.5	23.3	36.1	49.0	1.7	19. 17. 14.8		19. 16. 36.14	H
	9	Saturn 1 L.	36.7	...	4.8	...	32.5	...	19. 23. 59.8		19. 23. 18.45	H
	10	Saturn 2 L.	...	51.8	...	19.7	...	47.4	19. 23.		19. 23. 19.63	H
	11	β Aquilæ	58.5	11.6	24.6	37.6	50.6	3.4	19. 47. 16.0		19. 46. 37.47	H
	12	α² Capricorni ...	42.7	55.7	8.9	22.4	35.6	48.5	20. 9. 1.7		20. 8. 22.21	H
	13	υ Capricorni	27.6	41.1	54.7	8.5	22.0	35.5	20. 30. 49.1		20. 30. 8.36	H
	14	♃ 1 L.	9.7	23.5	37.0	50.7	4.6	17.9	20. 43. 31.6		20. 42. 50.71	H
	15	Jupiter 1 L.	18.5	...	44.8	...	11.8	...	21. 30. 38.6		21. 29. 58.42	H
	16	Jupiter 2 L.	...	34.7	...	1.8	...	28.6	21. 30.		21. 30. 1.70	H
	17	Uranus	11.2	24.0	36.7	49.8	2.8	15.6	0. 4. 28.6		0. 3. 49.82	H
	18	Polaris	38. 48.0	46. 52.0	54. 57.0	3. 4.0	11. 7.0	...	1.	+ 8. 3.50	1. 3. 1.10	D
	19	Venus 2 L.	7.8	21.2	34.3	47.6	0.7	14.0	10. 33. 26.9		10. 32. 47.50	E
Sep. 6	20	♃ 1 L.	...	...	45.8	58.8	11.8	24.7	10. 56. 37.7	— 12.99	10. 55. 58.77	E
	21	♃ 2 L.	28.3	41.3	54.2	7.3	20.2	33.1	10. 58. 46.1		10. 58. 7.22	E
	22	Polaris S.P. ...	38. 40.0	46. 45.0	54. 48.0	2. 51.5	...	...	13.	+ 12. 6.19	13. 2. 52.32	E
	23	Mars 1 L.	20.1	34.7	49.0	3.3	17.8	32.2	17. 34. 46.7		17. 34. 3.40	E
	24	μ Sagittarii	41.8	55.1	9.2	23.0	36.7	50.3	18. 4. 4.2		18. 3. 22.90	E
	25	δ Ursæ Minoris..	10. 52.5	14. 29.5	18. 6.0	21. 44.0	25. 22.0	...	18.	+ 3. 36.63	18. 21. 43.43	E
	26	Cephei 51 (Hev.) S.P.	...	15. 20.0	19. 44.5	24. 14.0	28. 45.0	...	18.	+ 2. 14.58	18. 24. 15.46	E
	27	α Lyrae	47.3	3.7	20.1	36.5	53.1	9.4	18. 31. 25.8		18. 30. 36.56	E
	28	β Lyrae	30.2	45.8	0.9	16.7	31.8	47.1	18. 44. 2.7		18. 43. 16.46	E
	29	ζ Aquilæ	31.9	45.0	58.1	11.4	24.7	37.9	18. 57. 51.1		18. 57. 11.44	E
	30	δ Aquilæ	...	9.5	22.2	35.1	48.0	0.7	19. 17.	— 0.01	19. 16. 35.09	E
	31	Saturn 1 L.	28.7	...	56.3	...	24.2	...	19. 23. 51.8		19. 23. 10.25	E
	32	Saturn 2 L.	...	43.6	...	11.4	...	39.1	19. 23.		19. 23. 11.37	E
	33	61 Cygni (1st star)	3.1	...	35.8	...	8.4	...	20. 59. 41.0	— 0.01	20. 58. 52.07	E
	34	61 Cygni (2nd star)	...	21.0	...	53.8	...	26.1	20. 59.	+ 0.01	20. 58. 53.64	E
	35	ζ Cygni	31.0	46.1	0.9	15.4	30.3	45.0	21. 5. 59.9		21. 5. 15.52	E
	36	Juno	7.8	21.0	33.8	47.0	59.8	12.7	21. 9. 25.8		21. 8. 46.84	E
	37	β Aquarii	39.1	52.3	5.1	18.1	31.0	43.8	21. 22. 56.8		21. 22. 18.03	E
	38	Jupiter 1 L.	51.2	...	17.9	...	44.6	...	21. 30. 11.4		21. 29. 31.28	E
	39	Jupiter 2 L.	...	8.0	...	34.8	...	1.6	21. 30.		21. 29. 34.80	E
	40	♃ 1 L.	50.8	4.3	17.8	31.2	44.7	57.8	21. 33. 1.2		21. 32. 31.11	E
	41	ε Pegasi	49.9	2.9	16.0	29.0	42.0	55.1	21. 36. 8.1		21. 35. 29.00	E
	42	30 Aquarii	...	...	...	1.6	14.5	27.3	21. 54. 40.2	— 19.46	21. 54. 1.44	E
	43	α Andromedæ ..	34.0	48.8	3.1	17.7	32.3	46.8	0. 0. 1.1		23. 59. 17.69	E
	44	Uranus	...	...	27.7	40.7	53.5	6.3	0. 4. 19.0	— 12.87	0. 3. 40.57	E
	45	Polaris	...	46. 38.0	54. 44.0	2. 51.0	...	...	1.	+ 8. 3.26	1. 2. 47.59	J H
	46	Regulus	18.8	32.0	45.1	58.4	11.8	24.9	10. 0. 38.0		9. 59. 58.43	E
	47	Venus 2 L.	49.8	2.7	15.8	28.8	42.1	55.0	10. 39. 8.0		10. 38. 28.89	E
Sep. 7	48	♃ 1 L.	55.8	8.5	21.3	34.8	47.7	0.3	11. 1. 13.2		11. 0. 34.51	E
	49	♃ 2 L.	3.8	17.0	29.9	43.0	55.8	8.8	11. 3. 21.8		11. 2. 42.87	E
	50	Mercury 1 L.	...	30.3	43.2	56.0	9.0	21.8	12. 26.	— 0.01	12. 25. 56.05	E
	51	Polaris S.P. ...	39. 41.0	47. 46.0	55. 48.0	3. 51.5	...	...	13.	+ 12. 6.24	13. 3. 52.87	E
ILLUMINATED END OF AXIS WEST. Order of Wires for Stars above the Pole, G, F, E, D, C, B, A.												

CALCULATION OF APPARENT RIGHT ASCENSIONS.

[71]

No. for Reference.	Error of Collimation.	Level Error.	Seconds of Transit cor. for two Errors.	Azimuthal Error.	Seconds of Transit Corrected.	Tabular R.A. of Known Stars.	Clock apparently Slow.	Adopted Losing Rate.	Clock Slow at 0 ^h Sidereal.	Correction for Duration of Passage of Semidiameter.	Apparent R.A. of Center from the Observation.	NAME OF OBJECT.	Correction to Mean R.A. 1843, Jan. 1.
#	#	#	#	#	s	s	s	s	s	m s	h m s		s
1	-3.65	+0.44	52.20	-0.48	51.42	55.87	64.45	0.45	62.35		1. 3. 54.02	Polaris S.P.	-55.53
2					45.04						18. 22. 47.74	δ Ursæ Minoris.	+11.25
3					14.57						6. 25. 17.27	Cephei 51 (Hev.) S.P.	-20.92
4					37.49	40.06	62.57				18. 31. 40.19	α Lyræ.	-2.81
5					17.33	20.01	62.68				18. 44. 20.03	β Lyræ.	-3.03
6					12.35	15.15	62.80				18. 58. 15.06	ζ Aquilæ.	-3.55
7					24.18						19. 13. 26.89	* N.P.D. 110°.56'	-4.49
8					35.89	38.67	62.78				19. 17. 38.60	δ Aquilæ.	-3.89
9													
10					18.76						19. 24. 21.47	Saturn.	
11					37.22	39.91	62.69				19. 47. 39.94	β Aquilæ.	-3.95
12					21.94	24.69	62.75				20. 9. 24.67	α ² Capricorni.	-4.45
13					8.08						20. 31. 10.82	υ Capricorni.	-4.66
14					50.44					+1. 5.11	20. 44. 58.29	δ	
15					59.79						21. 31. 2.54	Jupiter.	
16													
17					49.56				62.80		0. 4. 52.36	Uranus.	
18			52.82		53.54	56.07	62.53				1. 3. 56.36	Polaris.	-55.73
19	+1.54	+1.34		+2.90	47.80			0.48	62.94	-	0.32	10. 33. 50.63	Venus.
20													
21					3.30						10. 58. 6.46	☉	
22			45.88		50.56	56.26	65.70				1. 3. 53.76	Polaris S.P.	-55.92
23					3.75					+ 0.42	17. 35. 7.46	Mars.	
24					23.24	26.56	63.32				18. 4. 26.54	μ Sagittarii.	-4.15
25					44.52						18. 22. 47.83	δ Ursæ Minoris.	+11.65
26					14.58						6. 25. 17.89	Cephei 51 (Hev.) S.P.	-21.43
27					36.86	40.03	63.17				18. 31. 40.17	α Lyræ.	-2.78
28					16.75	19.99	63.24				18. 44. 20.06	β Lyræ.	-3.01
29					11.73	15.14	63.41				18. 58. 15.05	ζ Aquilæ.	-3.54
30					35.40	38.65	63.25				19. 17. 38.72	δ Aquilæ.	-3.87
31													
32					11.15						19. 24. 14.47	Saturn.	
33					52.37						20. 59. 55.73	61 Cygni (1st star)	-4.06
34					53.94						20. 59. 57.30	61 Cygni (2nd star)	-4.06
35					15.81	19.28	63.47				21. 6. 19.17	ζ Cygni.	-3.93
36					47.16						21. 9. 50.52	Juno.	
37					18.35	21.75	63.40				21. 23. 21.71	β Aquarii.	-4.45
38											21. 30. 36.75	Jupiter.	
39					33.38								
40					31.42					+1. 3.33	21. 34. 38.12	δ	
41					29.30	32.69	63.39				21. 36. 32.67	ε Pegasi.	-4.26
42					1.76						21. 55. 5.14	30 Aquarii.	-4.51
43					17.99	21.44	63.45				0. 0. 21.41	α Andromedæ.	-4.53
44					40.87				63.42		0. 4. 44.29	Uranus.	
45			54.15		49.77	56.44	66.67				1. 3. 53.22	Polaris.	-56.10
46					58.72	2.44	3.72	0.69	3.45		10. 0. 2.46	Regulus.	-2.10
47					29.19					-	0.32	10. 38. 32.63	Venus.
48													
49					38.99						11. 1. 42.76	☉	
50					56.36					+ 0.19	12. 26. 0.36	Mercury.	
51			46.42		51.10	56.62	5.52				1. 3. 54.93	Polaris S.P.	-56.28

Sep. 5. About this time considerable irregularity was observed in the azimuthal errors, and the object-glass was examined and taken out on Sep. 20, having been suspected of unsteadiness. The error of collimation determined on Sep. 11, has been applied to all the observations beginning with that of Venus on Sep. 5, the run of the azimuthal errors seeming to denote a change at this time.

Sep. 5 to 8. The azimuthal error by six consecutive passages of Polaris.

Sep. 6, 22^h. The Transit clock was put forward 1^m.

[72]

TRANSITS OBSERVED AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1843.

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	I.	II.	III.	IV.	V.	VI.	VII. WIRE.	Correction to Mean of Wires Observed.	Concluded Transit over Mean of the Seven Wires.	Observer.
			m s	m s	m s	m s	m s	m s	h m s			
Sep. 7	1	Mars 1 L.	43.1	57.7	12.1	26.7	40.8	55.2	17.38. 9.5		17.37. 26.44	E
	2	μ Sagittarii.....	40.8	54.7	8.4	22.3	36.0	49.8	18. 5. 3.7		18. 4. 22.24	E
	3	δ Ursæ Minoris..	11. 51.5	15. 28.5	19. 5.5	22. 43.0	26. 21.0	...	18.	+ 3. 36.63	18. 22. 42.53	E
	4	Cephei 51 (Hev.) S.P.	...	16. 20.0	20. 45.0	25. 14.0	29. 44.0	...	18.	+ 2. 14.58	18. 25. 15.33	E
	5	β Lyrae.....	29.8	44.9	0.4	15.8	31.1	46.0	18. 45. 1.8		18. 44. 15.69	E
	6	ζ Aquilæ.....	31.1	44.2	57.3	10.7	24.0	37.2	18. 58. 50.4		18. 58. 10.70	E
	7	Saturn 1 L.	21.1	...	48.8	...	16.7	...	19. 24. 44.4		19. 24. 2.75	E
	8	Saturn 2 L.	...	36.3	...	4.1	...	31.8	19. 24.		19. 24. 4.07	E
	9	61 Cygni (1st star)	2.5	...	35.1	...	7.8	...	21. 0. 40.4	- 0.01	20. 59. 51.44	E
	10	61 Cygni (2nd star)	...	20.2	...	53.0	...	25.3	21. 0.	+ 0.01	20. 59. 52.84	E
	11	ζ Cygni.....	30.6	45.3	0.2	15.0	29.8	44.5	21. 6. 59.1		21. 6. 14.93	E
	12	Juno.....	32.1	45.0	58.0	11.1	24.0	37.0	21. 9. 50.0		21. 9. 11.03	E
	13	θ Ursæ Maj. S.P.	14.1	35.3	56.0	17.3	...	...	21. 22.	+ 31.62	21. 22. 17.30	E
	14	β Aquarii.....	...	51.7	4.7	17.6	30.5	43.3	21. 23.	- 0.01	21. 23. 17.55	E
	15	Jupiter 1 L.	25.2	...	51.8	...	18.6	...	21. 30. 45.3		21. 30. 5.23	E
	16	Jupiter 2 L.	...	42.1	...	8.8	...	35.3	21. 30.		21. 30. 8.73	E
	17	ϵ Pegasi.....	49.1	2.1	15.1	28.2	41.3	54.2	21. 37. 7.3		21. 36. 28.19	E
	18	30 Aquarii.....	21.8	34.8	47.8	0.8	13.7	26.7	21. 55. 39.8		21. 55. 0.77	E
	19*	α Aquarii.....	4.8	17.0	30.2	43.1	56.0	8.7	21. 58. 21.6		21. 57. 43.06	E
	20	θ Aquarii.....	53.8	6.8	19.7	32.8	45.8	58.7	22. 9. 11.8		22. 8. 32.77	E
	21	δ 1 L.	...	32.9	45.8	58.8	11.8	24.9	22. 21. 38.0	- 6.62	22. 20. 58.75	E
	22*	α Andromedæ ..	33.1	48.0	2.3	17.1	31.8	46.1	0. 1. 1.0		0. 0. 17.06	E
	23	Uranus.....	53.1	6.0	18.8	31.7	44.6	57.4	0. 5. 10.2		0. 4. 31.68	E
	24*	Polaris.....	...	47. 42.0	55. 47.0	3. 53.0	...	...	1.	+ 8. 3.29	1. 3. 50.62	P
	25	Venus 2 L.....	30.5	43.4	56.7	9.8	22.8	35.9	10. 43. 49.1		10. 43. 9.75	G
Sep. 8	26	$\odot$ 1 L.	31.3	44.0	57.2	10.1	23.5	36.0	11. 4. 49.1		11. 4. 10.17	G
	27	$\odot$ 2 L.	39.8	52.8	5.9	18.8	31.8	44.6	11. 6. 57.7		11. 6. 18.77	G
	28	Polaris S.P.	39. 41.0	47. 46.5	...	3. 49.0	11. 53.5	...	13.	+ 8. 4.01	13. 3. 51.51	G
	29*	Spica.....	...	...	...	53.3	6.8	19.4	13. 17. 32.8	- 19.62	13. 16. 53.46	G
	30	Mars 1 L.	7.9	22.3	36.7	50.9	5.5	20.0	17. 40. 34.3		17. 39. 51.08	G
	31	ϵ Leonis.....	10.8	24.8	38.9	53.0	7.1	21.0	9. 37. 35.2		9. 36. 52.97	E
	32	Regulus.....	17.8	31.0	44.0	57.1	10.3	23.4	10. 0. 36.6		9. 59. 57.17	E
	33	Venus 2 L.	10.8	24.1	36.9	50.0	2.9	15.8	10. 48. 28.8		10. 47. 49.90	E
Sep. 9	34	$\odot$ 1 L.	6.8	19.7	32.8	45.9	58.8	11.5	11. 8. 24.8		11. 7. 45.76	E
	35	$\odot$ 2 L.	15.2	28.1	41.0	54.1	7.1	20.0	11. 10. 32.9		11. 9. 54.06	E
	36	α Lyrae.....	45.5	1.8	18.5	34.8	51.2	7.7	18. 32. 24.1		18. 31. 34.80	E
	37	β Lyrae.....	28.6	43.8	59.0	14.5	29.8	45.0	18. 45. 0.4		18. 44. 14.44	E
	38	ζ Aquilæ.....	30.1	43.1	56.2	9.5	22.8	36.0	18. 58. 49.2		18. 58. 9.56	E
	39	δ Aquilæ.....	54.8	7.8	20.5	33.3	46.2	59.0	19. 18. 11.8		19. 17. 33.34	E
	40	Saturn 1 L.	7.6	...	35.3	...	3.1	...	19. 24. 30.6		19. 23. 49.15	E
	41	Saturn 2 L.	...	22.4	...	50.3	...	18.0	19. 24.		19. 23. 50.23	E
	42	β Aquarii.....	37.8	50.6	3.4	16.3	29.3	41.2	21. 23. 55.0		21. 23. 16.23	E
	43	Jupiter 1 L.	34.7	...	1.1	...	27.7	...	21. 29. 54.6		21. 29. 14.53	E
	44	Jupiter 2 L.	...	51.3	...	18.0	...	44.8	21. 29.		21. 29. 18.03	E
Sep. 10	45*	$\odot$ 2 L.	27.3	40.7	54.2	7.6	20.8	33.5	0. 40. 47.1		0. 40. 7.32	WR
Sep. 11	46*	θ Ceti.....	...	...	55.3	8.1	21.0	33.8	1. 16. 46.8	- 13.03	1. 16. 7.97	E
	47*	$\odot$ 2 L.	2.1	15.8	29.1	42.8	56.2	9.9	1. 27. 23.1		1. 26. 42.71	E
Sep. 12	48	β Lyrae.....	26.7	42.0	57.6	12.8	28.5	43.6	18. 44. 58.8		18. 44. 12.85	H
ILLUMINATED END OF AXIS WEST. Order of Wires for Stars above the Pole, G, F, E, D, C, B, A.												
19. The intervals irregular.						29. Faint: the intervals irregular.						
22. The 4th wire was set down 18 ^s .1.						45. Cloudy.						
24. A dense fog: the star a mere speck.						46, 47. Very cloudy.						

CALCULATION OF APPARENT RIGHT ASCENSIONS.

[73]

No. for Reference.	Error of Collimation.	Level Error.	Seconds of Transit cor. for two Errors.	Azimuthal Error.	Seconds of Transit Corrected.	Tabular R.A. of Known Stars.	Clock apparently Slow.	Adopted Losing Rate.	Clock Slow at 0 ^h Sidereal.	Correction for Duration of Passage of Semidiameter.	Apparent R.A. of Center from the Observation.	NAME OF OBJECT.	Correction to Mean R.A. 1843, Jan. 1.
"	"	"	"	"	"	"	"	"	"	"	"	"	"
1	+1.54	+1.34		+2.90	26.79			0.69	3.45	+ 0.41	17. 37. 31.16	Mars.	
2					22.58	26.55	3.97				18. 4. 26.55	μ Sagittarii.	- 4.14
3					43.62						18. 22. 47.60	δ Ursæ Minoris.	+12.04
4					14.46						6. 25. 18.44	Cephei 51 (Hev.) S.P.	-21.91
5					15.98	19.97	3.99				18. 44. 19.97	β Lyræ.	- 2.99
6					10.99	15.12	4.13				18. 58. 14.99	ζ Aquilæ.	- 3.52
7					3.75						19. 24. 7.76	Saturn.	
8													
9					51.74						20. 59. 55.79	61 Cygni (1st star)	- 4.05
10					53.14						20. 59. 57.19	61 Cygni (2nd star)	- 4.05
11					15.22	19.28	4.06				21. 6. 19.28	ζ Cygni.	- 3.93
12					11.35						21. 9. 15.41	Juno.	
13					17.41						9. 22. 21.48	θ Ursæ Maj. S.P.	- 2.39
14					17.87	21.75	3.88				21. 23. 21.94	β Aquarii.	- 4.45
15					7.32						21. 30. 11.39	Jupiter.	
16													
17					28.49	32.69	4.20				21. 36. 32.56	ϵ Pegasi.	- 4.26
18					1.09						21. 55. 5.17	30 Aquarii.	- 4.50
19					43.36	47.43	4.07				21. 57. 47.44	α Aquarii.	- 4.42
20					33.08						22. 8. 37.16	θ Aquarii.	- 4.53
21					59.06					+ 1. 2.05	22. 22. 5.20	δ	
22					17.36	21.46	4.10		4.14		0. 0. 21.50	α Andromedæ.	- 4.55
23					31.98						0. 4. 36.12	Uranus.	
24			57.18		52.80	56.81	4.01				1. 3. 56.97	Polaris.	-56.47
25					10.05			0.55	3.85	- 0.32	10. 43. 13.83	Venus.	
26					14.77						11. 5. 18.87	$\odot$	
27													
28			45.07		49.75	57.00	7.25				1. 3. 53.90	Polaris S.P.	-56.66
29					53.77	57.93	4.16				....	Spica.	
30					51.43					+ 0.41	17. 39. 56.09	Mars.	
31					53.27	57.99	4.72	0.53	4.65		9. 36. 58.13	ϵ Leonis.	- 2.29
32					57.47	2.46	4.99				10. 0. 2.34	Regulus.	- 2.12
33					50.20					- 0.32	10. 47. 54.77	Venus.	
34					50.21						11. 8. 55.11	$\odot$	
35													
36					35.10	39.96	4.86				18. 31. 40.16	α Lyræ.	- 2.71
37					14.73	19.93	5.20				18. 44. 19.79	β Lyræ.	- 2.95
38					9.85	15.09	5.24				18. 58. 14.92	ζ Aquilæ.	- 3.49
39					33.65	38.62	4.97				19. 17. 38.73	δ Aquilæ.	- 3.84
40					50.03						19. 23. 55.11	Saturn.	
41													
42					16.55	21.74	5.19				21. 23. 21.67	β Aquarii.	- 4.44
43					16.62						21. 29. 21.75	Jupiter.	
44													
45					7.62				5.71	- 1. 1.69	0. 39. 11.66	δ	
46				+2.89	8.28	14.78	6.50	0.70	6.46		....	θ Ceti.	
47					43.01					- 1. 2.63	1. 25. 46.89	δ	
48		+1.12			13.13	19.87	6.74	0.68	6.18		18. 44. 19.84	β Lyræ.	- 2.89

Sep. 8, 21^h. The Transit instrument was levelled.Sep. 11, 0^h. The Transit instrument was reversed, and the error of collimation determined.

[74]

TRANSITS OBSERVED AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1843.

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	I.	II.	III.	IV.	V.	VI.	VII. WIRE.	Correction to Mean of Wires Observed.	Concluded Transit over Mean of the Seven Wires.	Observer.
			m s	m s	m s	m s	m s	m s	h m s			
Sep. 12	1	ζ Aquilæ	...	...	...	8.0	21.5	34.6	18. 58. 47.7	- 19.86	18. 58. 8.09	H
	2	δ Aquilæ	52.7	5.8	18.7	31.7	44.5	57.4	19. 18. 10.1		19. 17. 31.55	H
	3	Saturn 1 L.	49.6	...	17.7	...	45.7	...	19. 24. 13.4		19. 23. 31.60	H
	4	Saturn 2 L.	...	5.0	...	33.0	...	0.7	19. 24.		19. 23. 32.90	H
	5	γ Aquilæ	5.4	18.1	31.5	44.4	57.5	10.7	19. 39. 23.6		19. 38. 44.46	H
	6	α Aquilæ	25.0	38.0	50.9	4.0	17.0	29.8	19. 43. 43.0		19. 43. 3.96	H
	7	β Aquilæ	53.7	6.8	19.7	32.7	45.7	58.5	19. 48. 11.5		19. 47. 32.65	H
	8*	Juno	53.0	6.2	19.2	32.0	45.6	58.5	21. 7. 11.5		21. 6. 32.28	H
	9	β Aquarii	35.7	48.8	1.8	14.7	27.7	40.6	21. 23. 53.6		21. 23. 14.70	H
	10*	Jupiter 1 L.	22.5	...	48.8	...	15.7	...	21. 28. 42.7		21. 28. 2.43	H
	11	Jupiter 2 L.	...	39.0	...	5.7	...	32.7	21. 28.		21. 28. 5.80	H
	12	α Andromedæ	30.6	45.5	59.7	14.6	29.0	43.6	0. 0. 58.0		0. 0. 14.43	H
	13	Uranus	7.7	20.7	33.8	46.7	59.5	12.0	0. 4. 25.0		0. 3. 46.49	H
	14*	Polaris	39. 36.5	...	...	...	...	...	0.		1. 3. 50.42	H
	15	δ 2 L.	10.6	24.3	37.9	51.8	15.7	19.1	2. 15. 33.0		2. 14. 51.77	H
	16	ε Leonis	8.2	22.2	36.3	50.6	4.7	18.9	9. 37. 33.1		9. 36. 50.57	E
	17	Regulus	15.3	28.4	41.7	55.0	8.0	21.3	10. 0. 34.5		9. 59. 54.89	E
	18	Venus 2 L.	44.5	57.5	10.4	23.5	36.6	49.7	11. 7. 2.8		11. 6. 23.57	E
Sep. 13	19*	⊙ 1 L.	26.7	40.2	52.8	6.1	19.0	31.8	11. 22. 44.5	+ 8. 4.47 - 13.08	11. 22. 5.87	E
	20	⊙ 2 L.	35.5	48.4	1.2	14.2	27.0	40.0	11. 24. 53.1		11. 24. 14.20	E
	21	Mercury 1 L.	52.5	5.1	18.0	31.2	44.1	57.2	12. 54. 10.4		12. 53. 31.21	E
	22	Polaris S.P.	39. 40.0	47. 46.0	55. 46.0	3. 50.0	11. 55.0	...	13.		13. 3. 51.87	E
	23	Spica	...	...	36.9	50.2	3.3	16.2	13. 17. 29.4		13. 16. 50.12	E
	24	Mars 1 L.	28.8	43.3	57.8	12.2	26.8	40.3	17. 52. 55.1		17. 52. 12.04	E
	25	Saturn 1 L.	44.7	...	12.4	...	40.2	...	19. 24. 7.8		19. 23. 26.28	E
	26	Saturn 2 L.	...	59.8	...	27.4	...	55.2	19. 23.		19. 23. 27.47	E
	27	γ Aquilæ	4.1	17.1	30.2	43.3	56.3	9.4	19. 39. 22.5		19. 38. 43.27	E
	28	α Aquilæ	24.0	37.1	50.1	3.0	16.1	29.0	19. 43. 42.0		19. 43. 3.04	E
	29	β Aquilæ	53.0	5.8	18.7	31.6	44.4	57.3	19. 48. 10.2		19. 47. 31.57	E
	30	61 Cygni (1st star)	58.6	...	31.1	...	4.0	...	21. 0. 36.4		20. 59. 47.52	E
	31	61 Cygni (2nd star)	...	16.2	...	49.2	...	21.8	21. 0.		20. 59. 49.08	E
	32*	Juno	25.4	38.3	51.1	4.8	17.7	30.4	21. 6. 43.2		21. 6. 4.41	E
	33	θ Ursæ Maj. S.P.	10.7	32.0	52.4	13.6	...	...	21. 22.		21. 22. 13.80	E
	34	β Aquarii	...	47.8	0.8	13.7	26.7	39.6	21. 23.		21. 23. 13.71	E
	35	Jupiter 1 L.	58.8	...	25.5	...	52.2	...	21. 28. 18.9		21. 27. 38.85	E
	36	Jupiter 2 L.	...	15.8	...	42.6	...	9.2	21. 28.		21. 27. 42.53	E
	37	Polaris	39. 34.0	47. 39.0	55. 44.0	3. 47.0	...	...	1.		1. 3. 47.11	E
	38	α Arietis	35.0	49.0	2.8	16.9	30.8	44.6	1. 58. 58.5		1. 58. 16.80	G
	39	ν Arietis	10.0	23.5	37.2	50.8	5.1	18.7	2. 30. 32.8		2. 29. 51.15	G
Sep. 14	40	Regulus	13.8	27.0	40.2	53.5	6.7	19.8	10. 0. 33.0	+ 12. 6.11	9. 59. 53.43	E
	41	Venus 2 L.	57.7	10.6	23.5	36.4	49.4	2.3	11. 16. 15.5		11. 15. 36.49	E
Sep. 15	42	⊙ 1 L.	36.8	49.7	2.8	15.6	28.4	41.4	11. 29. 54.3	- 8. 5.10 + 9.62	11. 29. 15.57	E
	43	⊙ 2 L.	44.7	57.7	10.8	23.7	36.6	49.7	11. 32. 2.5		11. 31. 23.67	E
	44*	Polaris S.P.	...	47. 46.0	...	...	11. 55.0	19. 59.0	13. 28. 4.0		13. 3. 50.90	E
	45*	Mars 1 L.	33.8	48.2	...	...	...	...	17. 58. 0.1		17. 57. 16.99	E
	46	μ Sagittarii	35.8	49.6	3.3	17.2	31.0	44.5	18. 4. 58.2		18. 4. 17.09	E
	47	δ Aquilæ	50.8	3.6	16.3	29.1	42.0	55.0	19. 18. 7.8		19. 17. 29.23	E
	48	Saturn 1 L.	35.7	...	3.3	...	31.2	...	19. 23. 58.7		19. 23. 17.23	E
	49	Saturn 2 L.	...	50.8	...	18.4	...	46.1	19. 23.		19. 23. 18.43	E
	50	γ Aquilæ	2.9	15.8	28.8	42.0	55.0	8.1	19. 39. 21.1		19. 38. 41.95	E
	ILLUMINATED END OF AXIS WEST. Order of Wires for Stars above the Pole, G, F, E, D, C, B, A.											
8, 10. The intervals rather irregular. 14. Suddenly cloudy.						19, 32. The intervals irregular. 44, 45. Cloudy.						

CALCULATION OF APPARENT RIGHT ASCENSIONS.

[75]

No. for Reference.	Error of Collimation.	Level Error.	Seconds of Transit cor. for two Errors.	Azimu- thal Error.	Seconds of Transit Corrected.	Tabular R. A. of Known Stars.	Clock appa- rently Slow.	Adopted Losing Rate.	Clock Slow at 0 ^h Sidereal.	Correction for Duration of Passage of Semidiameter.	Apparent R.A. of Center from the Observation.	N A M E O F O B J E C T.	Correc- tion to Mean R. A. 1843, Jan. 1.	
	"	"	s	"	s	s	s	s	s	m s	h m s		s	
1	+1.54	+1.12		+2.89	8.38	15.05	6.67	0.68	6.18		18. 58. 15.10	ζ Aquilæ.	— 3.45	
2					31.84	38.57	6.73				19. 17. 38.56	δ Aquilæ.	— 3.79	
3					32.58						19. 23. 39.30	Saturn.		
4											19. 38. 51.48	γ Aquilæ.	— 3.73	
5					44.75	51.36	6.61				19. 43. 10.97	α Aquilæ.	— 3.82	
6					4.24	11.10	6.86				19. 47. 39.68	β Aquilæ.	— 3.87	
7					32.94	39.83	6.89				21. 6. 39.37	Juno.		
8					32.59						21. 23. 21.79	β Aquarii.	— 4.43	
9					15.00	21.73	6.73				21. 28. 11.24	Jupiter.		
10					4.45						0. 0. 21.58	α Andromedæ.	— 4.60	
11									6.86		0. 3. 53.65	Uranus.		
12					14.72	21.51	6.79				1. 3. 59.06	Polaris.	—58.62	
13			56.53		46.79	58.96	6.79				2. 13. 55.05	δ		
14					52.17						9. 36. 58.28	ε Leonis.	— 2.36	
15					52.05	58.06	7.21	0.64	7.17	— 1. 3.92	10. 0. 2.62	Regulus.	— 2.18	
16					50.85	2.52	7.34				11. 6. 31.01	Venus.		
17					55.18									
18					23.86									
19					10.33						11. 23. 17.80	☉		
20											12. 53. 39.23	Mercury.		
21					31.52					+	0.20	1. 3. 58.04	Polaris S.P.	—58.87
22			45.85		50.52	59.21	8.69					13. 16. 57.96	Spica.	— 2.20
23					50.43	57.90	7.47					17. 52. 20.43	Mars.	
24					12.39					+	0.40	19. 23. 34.90	Saturn.	
25					27.21						19. 38. 51.25	γ Aquilæ.	— 3.72	
26												19. 43. 11.02	α Aquilæ.	— 3.80
27					43.56	51.35	7.79				19. 47. 39.56	β Aquilæ.	— 3.86	
28					3.33	11.08	7.75				20. 59. 55.53	61 Cygni (1st star)	— 3.98	
29					31.86	39.82	7.96				20. 59. 57.09	61 Cygni (2nd star)	— 3.98	
30					47.80						21. 6. 12.45	Juno.		
31					49.36						9. 22. 21.65	θ Ursæ Maj. S.P.	— 2.54	
32					4.72						21. 23. 21.75	β Aquarii.	— 4.42	
33					13.91	21.72	7.71				21. 27. 48.75	Jupiter.		
34					14.01						1. 3. 56.70	Polaris.	—59.12	
35					41.01						....	α Arietis.		
36											2. 29. 58.91	γ Arietis.	— 4.44	
37			53.22		48.86	59.46	10.60	0.70	7.41		10. 0. 2.45	Regulus.	— 2.21	
38					17.08	24.55	7.47				11. 15. 45.23	Venus.		
39					51.43									
40			53.60	+3.98	53.77	2.55	8.78	0.85	8.32	— 0.32				
41					36.83									
42					19.97						11. 30. 28.70	☉		
43													Polaris S.P.	
44			44.88		51.31	60.16	8.85			+	0.40	17. 57. 26.78	Mars.	
45					17.42						18. 4. 26.45	μ Sagittarii.	— 4.00	
46					17.49	26.41	8.92				19. 17. 38.58	δ Aquilæ.	— 3.75	
47					29.58	38.53	8.95				19. 23. 27.23	Saturn.		
48					18.23						19. 38. 51.30	γ Aquilæ.	— 3.69	
49														
50					42.29	51.32	9.03							

Sep. 12 and 13. The azimuthal error by three consecutive passages of Polaris.

Sep. 14 and 15. The azimuthal error by tabular places of Regulus and Polaris S.P., allowing 0^s.08 for clock-rate.

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	I.	II.	III.	IV.	V.	VI.	VII. WIRE.	Correction to Mean of Wires Observed.	Concluded Transit over Mean of the Seven Wires.	Observer.
			m s	m s	m s	m s	m s	m s	h m s			
Sep. 15	1*	β Aquilæ.....	51.8	4.7	17.6	30.6	43.3	56.2	19.48. 9.1		19.47.30.47	E
	2	α^2 Capricorni ...	35.8	49.0	2.0	15.2	28.4	41.5	20. 9.54.8		20. 9.15.24	E
	3	61 Cygni (1st star)	57.3	...	30.0	...	2.8	...	21. 0.35.0	— 0.01	20.59.46.27	E
	4	61 Cygni (2nd star)	...	15.1	...	48.0	...	20.3	21. 0.	+ 0.01	20.59.47.81	E
	5	Juno	34.8	47.7	0.7	13.8	26.8	39.7	21. 5.52.9		21. 5.13.77	E
	6	β Aquarii.....	33.7	46.4	59.2	12.1	25.1	37.8	21.23.50.8		21.23.12.15	E
	7	Jupiter 1 L.	14.7	...	41.1	...	8.0	...	21.27.34.3		21.26.54.53	E
	8	Jupiter 2 L.	...	31.1	...	58.1	...	24.4	21.27.		21.26.57.87	E
	9*	ϵ Leonis.....	...	...	...	48.5	2.5	16.7	9.37.30.5	— 21.21	9.36.48.34	H
	10*	Regulus	13.5	26.5	39.7	52.8	5.9	19.0	10. 0.32.5		9.59.52.84	H
Sep. 16	11	$\odot$ 1 L.....	...	...	...	50.0	2.7	15.9	11.33.28.6	— 19.37	11.32.49.93	H
	12*	$\odot$ 2 L.....	19.6	32.4	45.6	58.4	11.4	24.0	11.35.36.8		11.34.58.32	H
	13	δ Aquilæ.....	49.6	2.8	15.6	28.6	41.6	54.0	19.18. 7.0		19.17.28.46	H
	14	Saturn 1 L.	31.5	...	59.4	...	27.3	...	19.23.54.7		19.23.13.23	H
	15	Saturn 2 L.	...	46.7	...	14.7	...	42.7	19.23.		19.23.14.70	H
	16	α Aquilæ.....	22.0	34.7	48.0	1.0	14.0	26.8	19.43.39.8		19.43. 0.90	H
	17	β Aquilæ.....	50.7	3.8	16.5	29.7	42.8	55.5	19.48. 8.5		19.47.29.65	H
	18	α^1 Capricorni ...	10.7	24.0	37.5	50.5	...	...	20. 8.	+ 19.80	20. 8.50.48	H
	19	α^2 Capricorni ...	...	...	1.5	14.5	27.7	40.8	20. 9.53.8	— 13.21	20. 9.14.45	H
	20	61 Cygni (1st star)	56.5	...	29.1	...	1.8	...	21. 0.34.6	— 0.01	20.59.45.49	H
	21	61 Cygni (2nd star)	...	14.3	...	47.0	...	19.6	21. 0.	+ 0.01	20.59.46.98	H
	22	ζ Cygni.....	24.6	39.5	54.1	9.0	23.8	38.6	21. 6.53.6		21. 6. 9.03	H
	23*	β Aquarii.....	32.9	45.7	58.7	11.7	24.6	37.5	21.23.50.5		21.23.11.65	H
	24*	Jupiter 1 L.	52.6	...	19.8	...	46.5	...	21.27.13.5		21.26.33.10	H
	25*	Jupiter 2 L.	...	9.7	...	36.6	...	3.0	21.27.		21.26.36.43	H
	26	δ 2 L.....	56.5	10.9	25.3	39.8	54.1	8.5	5.48.22.8		5.47.39.70	E
	27*	μ Geminorum...	38.8	52.2	6.5	20.3	34.7	48.4	6.14. 2.3		6.13.20.45	E
Sep. 18	28*	$\odot$ 2 L.....	28.0	40.8	53.8	7.0	19.8	32.7	11.42.45.6		11.42. 6.82	H
	29	δ Aquilæ.....	47.7	0.8	13.5	26.6	39.6	52.0	19.18. 4.8		19.17.26.43	H
	30	γ Aquilæ.....	59.7	12.8	25.8	39.0	52.4	5.1	19.39.18.4		19.38.39.03	H
	31	α Aquilæ.....	19.7	32.8	45.7	58.8	11.7	24.8	19.43.37.7		19.42.58.75	H
	32	β Aquilæ.....	48.6	1.7	14.6	27.6	40.6	53.1	19.48. 6.5		19.47.27.53	H
	33	61 Cygni (1st star)	54.6	...	27.0	...	59.8	...	21. 0.32.6	— 0.01	20.59.43.49	H
	34	61 Cygni (2nd star)	...	12.2	...	45.0	...	17.7	21. 0.	+ 0.01	20.59.44.98	H
	35	ζ Cygni.....	22.6	37.4	52.4	7.0	21.7	36.6	21. 6.51.5		21. 6. 7.03	H
	36	β Aquarii.....	30.7	43.8	56.6	9.6	22.6	35.4	21.23.48.8		21.23. 9.65	H
	37	Jupiter 1 L.	11.5	...	37.6	...	4.7	...	21.26.31.3		21.25.51.28	H
Sep. 19	38*	Jupiter 2 L.	...	27.8	...	54.8	...	21.7	21.26.		21.25.54.77	H
	39*	$\odot$ 1 L.....	54.2	7.3	20.1	33.0	45.8	58.7	11.44.11.7		11.43.32.97	E
	40*	$\odot$ 2 L.....	2.3	15.2	28.2	41.1	54.0	7.0	11.46.19.8		11.45.41.08	E
	41	μ Sagittarii....	31.8	45.3	59.2	13.0	26.8	40.7	18. 4.54.4		18. 4.13.03	E
	42	Mars 1 L.	55.5	9.8	24.2	38.8	53.1	7.3	18. 8.21.8		18. 7.38.65	E
	43	α Lyrae.....	37.1	53.8	10.1	26.7	43.1	59.4	18.32.15.9		18.31.26.59	E
	44	ζ Aquilæ.....	22.0	35.0	48.1	1.7	14.8	28.0	18.58.41.1		18.58. 1.53	E
	45	δ Aquilæ.....	46.7	59.4	12.3	25.2	38.0	50.8	19.18. 3.7		19.17.25.16	E
	46	Saturn 1 L.	21.1	...	48.8	...	16.6	...	19.23.44.3		19.23. 2.70	E
	47	Saturn 2 L.	...	36.2	...	4.1	...	31.8	19.23.		19.23. 4.03	E
	48	γ Aquilæ.....	58.7	11.8	24.8	33.0	51.1	4.0	19.39.17.0		19.38.37.92	E
	49	α Aquilæ.....	18.7	31.7	44.6	57.7	10.7	23.7	19.43.36.6		19.42.57.67	E
	50	β Aquilæ.....	47.8	0.7	13.5	26.4	39.3	52.1	19.48. 5.0		19.47.26.40	E
ILLUMINATED END OF AXIS WEST. Order of Wires for Stars above the Pole, G, F, E, D, C, B, A.												
1. The 5th wire was set down 44 ^s .3.						23. Foggy.						
9. Extremely faint.						24, 25. Faint; a fog coming up.						
10. Extremely faint; cloudy.						27. The intervals irregular.						
12. The 2nd wire was set down 33 ^s .4.						28, 39, 40. Cloudy.						
						38. Not well defined: clouds coming up.						

CALCULATION OF APPARENT RIGHT ASCENSIONS.

[77]

No. for Reference.	Error of Collimation.	Level Error.	Seconds of Transit cor. for two Errors.	Azimuthal Error.	Seconds of Transit Corrected.	Tabular R.A. of Known Stars.	Clock apparently Slow.	Adopted Losing Rate.	Clock Slow at 0 ^h Sidereal.	Correction for Duration of Passage of Semidiameter.	Apparent R.A. of Center from the Observation.	NAME OF OBJECT.	Correction to Mean R.A. 1843, Jan. 1.
	"	"	s	"	s	s	s	s	s	m s	h m s		s
1	+1.54	+1.12		+3.98	30.81	39.80	8.99	0.85	8.32		19. 47. 39.83	β Aquilæ.	— 3.84
2					15.62	24.59	8.97				20. 9. 24.65	α^2 Capricorni.	— 4.35
3					46.57						20. 59. 55.63	61 Cygni (1st star)	— 3.96
4					48.11						20. 59. 57.17	61 Cygni (2nd star)	— 3.96
5					14.04						21. 5. 23.11	Juno.	
6					12.53	21.71	9.18				21. 23. 21.61	β Aquarii.	— 4.41
7					56.59						21. 27. 5.67	Jupiter.	
8					48.65	58.12	9.47	0.90	9.02		9. 36. 58.03	ϵ Leonis.	— 2.42
9					53.17	2.56	9.39				10. 0. 2.56	Regulus.	— 2.22
10													
11					54.48						11. 34. 3.93	$\odot$	
12					28.81	38.52	9.71				19. 17. 38.55	δ Aquilæ.	— 3.74
13					14.38						19. 23. 24.13	Saturn.	
14					1.23	11.05	9.82				19. 43. 10.99	α Aquilæ.	— 3.77
15					29.99	39.78	9.79				19. 47. 39.75	β Aquilæ.	— 3.82
16					50.86						20. 9. 0.63	α^1 Capricorni.	— 4.33
17					14.83	24.57	9.74				20. 9. 24.60	α^2 Capricorni.	— 4.33
18					45.79						20. 59. 55.60	61 Cygni (1st star)	— 3.94
19					47.28						20. 59. 57.09	61 Cygni (2nd star)	— 3.94
20					9.35	19.19	9.84				21. 6. 19.16	ζ Cygni.	— 3.84
21					12.02	21.70	9.68				21. 23. 21.84	β Aquarii.	— 4.40
22					35.16						21. 26. 44.98	Jupiter.	
23					40.01			0.93	10.21	— 1. 8.84	5. 46. 41.60	δ	
24					20.77	31.22	10.45				....	μ Geminorum.	
25													
26													
27													
28		+0.82		+4.77	7.20			0.95	11.00	— 1. 4.00	11. 41. 14.66	$\odot$	
29					26.81	38.49	11.68				19. 17. 38.57	δ Aquilæ.	— 3.71
30					39.38	51.28	11.90				19. 38. 51.15	γ Aquilæ.	— 3.65
31					59.11	11.02	11.91				19. 43. 10.89	α Aquilæ.	— 3.74
32					27.90	39.75	11.85				19. 47. 39.68	β Aquilæ.	— 3.79
33					43.79						20. 59. 55.62	61 Cygni (1st star)	— 3.92
34					45.28						20. 59. 57.11	61 Cygni (2nd star)	— 3.92
35					7.35	19.17	11.82				21. 6. 19.19	ζ Cygni.	— 3.82
36					10.05	21.69	11.64				21. 23. 21.90	β Aquarii.	— 4.39
37					53.46						21. 26. 5.31	Jupiter.	
38													
39					37.41			0.90	12.22		11. 44. 50.07	$\odot$	
40					13.48	26.34	12.86				18. 4. 26.38	μ Sagittarii.	— 3.93
41					39.12						18. 7. 52.41	Mars.	
42					26.88	39.72	12.84				18. 31. 39.79	α Lyræ.	— 2.47
43					1.87	14.93	13.06				18. 58. 14.80	ζ Aquilæ.	— 3.33
44					25.54	38.47	12.93				19. 17. 38.48	δ Aquilæ.	— 3.69
45					3.83						19. 23. 16.78	Saturn.	
46					38.27	51.26	12.99				19. 38. 51.22	γ Aquilæ.	— 3.63
47					58.03	11.00	12.97				19. 43. 10.99	α Aquilæ.	— 3.72
48					26.77	39.73	12.96				19. 47. 39.73	β Aquilæ.	— 3.77
49													
50													

Sep. 15, 21^h. The Transit instrument was levelled.

[78]

TRANSITS OBSERVED AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1843.

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	I.		II.		III.		IV.		V.		VI.		VII. WIRE.		Correction to Mean of Wires Observed.		Concluded Transit over Mean of the Seven Wires.		Observer.
			m	s	m	s	m	s	m	s	m	s	m	s	h	m	s	m	s	h		m	s
Sep. 19	1	61 Cygni (1st star)	53.3	...	25.9	...	58.7	...	...	...	...	...	21.	0.	30.9	—	0.01	20. 59. 42.19	E		
	2	61 Cygni (2nd star)	...	11.1	...	43.8	...	16.3	21.	0.	+	0.01	20. 59. 43.74	E							
	3	Juno	10.8	23.8	36.7	49.9	3.0	15.9	21.	4. 28.8	E										
	4	ζ Cygni	21.7	36.1	50.8	5.7	20.7	35.1	21.	6. 50.1	E										
	5	β Aquarii	29.7	42.4	55.2	8.1	21.0	34.0	21.	23. 46.6	E										
	6	Jupiter 1 L.	51.4	...	18.1	...	44.8	...	21.	26. 11.5	E										
	7	Jupiter 2 L.	...	8.2	...	35.1	...	1.8	21.	26.	E										
	8	♏ Piscium	...	...	...	43.9	56.7	9.4	23.	32. 22.2	—	19.37	23. 31. 43.68	E							
	9	Uranus	...	13.7	26.3	39.1	52.0	4.8	0.	3.	—	0.01	0. 2. 39.17	E							
	10	Regulus	...	22.6	35.7	49.1	2.4	15.4	10.	0.	—	0.01	9. 59. 49.03	H							
Sep. 20	11	⊙ 1 L.	29.0	41.8	54.8	7.7	20.8	33.5	11.	47. 46.4			11. 47. 7.72	H							
	12	⊙ 2 L.	37.5	50.0	3.0	15.8	28.8	41.7	11.	49. 54.8			11. 49. 15.94	H							
	13	Polaris S. P.	39. 35.0	47. 40.0	55. 40.0	3. 43.0	...	...	13.	+ 12.	6.84	13. 3. 46.34	H								
	14*	Mars 1 L.	33.5	48.1	2.5	16.8	31.2	45.4	18.	11. 0.0	WR										
	15*	♏ Aquilæ	46.1	58.8	11.8	24.6	37.7	50.5	19.	18. 3.4	H										
	16*	Saturn 1 L.	...	...	...	...	14.5	28.5	19.	23. 42.5	—	27.77	19. 23. 0.73	H							
	17	γ Aquilæ	57.6	11.1	24.2	37.5	50.6	3.6	19.	39. 16.7	H										
	18	α Aquilæ	18.0	31.0	44.0	57.0	10.1	23.0	19.	43. 36.0	H										
	19	β Aquilæ	46.7	59.9	13.0	25.8	38.6	51.6	19.	48. 4.7	H										
	20	β Aquarii	28.8	41.8	54.9	7.8	20.9	33.6	21.	23. 46.6	H										
	21*	Jupiter 1 L.	32.4	...	59.6	...	26.5	...	21.	25. 52.5	H										
	22*	Jupiter 2 L.	...	49.3	...	15.8	...	42.7	21.	25.	H										
	23	Fomalhaut	3.8	18.6	33.8	48.8	3.7	18.5	22.	49. 33.6	H										
	24	α Pegasi	7.5	20.7	33.8	47.0	0.6	13.6	22.	57. 26.8	H										
	25	Uranus	51.4	4.0	16.7	29.8	42.8	55.5	0.	3. 8.5	H										
	26	γ Pegasi	20.0	33.5	46.7	0.0	13.5	26.5	0.	5. 39.8	H										
Sep. 21	27	⊙ 1 L.	3.9	16.8	29.7	42.6	55.4	8.2	11.	51. 21.0			11. 50. 42.51	E							
	28	⊙ 2 L.	12.0	24.8	37.7	50.7	3.6	16.4	11.	53. 29.3			11. 52. 50.64	E							
	29	Mars 1 L.	13.1	27.3	41.8	56.0	10.4	24.8	18.	13. 39.1			18. 12. 56.07	E							
	30	α Lyrae	35.8	52.2	8.6	25.0	41.5	57.8	18.	32. 14.2			18. 31. 25.01	E							
	31	♏ Aquilæ	45.0	57.8	10.8	23.7	36.6	49.4	19.	18. 2.1			19. 17. 23.63	E							
	32	Saturn 1 L.	17.0	...	44.8	...	12.4	...	19.	23. 40.2			19. 22. 58.60	E							
	33	Saturn 2 L.	...	32.1	...	59.9	...	27.6	19.	23.			19. 22. 59.87	E							
	34	θ Cygni	1.9	21.7	41.7	1.8	21.8	41.4	19.	33. 1.7			19. 32. 1.71	E							
	35	γ Aquilæ	57.1	10.1	23.3	36.6	49.7	2.7	19.	39. 15.8			19. 38. 36.47	E							
	36	α Aquilæ	17.1	30.0	43.0	56.0	9.1	22.1	19.	43. 35.0			19. 42. 56.04	E							
	37	β Aquilæ	46.1	59.0	12.0	25.0	38.0	50.8	19.	48. 3.8			19. 47. 24.96	E							
	38	Piazzi XIX. 371,	...	53.8	18.2	43.1	8.1	32.4	19.	53.	—	0.01	19. 52. 43.11	E							
Sep. 22	39	⊙ 1 L.	38.8	51.8	4.8	17.9	30.8	43.6	11.	54. 56.0			11. 54. 17.67	H							
	40	⊙ 2 L.	46.9	0.0	12.8	25.8	38.6	51.6	11.	57. 4.6			11. 56. 25.76	H							
	41	Polaris S. P.	...	47. 35.0	55. 33.0	3. 39.0	11. 42.5	...	13.	+ 4.	2.59	13. 3. 39.97	H								
	42	Spica	3.6	16.6	29.5	42.8	55.8	8.9	13.	17. 21.8			13. 16. 42.71	H							
	43	γ Ursæ Majoris..	6.8	26.7	46.8	6.8	27.0	46.9	13.	42. 6.9			13. 41. 6.84	H							
	44	Mars 1 L.	53.6	7.9	22.4	36.9	51.4	5.6	18.	16. 19.8			18. 15. 36.80	H							
	45	♏ Aquilæ	44.6	57.6	10.7	23.5	36.1	48.6	19.	18. 1.7			19. 17. 23.26	H							
	46*	Saturn 1 L.	15.5	...	43.5	...	11.6	...	19.	23. 39.0			19. 22. 57.40	H							
	47*	Saturn 2 L.	...	31.6	...	58.7	...	26.5	19.	23.			19. 22. 58.93	H							
	48	θ Cygni	1.3	21.6	41.6	1.5	21.5	41.0	19.	33. 1.0			19. 32. 1.36	H							
	49	c ¹ Cygni	25.8	...	6.0	...	46.0	...	19.	38. 26.0	—	0.01	19. 37. 25.87	H							
	50	c ² Cygni	...	48.6	...	28.6	...	8.8	19.	38.	+	0.01	19. 37. 28.68	H							

ILLUMINATED END OF AXIS WEST. Order of Wires for Stars above the Pole, G, F, E, D, C, B, A.

14. After this observation, the object-glass was taken out by Mr. Simms and examined, there being a suspicion that it was not firmly fixed in its cell: the counter cell was tightened, and the object-glass was then replaced.

15, 16. Observed with a high power. 16. Extremely faint.
21, 22. Rather tremulous: the intervals are rather irregular, but the observation is pretty good.
46, 47. Tremulous, and difficult to observe.

CALCULATION OF APPARENT RIGHT ASCENSIONS.

[79]

No. for Reference.	Error of Collimation.	Level Error.	Seconds of Transit cor. for two Errors.	Azimuthal Error.	Seconds of Transit Corrected.	Tabular R.A. of Known Stars.	Clock apparently Slow.	Adopted Losing Rate.	Clock Slow at 0 ^h Sidereal.	Correction for Duration of Passage of Semidiameter.	Apparent R.A. of Center from the Observation.	NAME OF OBJECT.	Correction to Mean R.A. 1843, Jan. 1.
#	#	s	#	s	s	s	s	s	s	m s	h m s		s
1	+1.54	+0.82		+4.77	42.49			0.90	12.22		20. 59. 55.50	61 Cygni (1st star)	— 3.90
2					44.04						20. 59. 57.05	61 Cygni (2nd star)	— 3.90
3					50.27						21. 4. 3.28	Juno.	
4					6.07	19.16	13.09				21. 6. 19.08	ζ Cygni.	— 3.81
5					8.55	21.68	13.13				21. 23. 21.57	β Aquarii.	— 4.38
6					33.67						21. 25. 46.69	Jupiter.	
7													
8					44.05	56.93	12.88				23. 31. 57.15	ι Piscium.	— 4.48
9					39.55				13.12		0. 2. 52.67	Uranus.	
10			49.17		49.37	2.63	13.26	0.82	12.88		10. 0. 2.59	Regulus.	— 2.29
11					12.21						11. 48. 25.49	☉	
12													
13			40.90		48.60	61.95	13.35				....	Polaris S.P.	
14					17.26					+ 0.39	18. 10. 31.15	Mars.	
15	—0.07				24.98	38.46	13.48				19. 17. 38.52	δ Aquilæ.	— 3.68
16					1.07					+ 0.60	19. 23. 15.21	Saturn.	
17					37.58	51.25	13.67				19. 38. 51.13	γ Aquilæ.	— 3.62
18					57.28	10.99	13.71				19. 43. 10.83	α Aquilæ.	— 3.71
19					26.03	39.72	13.69				19. 47. 39.58	β Aquilæ.	— 3.76
20					8.07	21.67	13.60				21. 23. 21.68	β Aquarii.	— 4.37
21					14.67						21. 25. 28.28	Jupiter.	
22													
23					49.06	2.48	13.42				22. 49. 2.72	Fomalhaut.	— 4.93
24					47.40	0.99	13.59				22. 57. 1.06	α Pegasi.	— 4.42
25					30.10				13.70		0. 2. 43.80	Uranus.	
26					0.25	13.91	13.66				0. 5. 13.95	γ Pegasi.	— 4.54
27					46.79			0.73	14.00		11. 52. 1.15	☉	
28			+3.46										
29					56.32					+ 0.38	18. 13. 11.26	Mars.	
30					25.14	39.66	14.52				18. 31. 39.70	α Lyræ.	— 2.41
31					23.84	38.44	14.60				19. 17. 38.43	δ Aquilæ.	— 3.66
32					59.49						19. 23. 14.08	Saturn.	
33													
34					1.80						19. 32. 16.39	θ Cygni.	— 2.52
35					36.67	51.23	14.56				19. 38. 51.26	γ Aquilæ.	— 3.60
36					56.24	10.97	14.73				19. 43. 10.84	α Aquilæ.	— 3.69
37					25.17	39.70	14.53				19. 47. 39.77	β Aquilæ.	— 3.74
38					43.14						19. 52. 57.74	Piazz XI X. 371.	— 2.41
39					21.93			0.65	14.48		11. 55. 36.73	☉	
40													
41			38.58		44.17	62.38	18.21				1. 3. 59.00	Polaris S.P.	—62.04
42					42.95	57.88	14.93				13. 16. 57.79	Spica.	— 2.18
43					6.93						13. 41. 21.78	η Ursæ Majoris.	— 0.80
44					37.05					+ 0.38	18. 15. 52.41	Mars.	
45					23.47	38.43	14.96				19. 17. 38.47	δ Aquilæ.	— 3.65
46					58.42						19. 23. 13.42	Saturn.	
47													
48					1.45						19. 32. 16.46	θ Cygni.	— 2.48
49					25.96						19. 37. 40.97	c ¹ Cygni.	— 2.53
50					28.77						19. 37. 43.78	c ² Cygni.	— 2.53

Sep. 19 and 20. The azimuthal error by tabular places of Regulus and Polaris S.P., allowing 0^s.09 for clock-rate.

Sep. 22. The azimuthal error by Polaris S.P. and Polaris, allowing 0^s.29 for clock-rate and change of R.A.

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	I.		II.		III.		IV.		V.		VI.		VII. WIRE.		Correction to Mean of Wires Observed.	Concluded Transit over Mean of the Seven Wires.		Observer.
			m	s	m	s	m	s	m	s	m	s	m	s	h	m		s	h		m	s
Sep. 22	1	δ Cygni	...	...	...	...	10.0	28.0	19. 40. 46.0	—	36.22	19. 39. 51.78	H							
	2	α Aquilæ	16.7	29.8	42.6	55.7	8.6	21.6	19. 43. 34.6			19. 42. 55.66	H							
	3	d Cygni	...	46.5	7.8	28.6	50.1	11.3	19. 47.	—	0.01	19. 46. 28.85	H							
	4	Piazzi XIX. 371,	...	53.7	18.0	42.7	7.5	31.7	19. 53.	—	0.01	19. 52. 42.71	H							
	5	e Cygni	...	...	22.8	42.9	2.7	...	19. 57.	—	0.05	19. 56. 42.75	H							
	6	66 Draconis	...	55.7	22.6	49.8	17.0	43.7	20. 3.	—	0.01	20. 2. 49.77	H							
	7	σ ² Cygni	33.4	52.0	10.6	29.6	47.9	6.5	20. 9. 24.8			20. 8. 29.26	H							
	8	Groombridge 3145	...	...	...	50.6	13.1	35.5	20. 15. 58.0	—	33.69	20. 14. 50.61	H							
	9	71 Draconis	...	...	...	46.7	13.8	40.7	20. 18. 8.1	—	40.80	20. 16. 46.53	H							
	10	ω ¹ Cygni	3.8	23.4	42.8	2.5	22.0	41.6	20. 23. 1.0			20. 22. 2.44	H							
	11	f ¹ Cygni	21.0	39.6	58.6	17.6	36.6	55.3	20. 55. 13.9			20. 54. 17.52	H							
	12	61 Cygni (1st star)	51.5	...	24.3	...	56.8	...	21. 0. 29.6	—	0.01	20. 59. 40.54	H							
	13	61 Cygni (2nd star)	...	9.5	...	42.0	...	14.5	21. 0.	+	0.01	20. 59. 42.01	H							
	14	ζ Cygni	19.6	34.3	49.0	3.8	18.8	33.5	21. 6. 48.5			21. 6. 3.93	H							
	15	g Cygni	32.6	51.0	9.6	...	...	...	21. 23.	+	36.95	21. 23. 28.02	H							
	16	Jupiter 1 L.	56.7	...	23.6	...	50.6	...	21. 25. 17.4			21. 24. 37.08	H							
	17	Jupiter 2 L.	...	13.6	...	40.5	...	7.0	21. 25.			21. 24. 40.37	H							
	18	ι Piscium	3.0	15.8	28.8	41.6	54.8	7.6	23. 32. 20.6			23. 31. 41.74	H							
	19	Uranus	32.4	45.0	58.1	11.0	24.0	36.5	0. 2. 49.6			0. 2. 10.94	H							
	20	Polaris	39. 34.0	47. 38.0	55. 43.0	...	...	...	0.	+ 16. 9.32		1. 3. 47.65	J H							
Sep. 23	21*	☉ 2 L.	22.2	34.8	47.4	0.3	13.2	...	12. 0.	+	12.88	12. 0. 0.46	E							
	22	μ Sagittarii	28.8	42.6	56.3	10.1	24.0	37.8	18. 4. 51.6			18. 4. 10.17	E							
	23	Mars 1 L.	34.8	49.0	3.2	17.7	32.0	46.1	18. 19. 0.7			18. 18. 17.67	E							
	24	δ Aquilæ	43.8	56.5	9.4	22.3	35.1	48.0	19. 18. 0.8			19. 17. 22.27	E							
	25	Saturn 1 L.	14.6	...	42.3	...	10.1	...	19. 23. 38.0			19. 22. 56.25	E							
	26	Saturn 2 L.	...	29.8	...	57.4	...	25.2	19. 23.			19. 22. 57.47	E							
	27	ε ² Cygni	...	...	10.6	31.3	51.8	...	19. 25.	—	0.05	19. 25. 31.18	E							
	28	θ Cygni	0.4	20.0	40.1	0.2	20.1	39.9	19. 32. 59.8			19. 32. 0.07	E							
	29	c ¹ Cygni	24.7	...	4.8	...	45.0	...	19. 38. 24.8	—	0.01	19. 37. 24.82	E							
	30	c ² Cygni	...	47.3	...	27.8	...	7.8	19. 38.	+	0.01	19. 37. 27.64	E							
	31	δ Cygni	...	14.5	32.6	50.8	8.9	27.0	19. 40.	—	0.01	19. 39. 50.75	E							
	32	α Aquilæ	15.8	28.8	41.8	54.9	7.8	20.9	19. 43. 33.8			19. 42. 54.83	E							
	33	d Cygni	24.1	45.1	6.2	27.6	48.8	10.0	19. 47. 31.1			19. 46. 27.56	E							
	34	Piazzi XIX. 371,	27.8	52.1	17.0	41.5	6.1	30.3	19. 53. 55.0			19. 52. 41.40	E							
	35	e Cygni	42.0	1.8	21.7	41.5	1.3	21.0	19. 57. 41.1			19. 56. 41.49	E							
	36	66 Draconis	...	54.8	21.7	48.7	15.6	42.5	20. 3.	—	0.01	20. 2. 48.65	E							
	37	σ ² Capricorni	28.8	42.1	55.2	8.4	...	...	20. 9.	+	19.80	20. 9. 8.43	E							
	38	Groombridge 3145	...	...	...	49.3	11.8	34.2	20. 15. 56.8	—	33.69	20. 14. 49.34	E							
	39	71 Draconis	...	...	...	45.8	12.7	39.5	20. 18. 7.0	—	40.80	20. 16. 45.45	E							
	40	λ Ursæ Minoris.	...	...	...	...	29. 19.0	39. 54.0	20. 50. 35.0	— 21. 20.17		20. 18. 35.83	E							
	41	ω ¹ Cygni	2.8	22.1	41.5	1.0	20.7	40.1	20. 23. 0.2			20. 22. 1.20	E							
	42	f ¹ Cygni	20.1	39.0	57.7	16.5	35.3	54.0	20. 55. 12.8			20. 54. 16.49	E							
	43	f ² Cygni	...	21.1	40.0	59.0	17.8	36.8	21. 1.			21. 0. 58.94	E							
	44	ζ Cygni	...	33.7	48.1	3.0	17.7	32.6	21. 6.	—	0.01	21. 6. 3.01	E							
	45	Piazzi XXI. 51,	...	...	10.2	35.8	0.8	25.7	21. 8. 51.1	—	25.24	21. 7. 35.48	E							
	46	Jupiter 1 L.	39.8	...	6.6	...	33.3	...	21. 25. 0.0			21. 24. 19.93	E							
	47	Jupiter 2 L.	...	56.4	...	23.2	...	50.1	21. 24.			21. 24. 23.23	E							
Sep. 26	48	f ¹ Cygni	18.1	37.0	55.8	14.8	33.7	52.4	20. 55. 11.2			20. 54. 14.71	E							
	49	f ² Cygni	0.8	19.5	38.2	57.1	16.1	35.0	21. 1. 53.8			21. 0. 57.22	E							
	50	ζ Cygni	16.8	31.8	46.6	1.4	16.2	30.9	21. 6. 45.6			21. 6. 1.33	E							
	51	Piazzi XXI. 51,	...	...	...	33.8	59.0	24.0	21. 8. 49.6	—	37.86	21. 7. 33.74	E							

ILLUMINATED END OF AXIS WEST. Order of Wires for Stars above the Pole, G, F, E, D, C, B, A.

21. Very cloudy.

CALCULATION OF APPARENT RIGHT ASCENSIONS.

[81]

No. for Reference.	Error of Collimation.	Level Error.	Seconds of Transit cor. for two Errors.	Azimuthal Error.	Seconds of Transit Corrected.	Tabular R. A. of Known Stars.	Clock apparently Slow.	Adopted Losing Rate.	Clock Slow at 0 ^h Sidereal.	Correction for Duration of Passage of Semidiameter.	Apparent R. A. of Center from the Observation.	NAME OF OBJECT.	Correction to Mean R. A. 1843, Jan. 1.
	"	"	s	"	s	s	s	s	s	m s	h m s		s
1	-0.07	+0.82		+3.46	51.89			0.65	14.48		19. 40. 6.90	δ Cygni.	- 2.75
2					55.86	10.96	15.10				19. 43. 10.87	α Aquilæ.	- 3.68
3					28.92						19. 46. 43.93	d Cygni.	- 2.54
4					42.74						19. 52. 57.75	Piazzi XIX. 371.	- 2.38
5					42.84						19. 56. 57.86	e Cygni.	- 2.76
6					49.78						20. 3. 4.80	66 Draconis.	- 2.36
7					29.36						20. 8. 44.38	ε ² Cygni.	- 2.99
8					50.67						20. 15. 5.70	Groombridge 3145.	- 2.80
9					46.54						20. 17. 1.57	71 Draconis.	- 2.58
10					2.52						20. 22. 17.55	ω ¹ Cygni.	- 3.06
11					17.62						20. 54. 32.67	f ¹ Cygni.	- 3.44
12					40.67						20. 59. 55.72	61 Cygni (1st star)	- 3.86
13					42.14						20. 59. 57.19	61 Cygni (2nd star)	- 3.86
14					4.08	19.11	15.03				21. 6. 19.13	ζ Cygni.	- 3.76
15					28.12						21. 23. 43.18	g Cygni.	- 3.74
16					38.98						21. 24. 54.04	Jupiter.	
17					41.95	56.92	14.97				23. 31. 57.07	ι Piscium.	- 4.47
18					11.15				15.13		0. 2. 26.28	Uranus.	
19			49.11		43.89	62.48	18.59				1. 3. 59.05	Polaris.	- 62.14
20													
21					0.67			0.57	15.42	-1. 4.06	11. 59. 12.32	☉	
22					10.42	26.27	15.85				18. 4. 26.27	μ Sagittarii.	- 3.86
23					17.92					+ 0.37	18. 18. 34.14	Mars.	
24					22.48	38.41	15.93				19. 17. 38.36	δ Aquilæ.	- 3.63
25					57.11						19. 23. 12.99	Saturn.	
26					31.26						19. 25. 47.14	ε ² Cygni.	- 2.33
27					0.16						19. 32. 16.04	θ Cygni.	- 2.45
28					24.91						19. 37. 40.80	c ¹ Cygni.	- 2.50
29					27.73						19. 37. 43.62	c ² Cygni.	- 2.50
30					50.86						19. 40. 6.75	δ Cygni.	- 2.76
31					55.03	10.94	15.91				19. 43. 10.92	α Aquilæ.	- 3.66
32					27.63						19. 46. 43.52	d Cygni.	- 2.51
33					41.44						19. 52. 57.33	Piazzi XIX. 371.	- 2.34
34					41.58						19. 56. 57.47	e Cygni.	- 2.73
35					48.66						20. 3. 4.56	66 Draconis.	- 2.33
36					8.67	24.48	15.81				20. 9. 24.57	α ² Capricorni.	- 4.24
37					49.40						20. 15. 5.30	Groombridge 3145.	- 2.77
38					45.46						20. 17. 1.36	71 Draconis.	- 2.53
39					30.82						20. 18. 46.72	λ Ursæ Minoris.	+ 20.77
40					1.28						20. 22. 17.18	ω ¹ Cygni.	- 3.03
41					16.58						20. 54. 32.50	f ¹ Cygni.	- 3.41
42					59.03						21. 1. 14.95	f ² Cygni.	- 3.48
43					3.16	19.10	15.94				21. 6. 19.08	ζ Cygni.	- 3.75
44					35.51						21. 7. 51.43	Piazzi XXI. 51.	- 3.38
45					21.82						21. 24. 37.75	Jupiter.	
46													
47													
48		+0.12		+0.13	14.71			0.52	17.31		20. 54. 32.47	f ¹ Cygni.	- 3.36
49					57.22						21. 1. 14.98	f ² Cygni.	- 3.42
50					1.33	19.06	17.73				21. 6. 19.10	ζ Cygni.	- 3.71
51					33.75						21. 7. 51.52	Piazzi XXI. 51.	- 3.30

Sep. 22, 21^h. The Transit instrument was levelled.Sep. 25, 0^h. The Transit instrument was reversed, and the error of collimation determined.

MONTH and DAY.	No. for Reference	NAME OF OBJECT.	I.	II.	III.	IV.	V.	VI.	VII. WIRE.	Correction to Mean of Wires Observed.	Concluded Transit over Mean of the Seven Wires.	Observer.
			m s	m s	m s	m s	m s	m s	h m s	m s	h m s	
Sep. 26	1	Jupiter 1 L.	53.8	...	20.7	...	47.4	...	21. 24. 14.2		21. 23. 34.03	E
	2	Jupiter 2 L.	...	10.3	...	37.2	...	4.1	21. 24.		21. 23. 37.20	E
	3	9 Cephei.	7.8	34.8	1.7	28.6	55.3	...	21. 33.	+ 26.81	21. 33. 28.45	E
	4	ϵ Pegasi.	35.8	48.7	1.7	14.8	27.8	40.7	21. 36. 53.8		21. 36. 14.76	E
	5	π^2 Cygni.	47.7	7.0	26.2	46.0	5.6	24.8	21. 41. 44.2		21. 40. 45.93	E
	6	Uranus.	54.5	7.4	20.2	33.0	45.8	58.7	0. 2. 11.7		0. 1. 33.04	E
	7	γ Pegasi.	16.6	29.5	42.8	56.1	9.2	22.4	0. 5. 35.8		0. 4. 56.06	E
	8	α Cassiopeiae ...	17.8	40.8	3.1	26.1	49.0	11.3	0. 32. 34.4		0. 31. 26.07	E
	9	β Ceti.	48.1	1.8	15.3	29.0	42.7	56.1	0. 36. 9.7		0. 35. 28.96	E
	10	Polaris.	39. 34.0	47. 37.0	55. 42.0	3. 44.0	...	...	1.	+ 12. 6.74	1. 3. 45.99	E
Sep. 27	11*	i^2 Cygni.	27.4	47.9	8.7	29.5	49.8	10.1	19. 26. 30.9		19. 25. 29.19	H
	12	c^1 Cygni.	22.7	...	2.8	...	43.1	...	19. 38. 23.0	- 0.01	19. 37. 22.89	H
	13	c^2 Cygni.	...	45.6	...	25.7	...	5.7	19. 38.	+ 0.01	19. 37. 25.68	H
	14*	δ Cygni.	...	...	...	49.0	7.0	24.8	19. 40. 43.0	- 27.18	19. 39. 48.77	H
	15	α Aquilæ.	14.0	27.0	40.0	53.0	6.0	19.0	19. 43. 31.8		19. 42. 52.97	H
	16	d Cygni.	22.4	43.6	4.7	25.8	47.0	7.9	19. 47. 29.1		19. 46. 25.79	H
	17	e Cygni.	40.0	0.0	19.5	39.6	59.7	19.5	19. 57. 39.5		19. 56. 39.69	H
	18	66 Draconis.	...	52.6	19.7	46.8	14.0	40.7	20. 3.	- 0.01	20. 2. 46.75	H
	19	e^2 Cygni.	30.5	49.0	7.6	26.5	...	...	20. 8.	+ 27.90	20. 8. 26.30	H
	20	α^2 Capricorni ...	...	...	53.3	6.5	19.7	32.8	20. 9. 46.4	- 13.21	20. 9. 6.53	H
	21	Groombridge 3145	40.5	2.8	25.0	47.7	...	...	20. 14.	+ 33.67	20. 14. 47.67	H
	22	71 Draconis.	...	49.0	16.5	43.6	10.8	37.7	20. 17.	- 0.01	20. 16. 43.51	H
	23	ω^1 Cygni.	0.7	20.5	39.6	59.6	19.0	38.6	20. 22. 58.0		20. 21. 59.43	H
	24	f^2 Cygni.	0.7	19.6	38.5	57.5	16.5	35.0	21. 1. 53.6		21. 0. 57.34	H
	25	Piazzi XXI. 51,	17.8	43.5	8.6	33.7	59.0	24.0	21. 8. 49.5		21. 7. 33.73	H
	26*	Jupiter 1 L.	40.5	...	7.5	...	33.7	...	21. 24. 0.8		21. 23. 20.63	H
	27*	Jupiter 2 L.	...	57.0	...	23.7	...	50.6	21. 23.		21. 23. 23.77	H
	28	9 Cephei.	...	34.5	1.5	28.5	55.3	21.8	21. 34.	- 0.01	21. 33. 28.31	H
	29	ϵ Pegasi.	35.7	48.6	1.6	14.7	27.8	40.6	21. 36. 53.7		21. 36. 14.67	H
	30	π^2 Cygni.	47.5	6.8	26.5	45.8	5.6	24.5	21. 41. 44.2		21. 40. 45.84	H
	31	i Piscium.	0.6	13.5	26.4	39.3	52.4	5.0	23. 32. 17.6		23. 31. 39.26	H
	32*	Uranus.	45.5	58.6	11.0	24.5	36.5	49.6	0. 2. 2.4		0. 1. 24.01	H
	33	γ Pegasi.	16.2	29.6	42.8	56.0	9.6	22.7	0. 5. 35.8		0. 4. 56.10	H
	34	Polaris.	39. 30.5	47. 37.5	55. 40.0	...	...	...	0.	+ 16. 9.06	1. 3. 45.06	J G
	35	ϵ Leonis.	57.8	11.8	26.0	40.1	54.2	8.3	9. 37. 22.4		9. 36. 40.08	E
	36	Regulus.	5.0	18.0	31.1	44.5	57.6	10.7	10. 0. 23.8		9. 59. 44.39	E
	37	δ Leonis.	...	1.4	15.0	29.0	...	56.6	11. 6. 10.3	- 5.52	11. 5. 28.94	E
	38	γ Cephei S.P. ...	...	30. 56.0	31. 51.0	32. 46.0	33. 43.4	34. 40.2	11.	+ 0.03	11. 32. 46.75	E
Sep. 28	39	$\odot$ 1 L.	...	...	...	51.0	3.8	16.5	12. 16. 29.5	- 19.36	12. 15. 50.84	E
	40	$\odot$ 2 L.	20.8	33.7	46.7	59.6	12.4	25.2	12. 18. 38.0		12. 17. 59.49	E
	41	Polaris S.P. ...	39. 35.0	...	55. 41.0	...	11. 47.0	...	13. 27. 57.0	+ 0.15	13. 3. 45.15	E
	42	Spica.	0.3	13.3	26.4	39.6	52.8	5.9	13. 17. 19.0		13. 16. 39.62	E
	43	η Ursæ Majoris,	3.1	23.3	43.4	...	...	...	13. 40.	+ 40.12	13. 41. 3.39	E
	44	Arcturus.	32.7	46.2	59.8	14.0	27.3	40.7	14. 8. 54.4		14. 8. 13.58	E
	45	i^2 Cygni.	...	...	7.8	28.3	49.2	...	19. 25.	- 0.05	19. 25. 28.38	E
	46	Regulus.	4.6	17.7	30.8	44.4	57.6	10.5	10. 0. 23.7		9. 59. 44.19	H
	47	γ Cephei S.P. ...	...	...	49.5	32. 46.0	42.5	...	11. 33.	+ 0.15	11. 32. 46.15	H
Sep. 29	48	$\odot$ 1 L.	48.5	1.5	14.1	27.4	40.0	52.8	12. 20. 5.8		12. 19. 27.16	H
	49	$\odot$ 2 L.	56.7	9.8	22.7	35.7	48.8	1.7	12. 22. 14.5		12. 21. 35.70	H
	50	Polaris S.P. ...	...	47. 42.0	55. 39.0	3. 39.0	11. 45.0	19. 50.0	13.	+ 0.27	13. 3. 43.27	H
ILLUMINATED END OF AXIS WEST. Order of Wires for Stars above the Pole, G, F, E, D, C, B, A.												
11, 14. Cloudy. 26, 27. Jupiter very ill defined, and the belts not visible : the observation not good. 32. The intervals irregular : the image bad : the evening generally unfavourable.												

CALCULATION OF APPARENT RIGHT ASCENSIONS.

[83]

No. for Reference.	Error of Collimation.	Level Error.	Seconds of Transit cor. for two Errors.	Azimuthal Error.	Seconds of Transit Corrected.	Tabular R.A. of Known Stars.	Clock apparently Slow.	Adopted Losing Rate.	Clock Slow at 0 ^h Sidereal.	Correction for Duration of Passage of Semidiameter.	Apparent R.A. of Center from the Observation.	NAME OF OBJECT.	Correction to Mean R.A. 1843, Jan. 1.
	"	"	"	"	"	"	"	"	"	m s	h m s	"	"
1	-0.07	+0.12		+0.13	35.63			0.52	17.31		21. 23. 53.40	Jupiter.	
2					28.46						21. 33. 46.24	9 Cephei.	- 3.70
3					14.78	32.57	17.79				21. 36. 32.56	ϵ Pegasi.	- 4.14
4					45.93						21. 41. 3.71	π^2 Cygni.	- 3.83
5					33.05						0. 1. 50.88	Uranus.	
6					56.08	13.96	17.88		17.83		0. 5. 13.91	γ Pegasi.	- 4.59
7					26.07						0. 31. 43.91	α Cassiopeiae.	- 5.77
8					28.97	46.77	17.80				0. 35. 46.82	β Ceti.	- 4.54
9			28.96		45.85	63.68	17.83				....	Polaris.	
10			46.05										
11				-0.03	29.19			0.45	17.43		19. 25. 46.98	δ^2 Cygni.	- 2.19
12					22.89						19. 37. 40.69	c^1 Cygni.	- 2.39
13					25.68						19. 37. 43.48	c^2 Cygni.	- 2.39
14					48.77						19. 40. 6.57	δ Cygni.	- 2.61
15					52.98	10.88	17.90				19. 43. 10.78	α Aquilae.	- 3.60
16					25.79						19. 46. 43.59	d Cygni.	- 2.39
17					39.69						19. 56. 57.49	e Cygni.	- 2.63
18					46.76						20. 3. 4.56	66 Draconis.	- 2.17
19					26.30						20. 8. 44.11	δ^3 Cygni.	- 2.85
20					6.53	24.42	17.89				20. 9. 24.34	α^2 Capricorni.	- 4.18
21					47.67						20. 15. 5.48	Groombridge 3145.	- 2.66
22					43.52						20. 17. 1.33	71 Draconis.	- 2.39
23					59.43						20. 22. 17.24	δ^4 Cygni.	- 2.94
24					57.34						21. 1. 15.16	f^2 Cygni.	- 3.40
25					33.74						21. 7. 51.57	Piazzi XXI. 51.	- 3.28
26					22.20						21. 23. 40.03	Jupiter.	
27					28.32						21. 33. 46.15	9 Cephei.	- 3.68
28					14.68	32.56	17.88				21. 36. 32.52	ϵ Pegasi.	- 4.13
29					45.84						21. 41. 3.68	π^2 Cygni.	- 3.82
30					39.27	56.96	17.69				23. 31. 57.14	ι Piscium.	- 4.51
31					24.01						0. 1. 41.89	Uranus.	
32					56.11	13.96	17.85		17.88		0. 5. 13.99	γ Pegasi.	- 4.59
33					45.17	64.02	18.85				1. 4. 3.07	Polaris.	- 63.68
34			45.12		40.08	58.37	18.29				9. 36. 58.32	ϵ Leonis.	- 2.67
35					44.40	2.77	18.37	0.40	18.08		10. 0. 2.65	Regulus.	- 2.43
36					28.94	47.12	18.18				11. 5. 47.20	δ Leonis.	- 2.19
37					46.74						23. 33. 5.01	γ Cephei S.P.	- 7.86
38													
39					55.17						12. 17. 13.45	$\odot$	
40					45.05	64.20	19.15				1. 4. 3.35	Polaris S.P.	- 63.86
41			45.10		39.62	57.87	18.25				13. 16. 57.92	Spica.	- 2.17
42					3.39						13. 41. 21.70	η Ursae Majoris.	- 0.73
43					13.59	31.86	18.27				14. 8. 31.90	Arcturus.	- 1.79
44					28.38						19. 25. 46.78	δ^2 Cygni.	- 2.16
45					44.28	2.79	18.51	0.54	18.16		....	Regulus.	
46				+1.78	46.56						23. 33. 4.98	γ Cephei S.P.	- 7.85
47													
48					31.53						12. 20. 49.97	$\odot$	
49					46.09	64.50	18.41				....	Polaris S.P.	
50			43.22										

Sep. 26. The azimuthal error by tabular places of β Ceti and Polaris, allowing 0^s.01 for clock-rate.

Sep. 27 and 28. The azimuthal error by Polaris and Polaris S.P., allowing 0^s.11 for clock-rate and change of R.A.

Sep. 29. The azimuthal error by tabular places of Polaris S.P. and Arcturus, allowing 0^s.02 for clock-rate.

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	I.	II.	III.	IV.	V.	VI.	VII. WIRE.	Correction to Mean of Wires Observed.	Concluded Transit over Mean of the Seven Wires.		Observer.
			m s	m s	m s	m s	m s	m s	h m s		m s	h m s	
Sep. 29	1*	Arcturus.....	32.5	45.5	59.6	13.7	27.0	40.7	14. 8. 54.5			14. 8. 13.36	H
	2	α Ophiuchi.....	43.4	56.6	9.7	22.8	36.4	49.3	17. 28. 2.4			17. 27. 22.94	H
	3*	δ 1 L.	28.8	43.8	58.0	12.8	27.5	41.9	17. 36. 56.8			17. 36. 12.80	H
Oct. 1	4	δ Aquilæ.....	39.8	52.7	5.7	18.6	31.5	44.3	19. 16. 57.0			19. 16. 18.52	H
	5	δ 1 L.	24.8	39.0	53.5	7.7	21.8	35.7	19. 34. 49.8			19. 34. 7.47	H
	6	f Sagittarii.....	...	28.6	42.5	56.2	9.8	23.6	19. 37.	—	0.01	19. 36. 56.13	H
	7	57 Sagittarii.....	7.6	21.4	34.8	48.7	2.3	15.7	19. 43. 29.5			19. 42. 48.57	H
	8	β Aquilæ.....	40.7	53.8	6.7	19.6	32.7	45.6	19. 47. 58.5			19. 47. 19.66	H
	9	α^2 Cygni.....	28.5	47.0	5.8	24.5	42.8	1.5	20. 9. 19.9			20. 8. 24.28	H
Oct. 2	10	δ Aquilæ.....	39.1	52.1	5.1	18.0	30.8	43.7	19. 17. 56.6			19. 17. 17.92	E
	11	Saturn 1 L.	26.7	...	54.4	...	22.2	...	19. 23. 50.0			19. 23. 8.33	E
	12	Saturn 2 L.	...	41.8	...	9.3	...	37.1	19. 23.			19. 23. 9.40	E
	13	γ Aquilæ.....	51.6	4.6	17.5	30.6	43.8	56.7	19. 39. 9.8			19. 38. 30.65	E
	14	57 Sagittarii.....	7.0	20.6	34.0	47.7	1.3	15.0	19. 43. 28.7			19. 42. 47.76	E
	15	β Aquilæ.....	40.2	53.1	6.1	19.0	32.0	44.8	19. 47. 57.8			19. 47. 19.00	E
	16	α^2 Capricorni....	24.5	37.6	50.8	4.0	17.1	30.2	20. 9. 43.3			20. 9. 3.93	E
	17	β Capricorni....	14.8	28.0	41.3	54.5	8.0	...	20. 12.	+	13.32	20. 11. 54.64	E
Oct. 4	18*	$\odot$ 1 L.	53.0	5.8	18.8	31.7	44.7	57.5	12. 38. 10.3			12. 37. 31.68	E
	19	61 Cygni (1st star)	45.1	...	17.8	...	50.4	...	21. 0. 23.0	—	0.01	20. 59. 34.07	E
	20	61 Cygni (2nd star)	...	3.0	...	35.5	...	8.1	21. 0.	+	0.01	20. 59. 35.54	E
	21	ζ Cygni.....	13.1	28.0	42.8	57.7	12.6	27.2	21. 6. 41.8			21. 5. 57.60	E
	22	Jupiter 1 L.	24.7	...	51.3	...	18.1	...	21. 22. 45.0			21. 22. 4.78	E
	23	Jupiter 2 L.	...	41.3	...	8.1	...	34.7	21. 22.			21. 22. 8.03	E
	24	β Aquarii.....	...	...	...	0.5	13.3	26.0	21. 23. 39.0	—	19.42	21. 23. 0.28	E
	25	9 Cephei.....	4.1	31.0	57.8	24.8	...	...	21. 33.	+	40.25	21. 33. 24.68	E
	26	ϵ Pegasi.....	32.1	45.1	58.0	11.1	24.1	37.0	21. 36. 50.2			21. 36. 11.08	E
	27	δ Capricorni.....	...	38.3	51.8	5.1	18.7	32.0	21. 38.	—	0.01	21. 38. 5.17	E
	28	π^2 Cygni.....	44.0	3.3	22.7	42.1	1.7	21.0	21. 41. 40.4			21. 40. 42.17	E
	29	Piazzi XXI. 336	24.0	46.8	9.4	32.1	55.0	17.3	21. 48. 40.3			21. 47. 32.13	E
	30	Piazzi XXI. 383	45.4	6.4	27.3	48.2	...	...	21. 55.	+	31.42	21. 55. 48.25	E
	31	α Aquarii.....	47.7	0.4	13.0	25.8	38.6	51.5	21. 58. 4.3			21. 57. 25.90	E
	32	Piazzi XXII. 4.	22.1	46.6	10.9	...	...	...	22. 1.	+	48.68	22. 1. 35.21	E
	33	Groombridge 3692	...	...	52.3	11.3	30.3	49.1	22. 3. 8.1	—	18.93	22. 2. 11.29	E
	34	δ 1 L.	54.2	7.4	20.8	34.0	47.3	0.4	22. 6. 13.8			22. 5. 33.99	E
	35	ρ Aquarii.....	0.2	13.0	26.0	39.0	...	...	22. 11.	+	19.51	22. 11. 39.06	E
	36	γ Aquarii.....	37.0	50.0	2.8	15.7	28.5	41.2	22. 13. 54.1			22. 13. 15.62	E
	37	Regulus.....	1.7	15.1	28.4	41.6	54.8	7.7	10. 0. 20.8			9. 59. 41.44	H
	38	δ Leonis.....	...	58.2	12.0	26.0	39.6	53.6	11. 5.	—	0.01	11. 5. 25.87	H
	39	γ Cephei S.P. ...	...	51.0	47.0	42.6	39.5	35.7	11. 34.	+	0.03	11. 32. 43.19	H
	40	β Leonis.....	...	16.7	30.2	43.7	56.7	10.0	11. 41. 23.6	—	6.68	11. 40. 43.47	H
Oct. 5	41	$\odot$ 1 L.	30.7	43.8	56.5	9.7	22.7	35.5	12. 41. 48.5			12. 41. 9.63	H
	42	$\odot$ 2 L.	39.7	52.8	5.7	18.6	31.8	44.8	12. 43. 57.6			12. 43. 18.72	H
	43	Saturn 1 L.	38.0	...	5.7	...	33.7	...	19. 24. 1.8			19. 23. 19.80	H
	44	Saturn 2 L.	...	53.5	...	21.1	...	48.8	19. 23.			19. 23. 21.13	H
	45*	Jupiter 1 L.	16.7	...	43.8	...	10.4	...	21. 22. 37.6			21. 21. 57.13	H
	46*	Jupiter 2 L.	...	33.7	...	0.5	...	27.0	21. 22.			21. 22. 0.40	H
	47*	β Aquarii.....	...	...	...	59.5	12.9	25.7	21. 23. 38.6	—	19.42	21. 22. 59.76	H
	48	ϵ Pegasi.....	31.7	44.7	57.8	10.7	24.0	36.7	21. 36. 49.7			21. 36. 10.75	H
	49	Piazzi XXI. 336	23.8	46.6	9.1	31.7	54.7	17.0	21. 48. 39.8			21. 47. 31.81	H
ILLUMINATED END OF AXIS WEST. Order of Wires for Stars above the Pole, G, F, E, D, C, B, A.													
1. The intervals irregular.			3. Very faint.			45, 46. Jupiter better defined than usual.							
18. Cloudy.						47. The 4th wire rather hurried.							

CALCULATION OF APPARENT RIGHT ASCENSIONS.

[85]

No. for Reference.	Error of Collimation.	Level Error.	Seconds of Transit cor. for two Errors.	Azimuthal Error.	Seconds of Transit Corrected.	Tabular R.A. of Known Stars.	Clock apparently Slow.	Adopted Losing Rate.	Clock Slow at 0 ^h Sidereal.	Correction for Duration of Passage of Semidiameter.	Apparent R.A. of Center from the Observation.	NAME OF OBJECT.	Correction to Mean R.A. 1843, Jan. 1.
#	#	#	#	#	s	s	s	s	s	m s	h m s		s
1	-0.07	+0.12	13.37	+1.78	13.44	31.86	18.42	0.54	18.16		....	Arcturus.	
2					23.03	41.50	18.47				....	α Ophiuchi.	
3					12.02					+1. 12.45	17. 37. 43.93	δ	
4					18.62	38.28	19.66	0.40	19.41		....	δ Aquilæ.	
5					7.59					+1. 8.09	19. 35. 35.53	δ	
6					56.25						19. 37. 16.10	f Sagittarii.	- 4.17
7					48.69						19. 43. 8.54	57 Sagittarii.	- 4.17
8					19.76	39.55	19.79				....	β Aquilæ.	
9					24.30						20. 8. 44.16	α^2 Cygni.	- 2.75
10					18.02	38.26	20.24	0.35	20.03		19. 17. 38.33	δ Aquilæ.	- 3.48
11					8.98						19. 23. 29.29	Saturn.	
12					30.74	51.05	20.31				19. 38. 51.06	γ Aquilæ.	- 3.42
13					47.88						19. 43. 8.20	57 Sagittarii.	- 4.15
14					19.10	39.53	20.43				19. 47. 39.42	β Aquilæ.	- 3.57
15					4.04	24.35	20.31				20. 9. 24.36	α^2 Capricorni.	- 4.11
16					54.75						20. 12. 15.07	β Capricorni.	- 4.17
17													
18		+0.54			31.80			0.60	20.70	+1. 4.43	12. 38. 57.25	$\odot$	
19					34.14						20. 59. 55.37	61 Cygni (1st star).	- 3.66
20					35.61						20. 59. 56.84	61 Cygni (2nd star).	- 3.66
21					57.68	18.93	21.25				21. 6. 18.91	ζ Cygni.	- 3.58
22					6.54						21. 22. 27.78	Jupiter.	
23					0.40	21.53	21.13				21. 23. 21.64	β Aquarii.	- 4.23
24					24.70						21. 33. 45.94	9 Cephei.	- 3.46
25					11.19	32.49	21.30				21. 36. 32.43	ϵ Pegasi.	- 4.06
26					5.30						21. 38. 26.54	δ Capricorni..	- 4.49
27					42.22						21. 41. 3.46	π^2 Cygni.	- 3.68
28					32.17						21. 47. 53.41	Piazzi XXI. 336.	- 3.74
29					48.30						21. 56. 9.55	Piazzi XXI. 383.	- 3.87
30					26.01	47.29	21.28				21. 57. 47.26	α Aquarii.	- 4.28
31					35.25						22. 1. 56.50	Piazzi XXII. 4.	- 3.96
32					11.34						22. 2. 32.59	Groombridge 3692.	- 3.95
33					34.11					+1. 2.25	22. 6. 57.61	δ	
34					39.19						22. 12. 0.44	ρ Aquarii.	- 4.43
35					15.74						22. 13. 36.99	γ Aquarii.	- 4.34
36					41.55	2.92	21.37	0.57	21.09		10. 0. 2.88	Regulus.	- 2.58
37					25.95	47.22	21.27				11. 5. 47.30	δ Leonis.	- 2.29
38					43.52						23. 33. 4.88	γ Cephei S.P.	- 7.74
39					43.57	4.92	21.35				11. 41. 4.93	β Leonis.	- 2.13
40													
41					14.30						12. 42. 35.69	$\odot$	
42					20.59						19. 23. 42.14	Saturn.	
43					58.90						21. 22. 20.50	Jupiter.	
44					59.88	21.52	21.64				21. 23. 21.48	β Aquarii.	- 4.22
45					10.86	32.48	21.62				21. 36. 32.46	ϵ Pegasi.	- 4.05
46					31.85						21. 47. 53.46	Piazzi XXI. 336.	- 3.72

Sep. 29, 21^h. The Transit instrument was levelled.

MONTH and DAY.	No. for Reference	NAME OF OBJECT.	I.	II.	III.	IV.	V.	VI.	VII. WIRE.	Correction to Mean of Wires Observed.	Concluded Transit over Mean of the Seven Wires.	Observer.	
			m s	m s	m s	m s	m s	m s	h m s	m s	h m s		
Oct. 5	1	Piazzi XXII. 4.	21.8	46.2	10.7	35.0	...	...	22. 1.	+	36.48	22. 1. 34.91	H
	2	Groombridge 3692	...	...	...	11.0	30.0	48.6	22. 3. 7.7	-	28.39	22. 2. 10.94	H
	3	♄ Aquarii.....	59.7	12.6	25.7	38.6	51.8	4.8	22. 12. 17.7			22. 11. 38.70	H
	4	3 Lacertæ.....	4.3	25.0	45.7	6.5	26.7	47.6	22. 18. 8.1			22. 17. 6.27	H
	5	7 Lacertæ.....	33.0	52.8	12.7	32.6	52.5	12.0	22. 25. 31.8			22. 24. 32.49	H
	6*	η Aquarii.....	...	...	...	0.0	12.7	25.7	22. 27. 38.5	-	19.30	22. 26. 59.93	H
	7*	* N.P.D. 61°.24'..	...	...	...	33.8	48.5	2.8	22. 32. 17.8	-	21.98	22. 31. 33.75	H
	8*	30 Cephei.....	...	...	...	...	16.7	44.5	22. 34. 12.7	-	56.20	22. 32. 48.43	H
	9	♃ 1 L.....	59.6	12.7	26.0	39.5	52.6	5.6	22. 52. 18.6			22. 51. 39.23	H
Oct. 6	10*	ζ Cygni.....	12.2	...	41.8	56.6	11.4	26.1	21. 6. 40.8	-	4.93	21. 5. 56.55	E
Oct. 7	11	⊙ 1 L.....	47.6	0.6	13.5	26.6	39.6	52.5	12. 49. 5.6			12. 48. 26.57	H
	12	⊙ 2 L.....	56.7	9.7	22.8	35.6	48.7	1.5	12. 51. 14.6			12. 50. 35.66	H
Oct. 9	13*	β Aquarii.....	19.5	32.6	45.6	58.6	11.7	24.5	21. 23. 37.5			21. 22. 58.57	H
	14	Uranus.....	56.8	9.7	22.6	35.5	48.5	1.0	0. 0. 13.8			23. 59. 35.41	H
	15	γ Pegasi.....	11.0	24.5	37.6	50.8	4.2	17.6	0. 5. 30.7			0. 4. 50.91	H
	16	Piazzi 0. 25.....	...	24.3	50.0	16.6	42.8	8.7	0. 9.	-	0.01	0. 8. 16.47	H
	17	26 Andromedæ,	...	...	51.0	8.6	26.5	43.7	0. 11. 1.5	-	17.57	0. 10. 8.69	H
	18	Polaris.....	...	...	...	3. 50.0	11. 53.0	19. 52.0	1. 28. 0.0	-12.	7.80	1. 3. 45.95	H
	19	θ Ceti.....	12.8	26.0	39.0	52.0	5.1	18.1	1. 16. 31.1			1. 15. 52.01	H
	20	η Piscium.....	7.5	20.5	33.7	47.4	0.5	13.6	1. 23. 26.7			1. 22. 47.13	H
	21	β Arietis.....	59.5	13.0	26.7	40.6	54.4	7.7	1. 46. 21.6			1. 45. 40.50	H
	22	♃ 2 L.....	37.8	51.7	5.6	19.0	32.7	46.6	1. 59. 0.2			1. 58. 19.09	H
Oct. 10	23	⊙ 1 L.....	...	59.2	12.0	24.8	37.7	50.6	12. 59.	-	0.01	12. 59. 24.85	E
	24	⊙ 2 L.....	55.6	8.6	21.5	34.4	47.3	0.3	13. 2. 13.2			13. 1. 34.41	E
Oct. 12	25	ζ Cygni.....	10.3	25.2	40.0	54.8	9.7	24.3	21. 6. 39.2			21. 5. 54.79	M
	26*	Jupiter 1 L.	...	...	...	26.0	...	52.7	21. 21.	-	13.42	21. 21. 25.93	M
	27*	Jupiter 2 L.	...	...	...	...	42.2	...	21. 22. 9.2	-	26.86	21. 21. 28.84	M
	28	β Aquarii.....	...	...	...	57.8	10.7	23.4	21. 23. 36.2	-	19.42	21. 22. 57.61	M
	29	ε Pegasi.....	29.2	42.2	55.3	8.4	21.6	34.5	21. 36. 47.7			21. 36. 8.42	M
	30	Piazzi XXI. 336	...	...	6.5	29.5	52.3	14.8	21. 48. 37.4	-	22.70	21. 47. 29.40	M
	31	Piazzi XXI. 383	42.7	3.7	24.8	45.7	6.5	...	21. 56.	+	20.93	21. 55. 45.61	M
	32	α Aquarii.....	44.7	57.5	10.5	23.3	36.3	49.1	21. 58. 1.9			21. 57. 23.33	M
	33	Piazzi XXII. 4.	19.3	43.8	8.0	32.2	...	...	22. 1.	+	36.48	22. 1. 32.31	M
	34	Groombridge 3692	...	...	...	...	27.3	46.1	22. 3. 5.3	-	37.83	22. 2. 8.40	M
	35	Uranus.....	...	44.0	56.9	9.9	22.7	35.2	23. 59. 48.1	-	6.43	23. 59. 9.70	M
	36	γ Pegasi.....	10.2	23.3	36.9	50.2	3.5	6.7	0. 5. 30.0			0. 4. 50.11	M
	37	Polaris.....	39. 27.0	47. 33.5	55. 41.0	...	...	...	0.	+	16. 10.64	1. 3. 44.47	M
	38	ε Tauri.....	26.8	40.7	54.1	8.0	21.4	35.0	4. 19. 48.3			4. 19. 7.76	E
	39	Aldebaran.....	55.3	8.7	22.1	35.5	48.8	2.1	4. 27. 15.5			4. 26. 35.43	E
	40	Polaris S.P. ...	39. 28.0	47. 35.0	55. 38.0	3. 41.0	...	19. 53.0	13. 27. 59.0	+	1. 20.76	13. 3. 43.09	E
Oct. 13	41	⊙ 1 L.....	48.8	1.8	14.7	27.8	40.9	53.7	13. 11. 6.8			13. 10. 27.79	E
	42	⊙ 2 L.....	58.9	11.9	24.8	37.8	51.0	3.9	13. 13. 16.8			13. 12. 37.87	E
	43	η Ursæ Majoris..	57.2	17.1	37.2	57.2	17.3	37.1	13. 41. 57.3			13. 40. 57.20	E
	44	η Bootis.....	...	22.8	36.7	50.0	3.7	17.1	13. 47. 30.8	-	6.81	13. 46. 50.04	E
	45	Arcturus.....	26.7	40.1	53.8	7.3	21.0	34.8	14. 8. 48.3			14. 8. 7.43	E
	46	ε Bootis.....	1.6	15.8	30.3	45.0	59.4	13.8	14. 38. 28.7			14. 37. 44.94	E
	47	β Ursæ Minoris..	...	...	...	...	51. 33.6	52. 23.1	14. 53. 12.4	-	1. 38.09	14. 50. 44.94	E
ILLUMINATED END OF AXIS WEST. Order of Wires for Stars above the Pole, G, F, E, D, C, B, A.													
6, 7, 8, 10, 13, 26, 27. Cloudy.													

CALCULATION OF APPARENT RIGHT ASCENSIONS.

[87]

No. for Reference.	Error of Collimation.	Level Error.	Seconds of Transit cor. for two Errors.	Azimuthal Error.	Seconds of Transit Corrected.	Tabular R. A. of Known Stars.	Clock apparently Slow.	Adopted Losing Rate.	Clock Slow at 0 ^h Sidereal.	Correction for Duration of Passage of Semidiameter.	Apparent R.A. of Center from the Observation.	NAME OF OBJECT.	Correction to Mean R.A. 1843, Jan. 1.
	"	"	s	"	s	s	s	s	s	m s	h m s		s
1	-0.07	+0.54		+1.78	34.94			0.57	21.09		22. 1. 56.55	Piazzi XXII. 4.	- 3.93
2					10.99						22. 2. 32.60	Groombridge3692.	- 3.93
3					38.82						22. 12. 0.43	ρ Aquarii.	- 4.43
4					6.32						22. 17. 27.94	3 Lacertæ.	- 4.11
5					32.54						22. 24. 54.16	7 Lacertæ.	- 4.18
6					0.04						22. 27. 21.66	η Aquarii.	- 4.37
7					33.83						22. 31. 55.45	* N.P.D. 61°.24'.	- 4.23
8					48.45						22. 33. 10.07	30 Cephei.	- 4.52
9					39.35					+1. 1.36	22. 53. 2.34	δ	
10					56.63	18.90	22.27	0.33	22.31		....	ζ Cygni.	
11					31.24						12. 49. 53.73	$\odot$	
12													
13		+0.86		+3.02	58.77	21.48	22.71	0.32	22.53		....	β Aquarii.	
14					35.61						23. 59. 58.46	Uranus.	
15					51.09	14.00	22.91		22.85		....	γ Pegasi.	
16					16.50						0. 8. 39.35	Piazzi 0. 25.	- 5.95
17					8.80						0. 10. 31.65	26 Andromedæ.	- 5.09
18			47.49		42.93	65.84	22.91				....	Polaris.	
19			52.04		52.22	15.13	22.91				....	θ Ceti.	
20					47.30						1. 23. 10.17	η Piscium.	- 4.81
21					40.66						1. 46. 3.54	β Arietis.	- 4.94
22					19.26					-1. 3.31	1. 57. 38.83	δ	
23					29.83						13. 0 52.86	$\odot$	
24													
25				+1.37	54.88	18.80	23.92	0.20	23.63		21. 6. 18.69	ζ Cygni.	- 3.45
26					27.49						21. 21. 51.30	Jupiter.	
27													
28					57.72	21.43	23.71				21. 23. 21.53	β Aquarii.	- 4.13
29					8.52	32.40	23.88				21. 36. 32.33	ϵ Pegasi.	- 3.97
30					29.48						21. 47. 53.29	Piazzi XXI. 336.	- 3.54
31					45.69						21. 56. 9.50	Piazzi XXI. 383.	- 3.69
32					23.43	47.21	23.78				21. 57. 47.24	α Aquarii.	- 4.20
33					32.39						22. 1. 56.20	Piazzi XXII. 4.	- 3.76
34					8.48						22. 2. 32.29	Groombridge3692.	- 3.81
35					9.80						23. 59. 33.63	Uranus.	
36					50.22	14.00	23.78		23.83		0. 5. 14.05	γ Pegasi.	- 4.63
37			46.01		43.94	66.33	22.39				1. 4. 7.78	Polaris.	-65.99
38					7.86			0.24	24.06		4. 19. 31.96	ϵ Tauri.	- 4.80
39					35.53	59.73	24.20				4. 26. 59.63	Aldebaran.	- 4.70
40			41.61		43.82	66.39	22.57				1. 4. 8.01	Polaris S.P.	-66.05
41					32.94						13. 11. 57.13	$\odot$	
42													
43					57.28						13. 41. 21.48	η Ursæ Majoris.	- 0.66
44					50.14	14.33	24.19				13. 47. 14.34	η Bootis.	- 1.84
45					7.53	31.80	24.27				14. 8. 31.73	Arcturus.	- 1.73
46					45.03	9.31	24.28				14. 38. 9.24	ϵ Bootis.	- 1.55
47					44.98						14. 51. 9.19	β Ursæ Minoris.	+ 4.76

Oct. 6, 21^h. The Transit instrument was levelled.Oct. 9. The azimuthal error by tabular places of Polaris and θ Ceti, allowing nothing for clock-rate.

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	I.	II.	III.	IV.	V.	VI.	VII. WIRE.	Correction to Mean of Wires Observed.	Concluded Transit over Mean of the Seven Wires.	Observer.
			m s	m s	m s	m s	m s	m s	h m s			
Oct. 13	1*	Mars 1 L.	51.8	5.9	20.7	34.8	48.8	2.9	19. 15.	+ 7.10	19. 14. 34.58	E
	2	♄ Aquilæ.	35.0	48.0	0.9	13.8	26.8	39.6	19. 17. 52.4		19. 17. 13.78	E
	3	Saturn 1 L.	28.8	...	56.4	...	24.2	...	19. 24. 51.8		19. 24. 10.30	E
	4	Saturn 2 L.	...	43.8	...	11.5	...	39.1	19. 24.		19. 24. 11.47	E
	5	Jupiter 1 L.	44.0	...	10.8	...	37.7	...	21. 22. 4.5		21. 21. 22.25	E
	6	Jupiter 2 L.	...	0.5	...	27.4	...	54.2	21. 21.		21. 21. 27.37	E
	7	γ Cygni.	...	...	0.1	18.8	37.1	55.2	21. 24. 14.1		21. 23. 18.59	E
	8	ε Pegasi.	29.1	42.0	55.0	8.1	21.0	34.0	21. 36. 47.1		21. 36. 8.05	E
	9	α Aquarii.	44.1	57.0	10.0	22.9	35.8	48.7	21. 58. 1.5		21. 57. 22.86	E
	10	ρ Cassiopeiae.	...	28.4	51.8	15.1	38.8	2.4	23. 47.		23. 46. 15.29	E
	11	Piazzi XXIII.242	...	...	...	52.2	12.1	31.8	23. 50. 51.4		23. 49. 52.12	E
	12	Groombridge 4198	...	27.8	53.8	19.9	46.0	11.8	23. 54.		23. 53. 19.85	E
	13	Groombridge 4222	...	...	17.1	43.0	9.1	...	23. 57.		23. 56. 43.00	E
	14	Uranus.	22.7	35.5	48.3	1.2	14.0	26.8	23. 59. 39.7		23. 59. 1.17	E
	15	γ Pegasi.	9.9	23.0	36.4	49.8	2.9	16.1	0. 5. 29.3		0. 4. 49.63	E
	16	Piazzi 0. 25.	56.6	22.5	49.0	15.3	...	...	0. 8.		0. 8. 15.22	E
	17	26 Andromedæ..	14.8	32.2	49.7	7.3	25.2	42.3	0. 11. 0.0		0. 10. 7.36	E
	18	12 Cassiopeiae...	32.6	59.0	25.8	52.6	18.8	45.1	0. 17. 11.3		0. 15. 52.17	E
	19	Polaris S.P. ...	...	47. 36.0	55. 30.0	3. 40.0	11. 48.0	...	13.		13. 3. 41.45	H
Oct. 14	20	☉ 1 L.	...	44.0	56.7	9.8	23.0	35.7	13. 14.	- 0.01	13. 14. 9.83	H
	21	☉ 2 L.	41.0	54.0	57.0	20.1	33.5	46.0	13. 16. 59.4		13. 16. 20.14	H
	22	η Ursæ Majoris..	57.0	16.7	37.0	57.5	17.5	37.3	13. 41. 57.5		13. 40. 57.21	H
	23*	Arcturus.	26.5	39.6	53.5	7.6	21.0	34.6	14. 8. 48.5		14. 8. 7.33	H
	24*	ε Bootis.	...	...	30.5	45.0	59.6	...	14. 37.		14. 37. 45.00	H
	25*	α Coronæ Borealis	56.3	10.7	25.4	39.7	...	...	15. 27.		15. 27. 39.73	H
	26	α Aquarii.	44.1	56.9	10.0	22.7	35.7	48.5	21. 58. 1.4		21. 57. 22.76	H
	27	25 Cephei.	...	50.7	18.0	45.7	13.0	40.5	22. 13.		22. 12. 45.56	H
	28	3 Lacertæ.	1.6	22.0	42.8	3.7	24.2	44.6	22. 18. 5.5		22. 17. 3.49	H
	29	7 Lacertæ.	30.5	50.0	9.8	29.8	49.6	9.4	22. 25. 29.4		22. 24. 29.79	H
	30	* N.P.D. 61° 24'.	47.0	1.8	16.5	31.0	...	...	22. 31.		22. 31. 31.05	H
	31	30 Cephei.	...	...	17.5	45.8	14.0	...	22. 33.		22. 32. 45.66	H
	32	μ Geminorum...	25.8	39.7	53.4	7.3	21.2	35.1	6. 13. 49.0		6. 13. 7.36	E
	33	δ 2 L.	0.3	14.3	28.6	42.8	57.1	11.5	6. 23. 25.8		6. 22. 42.91	E
	34	ε Geminorum ...	13.4	27.1	41.5	55.8	10.1	24.2	6. 34. 38.3		6. 33. 55.77	E
	35	Sirius.	12.3	25.7	39.1	52.5	6.0	19.3	6. 38. 32.7		6. 37. 52.51	E
Oct. 15	36*	δ Geminorum ...	42.5	56.5	10.7	24.4	38.0	51.6	7. 11. 6.0	+ 12. 8.12	7. 10. 24.24	H
	37	δ 2 L.	24.5	38.6	52.7	6.6	20.8	34.6	7. 18. 48.6		7. 18. 6.63	H
	38	Polaris S.P. ...	39. 30.0	47. 40.0	55. 37.0	3. 43.0	...	...	13.		13. 3. 45.62	H
Oct. 16	39*	☉ 1 L.	56.7	10.0	23.5	36.2	49.5	2.5	13. 22. 15.6	- 0.01	13. 21. 36.29	H
	40*	☉ 2 L.	7.6	20.6	33.8	46.7	59.9	12.8	13. 24. 25.6		13. 23. 46.72	H
	41	η Ursæ Majoris..	56.7	17.0	37.1	57.6	17.5	37.2	13. 41. 57.5		13. 40. 57.23	H
	42*	η Bootis.	...	22.5	35.9	49.5	3.6	17.6	13. 47.		13. 46. 49.81	H
	43	Arcturus.	26.5	40.1	53.7	7.6	21.5	34.8	14. 8. 48.7		14. 8. 7.56	H
	44	β Ursæ Minoris.	48. 17.4	49. 6.7	49. 55.6	50. 44.6	51. 33.8	52. 22.4	14. 53. 11.6		14. 50. 44.59	H
	45*	α Coronæ Borealis	56.5	10.7	25.5	39.6	54.6	8.6	15. 28. 23.3		15. 27. 39.83	H
	46	61 Cygni (1st star)	41.8	...	14.8	...	47.6	...	21. 0. 19.8		20. 59. 30.99	H
	47	61 Cygni (2nd star)	...	59.7	...	32.6	...	5.0	21. 0.		20. 59. 32.44	H
	48	ζ Cygni.	10.2	25.0	39.6	54.7	9.6	24.0	21. 6. 38.8		21. 5. 54.56	H
	49	Jupiter 1 L.	45.8	...	12.8	...	39.6	...	21. 22. 6.6		21. 21. 26.20	H
	50	Jupiter 2 L.	...	2.5	...	29.4	...	56.0	21. 21.		21. 21. 29.30	H

ILLUMINATED END OF AXIS WEST. Order of Wires for Stars above the Pole, G, F, E, D, C, B, A.

1, 23, 24, 25. Cloudy.
 36. Extremely tremulous: the intervals irregular.
 39, 40. The Sun's disc appeared to be quite free from spots.

42. Very faint: the observation uncertain.
 45. Unsteady: the intervals are irregular, but the observation is considered pretty good.

CALCULATION OF APPARENT RIGHT ASCENSIONS.

[89]

No. for Reference.	Error of Collimation.	Level Error.	Seconds of Transit cor. for two Errors.	Azimuthal Error.	Seconds of Transit Corrected.	Tabular R.A. of Known Stars.	Clock apparently Slow.	Adopted Losing Rate.	Clock Slow at 0 ^h Sidereal.	Correction for Duration of Passage of Semidiameter.	Apparent R.A. of Center from the Observation.	NAME or OBJECT.	Correction to Mean R.A. 1843, Jan. 1.
	"	"	s	"	s	s	s	s	s	m s	h m s		s
1	-0.07	+0.86		+1.37	34.68			0.24	24.06	+ 0.32	19. 14. 59.25	Mars.	
2					13.89	38.07	24.18				19. 17. 38.14	♂ Aquilæ.	- 3.29
3					10.99						19. 24. 35.24	Saturn.	
4					25.92						21. 21. 50.19	Jupiter.	
5					18.67						21. 23. 42.94	γ Cygni.	- 3.32
6					8.15	32.38	24.23				21. 36. 32.43	ε Pegasi.	- 3.95
7					22.96	47.19	24.23				21. 57. 47.24	α Aquarii.	- 4.18
8					15.36						23. 46. 39.65	γ Cassiopeiæ.	- 5.36
9					52.20						23. 50. 16.50	Piazzi XXIII.242	- 5.12
10					19.92						23. 53. 44.22	Groombridge 4193	- 5.68
11					43.07						23. 57. 7.37	Groombridge 4222	- 5.74
12					1.27						23. 59. 25.57	Uranus.	
13					49.74	13.99	24.25		24.30		0. 5. 14.04	γ Pegasi.	- 4.62
14					15.29						0. 8. 39.59	Piazzi 0. 25.	- 5.94
15					7.45						0. 10. 31.75	26 Andromedæ.	- 5.10
16					52.25						0. 16. 16.55	12 Cassiopeiæ.	- 6.09
17					42.13	66.50	24.37	0.15	24.17		....	Polaris S.P.	
18			39.98	+1.33									
19					15.08						13. 15. 39.33	☉	
20					57.29						13. 41. 21.55	η Ursæ Majoris.	- 0.66
21					7.43	31.80	24.37				14. 8. 31.69	Arcturus.	- 1.73
22			7.38		45.09	9.31	24.22				14. 38. 9.35	ε Bootis.	- 1.55
23					39.82	3.99	24.17				15. 28. 4.09	α Coronæ Borealis.	- 1.58
24					22.86	47.18	24.32				21. 57. 47.17	α Aquarii.	- 4.17
25					45.64						22. 13. 9.95	25 Cephei.	- 3.90
26					3.57						22. 17. 27.88	3 Lacertæ.	- 3.95
27					29.87						22. 24. 54.18	7 Lacertæ.	- 4.05
28					31.14						22. 31. 55.45	* N.P.D. 61° 24'.	- 4.13
29					45.73						22. 33. 10.04	30 Cephei.	- 4.31
30					7.45	32.11	24.66	-0.05	24.57		....	μ Geminorum.	
31					43.00					-1. 8.11	6. 21. 59.44	δ	
32					55.86						6. 34. 20.41	ε Geminorum.	- 4.44
33					52.62	17.08	24.46				....	Sirius.	
34					24.24	48.60	24.36	-0.08	24.28		7. 10. 48.50	δ Geminorum.	- 4.15
35				-1.13	6.64					-1. 7.96	7. 17. 22.94	δ	
36					42.33	66.55	24.22				....	Polaris S.P.	
37			44.15										
38					41.47						13. 23. 5.71	☉	
39					57.31						13. 41. 21.55	η Ursæ Majoris.	- 0.66
40					49.82	14.34	24.52				13. 47. 14.15	η Bootis.	- 1.85
41					7.57	31.80	24.23				14. 8. 31.80	Arcturus.	- 1.73
42					44.89						14. 51. 9.12	β Ursæ Minoris.	+ 4.89
43			7.61		39.84	3.96	24.12				15. 28. 4.07	α Coronæ Borealis.	- 1.55
44					31.03						20. 59. 55.24	61 Cygni (1st star)	- 3.44
45					32.48						20. 59. 56.69	61 Cygni (2nd star)	- 3.44
46					54.58	18.73	24.15				21. 6. 18.79	ζ Cygni.	- 3.38
47					27.70						21. 21. 51.91	Jupiter.	
48													
49													
50													

Oct. 13, 21^h. The Transit instrument was levelled.

Oct. 13, 14, 15, and 16. The azimuthal errors by tabular places of Polaris S.P. and Arcturus, allowing nothing for clock-rate.

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[90]

TRANSITS OBSERVED AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1843.

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	I.	II.	III.	IV.	V.	VI.	VII. WIRE.	Correction to Mean of Wires Observed.	Concluded Transit over Mean of the Seven Wires.	Observer.	
			m s	m s	m s	m s	m s	m s	h m s	m s	h m s		
Oct. 16	1	<i>g</i> Cygni.....	...	...	0.0	18.6	37.5	55.6	21. 24. 13.9	—	18.47	21. 23. 18.65	H
	2	<i>ε</i> Pegasi	29.0	42.0	55.0	8.4	21.3	34.0	21. 36. 47.4			21. 36. 8.16	H
	3	25 Cephei.....	...	50.6	18.0	46.0	13.1	40.2	22. 13.	—	0.02	22. 12. 45.56	H
	4	3 Lacertæ.....	1.6	22.5	42.7	3.6	24.2	44.6	22. 18. 5.3			22. 17. 3.50	H
	5	7 Lacertæ.....	30.7	50.2	10.0	29.8	49.8	9.3	22. 25. 29.5			22. 24. 29.90	H
	6	* N.P.D. 61° 24'..	47.4	1.7	16.7	31.5	...	...	22. 31.	+	21.81	22. 31. 31.14	H
	7	30 Cephei.....	...	...	...	45.7	14.0	41.9	22. 34. 10.0	—	42.18	22. 32. 45.72	H
	8	<i>η</i> Pegasi	...	...	...	19.0	33.7	48.3	22. 36. 3.0	—	22.15	22. 35. 18.85	H
	9	Groombridge 3882	...	...	...	53.0	10.7	28.5	22. 39. 46.5	—	26.70	22. 38. 52.98	H
	10	14 Lacertæ.....	6.5	23.6	40.7	57.7	14.7	31.7	22. 43. 48.6			22. 42. 57.65	H
	11	Fomalhaut	53.6	8.6	23.6	38.5	53.3	8.2	22. 49. 23.0			22. 48. 38.40	H
	12*	Uranus	58.5	11.5	24.5	37.6	50.4	2.8	23. 59. 15.7			23. 58. 37.29	H
	13*	2 L.	25.1	38.8	52.6	6.4	20.2	33.8	8. 13. 47.5			8. 13. 6.34	E
Oct. 17	14*	<i>ζ</i> Cygni	10.1	24.9	39.7	54.4	9.2	24.0	21. 6. 38.7			21. 5. 54.43	E
	15*	<i>β</i> Aquarii	18.3	31.1	44.0	56.8	9.5	...	21. 23.	+	12.93	21. 22. 56.87	E
	16*	2 L.	58.8	12.5	26.0	39.6	52.8	6.5	9. 8. 19.8			9. 7. 39.43	E
	17*	<i>α</i> Hydræ.....	52.0	5.0	17.7	31.0	44.0	56.7	9. 20. 9.7			9. 19. 30.87	H
	18	Polaris S.P. ...	39. 30.0	47. 37.0	55. 36.0	3. 43.5	...	...	13.	+	12. 8.23	13. 3. 44.86	H
Oct. 18	19*	1 L.	25.7	39.0	51.8	5.0	18.1	31.1	13. 29. 44.6			13. 29. 5.04	H
	20	2 L.	36.7	49.9	2.9	15.8	29.0	42.2	13. 31. 55.2			13. 31. 15.96	H
	21	<i>η</i> Bootis.....	...	...	36.5	...	3.5	17.5	13. 47. 31.3	—	17.02	13. 46. 50.18	H
	22	Arcturus.....	26.7	40.4	54.2	7.8	21.6	35.0	14. 8. 48.6			14. 8. 7.76	H
	23	<i>ε</i> Bootis.....	...	16.0	30.7	45.5	59.7	14.5	14. 38.	—	0.01	14. 37. 45.27	H
	24*	<i>β</i> Ursæ Minoris.	...	6.6	55.6	45.4	34.5	22.6	14. 52.	—	0.03	14. 50. 44.91	H
	25	<i>α</i> Coronæ Borealis	...	10.7	25.6	40.0	54.6	8.7	15. 28. 23.5	—	7.24	15. 27. 39.94	H
	26*	61 Cygni (1st star)	42.5	...	15.0	...	47.6	...	21. 0. 19.8	—	0.01	20. 59. 31.21	H
	27*	61 Cygni (2nd star)	...	59.8	...	32.7	...	4.8	21. 0.	+	0.01	20. 59. 32.44	H
	28	<i>ζ</i> Cygni	10.4	25.0	40.0	54.6	9.7	24.2	21. 6. 39.0			21. 5. 54.70	H
	29	<i>ε</i> Pegasi	29.5	42.5	55.6	8.5	21.6	34.5	21. 36. 47.5			21. 36. 8.53	H
	30	<i>α</i> Aquarii	44.6	57.6	10.4	23.2	36.0	48.8	21. 58. 1.7			21. 57. 23.18	H
	31	25 Cephei.....	...	...	...	45.6	13.3	40.3	22. 14. 7.8	—	41.13	22. 12. 45.62	H
	32	<i>ε</i> Pegasi	19.7	34.6	48.8	3.7	...	...	22. 34.	+	21.94	22. 34. 3.64	H
	33	<i>η</i> Pegasi	34.8	49.6	4.1	18.8	33.7	48.5	22. 36. 3.5			22. 35. 19.00	H
	34	Groombridge 3882	...	...	35.5	53.1	11.0	28.6	22. 39. 46.5	—	17.80	22. 38. 53.14	H
	35	14 Lacertæ.....	6.0	23.7	40.7	57.7	14.8	31.8	22. 43. 48.9			22. 42. 57.66	H
	36*	Fomalhaut	53.5	8.7	23.8	38.6	53.8	8.2	22. 49. 23.5			22. 48. 38.59	H
	37	Groombridge 3933	...	...	...	...	8.7	27.5	22. 50. 46.7	—	38.32	22. 49. 49.31	H
	38*	Uranus	43.5	56.0	9.0	21.4	34.6	47.7	23. 59. 0.8			23. 58. 21.85	H
	39	<i>α</i> Andromedæ..	...	28.5	43.2	57.6	12.5	26.9	0. 0.	—	0.01	23. 59. 57.73	H
	40	Piazzi 0. 25....	56.7	22.8	49.4	15.7	...	...	0. 8.	+	39.37	0. 8. 15.52	H
	41	26 Andromedæ..	15.4	32.7	50.4	7.7	25.5	42.7	0. 11. 0.5			0. 10. 7.85	H
	42	12 Cassiopeiæ..	33.0	59.6	26.0	52.7	19.5	45.6	0. 17. 11.7			0. 15. 52.58	H
	43	Polaris	39. 26.0	47. 32.0	55. 37.0	3. 40.0	...	...	1.	+	12. 7.84	1. 3. 41.59	H
	44	Regulus	57.5	10.8	23.9	37.1	50.3	3.3	10. 0. 16.6			9. 59. 37.07	E
	45*	2 L.	24.2	37.4	50.5	4.4	17.3	30.5	10. 2. 43.7			10. 2. 4.00	E
	46	Polaris S.P. ...	39. 29.0	47. 35.0	55. 37.0	3. 42.0	11. 47.0	...	13.	+	8. 5.65	13. 3. 43.65	E
Oct. 19	47	1 L.	9.1	22.0	35.0	48.2	1.4	14.4	13. 33. 27.6			13. 32. 48.25	E
	48	2 L.	20.2	33.3	46.4	59.3	12.5	25.7	13. 35. 38.8			13. 34. 59.46	E
	49	Arcturus.....	24.8	38.3	52.0	5.6	19.4	33.1	14. 8. 46.8			14. 8. 5.71	E
	50	<i>β</i> Ursæ Minoris..	...	...	...	50. 43.1	51. 32.0	52. 21.1	14. 53. 10.0	—	1. 13.61	14. 50. 42.94	E
ILLUMINATED END OF AXIS WEST. Order of Wires for Stars above the Pole, <i>G, F, E, D, C, B, A</i> .													
12. Very tremulous: the intervals irregular: the evening generally unfavourable.						26, 27. The observations not very good; the stars were blurred and not well defined.							
13, 14, 15, 16. Very cloudy.						36. Extremely faint: the observation very uncertain.							
19. The 2nd wire was set down 38°.0.						Oct. 18. Very hazy throughout the evening: the stars very							
24, 38. The intervals irregular.						45. Exceedingly faint: the intervals irregular. [tremulous.							

CALCULATION OF APPARENT RIGHT ASCENSIONS.

[91]

No. for Reference.	Error of Collimation.	Level Error.	Seconds of Transit cor. for two Errors.	Azimuthal Error.	Seconds of Transit Corrected.	Tabular R.A. of Known Stars.	Clock apparently Slow.	Adopted Losing Rate.	Clock Slow at 0 ^h Sidereal.	Correction for Duration of Passage of Semidiameter.	Apparent R.A. of Center from the Observation.	NAME OF OBJECT.	Correction to Mean R.A. 1843, Jan. 1.
	"	"	s	"	s	s	s	s	s	m s	h m s		s
1	-0.07	+0.86		-1.13	18.71			-0.08	24.28		21. 23. 42.92	<i>g</i> Cygni.	- 3.25
2					8.15	32.35	24.20				21. 36. 32.36	ϵ Pegasi.	- 3.92
3					45.70						22. 13. 9.91	25 Cephei.	- 3.84
4					3.58						22. 17. 27.78	3 Lacertæ.	- 3.90
5					29.98						22. 24. 54.18	7 Lacertæ.	- 4.01
6					31.16						22. 31. 55.36	* N.P.D. 61°.24'.	- 4.31
7					45.86						22. 33. 10.06	30 Cephei.	- 4.26
8					18.87						22. 35. 43.07	η Pegasi.	- 4.13
9					53.04						22. 39. 17.24	Groombridge 3882	- 4.18
10					57.69						22. 43. 21.89	14 Lacertæ.	- 4.21
11					38.31	62.31	24.00				22. 49. 2.51	Fomalhaut.	- 4.76
12					37.26						23. 59. 1.54	Uranus.	
13		+0.83		-0.21	6.38			-0.13	24.47	-1. 7.62	8. 12. 23.19	δ	
14					54.47	18.72	24.25				....	ζ Cygni.	
15					56.89	21.36	24.47				....	β Aquarii.	
16					39.46			-0.20	24.10	-1. 7.36	9. 6. 56.12	δ	- 2.78
17					30.89	55.03	24.14				9. 19. 54.91	α Hydræ.	- 66.05
18			43.45		43.11	66.39	23.28				1. 4. 7.10	Polaris S.P.	
19					10.52						13. 30. 34.51	$\odot$	
20											13. 47. 14.20	η Bootis.	- 1.85
21					50.22	14.34	24.12				14. 8. 31.78	Arcturus.	- 1.73
22					7.80	31.80	24.00				14. 38. 9.29	ϵ Bootis.	- 1.53
23					45.31	9.29	23.98				14. 51. 9.08	β Ursæ Minoris.	+ 4.97
24					45.10						15. 28. 3.95	α Coronæ Borealis.	- 1.54
25					39.98	3.95	23.97				20. 59. 55.19	61 Cygni (1st star)	- 3.40
26					31.27						20. 59. 56.42	61 Cygni (2nd star)	- 3.35
27					32.50						21. 6. 18.66	ζ Cygni.	- 3.89
28					54.74	18.70	23.96				21. 36. 32.48	ϵ Pegasi.	- 4.13
29					8.56	32.32	23.76				21. 57. 47.12	α Aquarii.	- 3.79
30					23.20	47.14	23.94				22. 13. 9.66	25 Cephei.	- 4.10
31					45.74						22. 34. 27.59	$\circ$ Pegasi.	- 4.11
32					3.68						22. 35. 42.95	η Pegasi.	- 4.16
33					19.04						22. 39. 17.12	Groombridge 3882	- 4.19
34					53.21						22. 43. 21.63	14 Lacertæ.	- 4.74
35					57.72						22. 49. 2.48	Fomalhaut.	- 4.29
36					38.57	62.29	23.72				22. 50. 13.29	Groombridge 3933	
37					49.38						23. 58. 45.77	Uranus.	- 4.73
38					21.87						0. 0. 21.67	α Andromedæ.	- 5.90
39					57.77	21.64	23.87				0. 8. 39.52	Piazzi 0. 25.	- 5.09
40					15.62				23.90		0. 10. 31.81	26 Andromedæ.	- 6.05
41					7.91						0. 16. 16.58	12 Cassiopeiæ.	- 65.99
42					52.68						1. 4. 7.28	Polaris.	- 2.90
43			43.07		43.39	66.33	22.94				10. 0. 2.70	Regulus.	
44					37.10	3.24	26.14	2.30	24.64	-1. 7.42	10. 1. 22.21	δ	- 65.92
45					4.03						1. 4. 7.80	Polaris S.P.	
46			42.24		41.90	66.26	24.36						
47					53.88						13. 34. 19.82	$\odot$	
48											14. 8. 31.75	Arcturus.	- 1.74
49					5.75	31.81	26.06				14. 51. 9.18	β Ursæ Minoris.	+ 5.00
50					43.13								

Oct. 17 to 19. The azimuthal error by five consecutive passages of Polaris.

Oct. 19, 1^h. A little oil was applied to the pallets of the Transit-clock, and an additional weight applied: the arc of vibration was then much increased.

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	I.	II.	III.	IV.	V.	VI.	VII. WIRE.	Correction to Mean of Wires Observed.	Concluded Transit over Mean of the Seven Wires.	Observer.
			m s	m s	m s	m s	m s	m s	h m s	m s	h m s	
Oct. 19	1	α Coronæ Borealis	54.7	9.2	23.7	38.1	52.7	6.9	15. 28. 21.1		15. 27. 38.06	E
	2	Saturn 1 L.	23.4	...	51.2	...	19.0	...	19. 25. 46.5		19. 25. 5.03	E
	3	Saturn 2 L.	...	38.5	...	6.3	...	33.9	19. 25.		19. 25. 6.23	E
	4	Mars 1 L.	20.0	34.1	48.3	2.4	16.6	30.8	19. 32. 45.0		19. 32. 2.46	E
	5	Jupiter 1 L.	52.1	...	18.9	...	45.8	...	21. 22. 12.7		21. 21. 32.38	E
	6	Jupiter 2 L.	...	8.8	...	35.8	...	2.7	21. 22.		21. 21. 35.77	E
	7	β Aquarii	...	...	42.0	54.8	7.7	20.4	21. 23. 33.3	— 12.95	21. 22. 54.69	E
	8	ϵ Pegasi	26.5	39.5	52.7	5.6	18.7	31.6	21. 36. 44.7		21. 36. 5.61	E
	9	α Aquarii	41.9	54.8	7.6	20.4	33.3	46.1	21. 57. 58.9		21. 57. 20.42	E
	10	δ Pegasi	16.8	31.4	46.1	1.0	...	...	22. 34.	+ 21.94	22. 34. 0.77	E
	11	η Pegasi	31.8	46.6	1.4	16.1	30.8	45.7	22. 36. 0.3		22. 35. 16.10	E
	12	Groombridge 3882	57.0	14.8	32.4	50.1	8.0	25.6	22. 39. 43.5		22. 38. 50.20	E
	13	14 Lacertæ	3.8	20.7	37.7	54.8	11.9	28.8	22. 43. 45.9		22. 42. 54.80	E
	14	Fomalhaut	50.8	5.9	20.7	35.8	50.7	5.5	22. 49. 20.4		22. 48. 35.69	E
	15	Groombridge 3933	...	...	...	46.4	5.6	24.6	22. 50. 43.8	— 28.76	22. 49. 46.34	E
	16	δ Andromedæ ...	28.1	45.5	2.7	19.9	37.1	54.2	22. 55. 11.3		22. 54. 19.83	E
	17	α Pegasi	54.4	7.4	20.6	33.8	47.1	0.3	22. 57. 13.6		22. 56. 33.89	E
	18	1 Cassiopeiæ ...	...	...	13.1	37.4	2.1	26.3	23. 0. 51.0	— 24.67	22. 59. 37.31	E
	19	2 Cassiopeiæ ...	26.1	50.3	15.1	40.0	4.5	29.1	23. 3. 53.8		23. 2. 39.84	E
	20	8 Andromedæ ...	8.3	28.0	47.0	6.6	25.8	44.9	23. 11. 4.1		23. 10. 6.39	E
	21	9 Piscium	11.3	24.0	36.9	49.8	...	...	23. 18.	+ 19.29	23. 18. 49.79	E
	22	13 Andromedæ ...	...	...	...	11.8	29.1	46.3	23. 20. 3.7	— 25.99	23. 19. 11.74	E
	23	15 Andromedæ ...	45.1	1.8	18.3	35.1	51.8	...	23. 26.	+ 16.62	23. 26. 35.04	E
	24	λ Andromedæ ...	36.4	54.8	13.2	31.7	...	...	23. 29.	+ 27.58	23. 29. 31.61	E
	25	ι Andromedæ ...	...	...	...	5.0	22.2	39.5	23. 30. 57.0	— 26.14	23. 30. 4.79	E
	26	κ Andromedæ ...	...	43.8	1.6	19.1	37.0	54.4	23. 32.	— 0.01	23. 32. 19.17	E
	27	ψ Andromedæ ...	59.1	17.2	35.6	54.1	...	...	23. 37.	+ 27.55	23. 37. 54.05	E
	28	τ Cassiopeiæ ...	...	...	38.8	3.0	27.1	50.6	23. 40. 15.1	— 24.13	23. 39. 2.79	E
	29	σ Cassiopeiæ ...	...	...	...	43.0	5.6	27.6	23. 51. 49.3	— 33.55	23. 50. 42.83	E
	30	Groombridge 4222	22.0	48.1	14.4	40.4	6.6	...	23. 57.	+ 26.04	23. 56. 40.34	E
	31	Uranus	...	45.7	58.4	11.3	24.1	36.8	23. 58.	— 0.01	23. 58. 11.25	E
	32	α Andromedæ ...	...	25.5	40.1	54.8	9.3	23.8	0.	— 0.01	23. 59. 54.69	E
	33	γ Pegasi	7.2	20.3	33.7	47.0	0.3	13.5	0. 5. 26.8		0. 4. 46.97	E
	34	12 Cassiopeiæ ...	30.0	56.1	22.5	49.3	16.1	42.0	0. 17. 8.6		0. 15. 49.23	E
	35	β Ceti.	39.1	52.8	6.4	19.8	33.4	47.1	0. 36. 0.8		0. 35. 19.92	E
	36	Polaris	39. 20.0	47. 26.0	55. 33.0	3. 39.0	...	...	1.	+ 12. 7.89	1. 3. 37.39	E
	37	Polaris S.P. ...	...	...	55. 29.5	3. 38.0	11. 45.0	...	13.	+ 1.27	13. 3. 38.77	H
Oct. 20	38*	⊙ 1 L.	52.7	5.7	18.7	31.8	45.5	58.0	13. 37. 11.5		13. 36. 31.98	H
	39	⊙ 2 L.	3.7	16.8	30.0	43.4	56.5	9.5	13. 39. 22.7		13. 38. 43.23	H
	40	Arcturus	22.5	36.3	49.8	3.6	17.3	30.8	14. 8. 44.6		14. 8. 3.56	H
	41	ϵ Bootis	57.3	11.9	26.6	41.0	55.7	9.8	14. 38. 24.6		14. 37. 40.98	H
	42*	α Coronæ Borealis	51.8	6.6	21.0	34.8	49.5	4.5	15. 28. 18.7		15. 27. 35.27	H
	43	Fomalhaut	48.6	3.5	18.0	33.5	48.5	2.8	22. 49. 17.8		22. 48. 33.24	H
	44	Groombridge 3933	...	...	...	...	3.5	22.5	22. 50. 41.6	— 38.32	22. 49. 44.21	H
	45	δ Andromedæ ...	25.8	43.3	0.5	17.7	34.8	51.7	22. 55. 9.0		22. 54. 17.55	H
	46	α Pegasi	...	5.0	18.5	31.6	44.7	58.0	22. 56.	— 0.01	22. 56. 31.55	H
	47	1 Cassiopeiæ ...	...	45.7	10.5	35.4	0.0	24.4	23. 0.	— 0.01	22. 59. 35.19	H
	48	2 Cassiopeiæ ...	...	...	13.0	37.8	2.5	...	23. 3.	— 0.06	23. 2. 37.71	H
	49	8 Andromedæ ...	...	25.6	44.8	4.3	23.6	42.6	23. 10.	— 0.01	23. 10. 4.17	H
	50	9 Piscium	8.5	21.6	34.6	47.5	...	...	23. 18.	+ 19.29	23. 18. 47.34	H
	51	13 Andromedæ ...	...	...	...	...	26.7	44.0	23. 20. 1.5	— 34.63	23. 19. 9.44	H
	52	15 Andromedæ ...	...	59.6	16.0	32.7	49.6	6.0	23. 27.	— 0.01	23. 26. 32.77	H
ILLUMINATED END OF AXIS WEST. Order of Wires for Stars above the Pole, G, F, E, D, C, B, A.												
38. The intervals irregular. 42. Very cloudy: the intervals irregular.												

CALCULATION OF APPARENT RIGHT ASCENSIONS.

[93]

No. for Reference.	Error of Collimation.	Level Error.	Seconds of Transit cor. for two Errors.	Azimuthal Error.	Seconds of Transit Corrected.	Tabular R. A. of Known Stars.	Clock apparently Slow.	Adopted Losing Rate.	Clock Slow at 0 ^h Sidereal.	Correction for Duration of Passage of Semidiameter.	Apparent R. A. of Center from the Observation.	NAME OF OBJECT.	Correction to Mean R. A. 1843, Jan. 1.
	"	"	"	"	"	"	"	"	"	m s	h m s	"	"
1	-0.07	+0.83		-0.21	38.10	3.94	25.84	2.30	24.64		15. 28. 4.22	α Coronæ Borealis.	- 1.53
2					5.63						19. 25. 32.12	Saturn.	
3					2.45					+ 0.31	19. 32. 29.26	Mars.	
4					34.09						21. 22. 0.78	Jupiter.	
5					54.71	21.34	26.63				21. 23. 21.40	β Aquarii.	- 4.04
6					5.64	32.31	26.67				21. 36. 32.35	ϵ Pegasi.	- 3.88
7					20.44	47.13	26.69				21. 57. 47.18	α Aquarii.	- 4.12
8					0.81						22. 34. 27.61	δ Pegasi.	- 4.08
9					16.14						22. 35. 42.94	η Pegasi.	- 4.10
10					50.27						22. 39. 17.08	Groombridge 3882	- 4.13
11					54.86						22. 43. 21.68	14 Lacertæ.	- 4.16
12					35.67	62.28	26.61				22. 49. 2.51	Fomalhaut.	- 4.73
13					46.41						22. 50. 13.25	Groombridge 3933	- 4.27
14					19.89						22. 54. 46.73	δ Andromedæ.	- 4.29
15					33.93	60.86	26.93				22. 57. 0.77	α Pegasi.	- 4.29
16					37.41						23. 0. 4.26	1 Cassiopeiæ.	- 4.60
17					39.94						23. 3. 6.79	2 Cassiopeiæ.	- 4.66
18					6.46						23. 10. 33.33	8 Andromedæ.	- 4.54
19					49.81						23. 19. 16.68	9 Piscium.	- 4.43
20					11.80						23. 19. 38.67	13 Andromedæ.	- 4.56
21					35.10						23. 27. 2.00	15 Andromedæ.	- 4.59
22					31.68						23. 29. 58.58	λ Andromedæ.	- 4.72
23					4.85						23. 30. 31.75	ι Andromedæ.	- 4.67
24					19.23						23. 32. 46.13	κ Andromedæ.	- 4.71
25					54.12						23. 38. 21.02	ψ Andromedæ.	- 4.81
26					2.88						23. 39. 29.80	τ Cassiopeiæ.	- 5.23
27					42.92						23. 51. 9.85	σ Cassiopeiæ.	- 5.29
28					40.44						23. 57. 7.37	Groombridge 4222	- 5.68
29					11.27						23. 58. 38.21	Uranus.	
30					54.73	21.63	26.90				0. 0. 21.67	α Andromedæ.	- 4.72
31					47.01	13.98	26.97		26.94		0. 5. 13.95	γ Pegasi.	- 4.61
32					49.33						0. 16. 16.29	13 Cassiopeiæ.	- 6.05
33					19.93	46.86	26.93				0. 35. 46.92	β Ceti.	- 4.63
34					39.19	66.19	27.00				1. 4. 6.24	Polaris.	-65.85
35					37.02	66.13	29.11	2.63	26.71		1. 4. 5.16	Polaris S.P.	-65.79
36													
37													
38					37.63						13. 38. 5.83	$\odot$	
39					3.60	31.81	28.21				14. 8. 31.86	Arcturus.	- 1.74
40					41.02	9.29	28.27				14. 38. 9.33	ϵ Bootis.	- 1.53
41					35.31	3.94	28.63				15. 28. 3.69	α Coronæ Borealis.	- 1.53
42					33.22	62.27	29.05				22. 49. 2.42	Fomalhaut.	- 4.72
43					44.28						22. 50. 13.48	Groombridge 3933	- 4.27
44					17.61						22. 54. 46.82	δ Andromedæ.	- 4.27
45					31.59	60.85	29.26				22. 57. 0.81	α Pegasi.	- 4.28
46					35.29						23. 0. 4.52	1 Cassiopeiæ.	- 4.59
47					37.81						23. 3. 7.05	2 Cassiopeiæ.	- 4.64
48					4.24						23. 10. 33.48	8 Andromedæ.	- 4.63
49					47.36						23. 19. 16.61	9 Piscium.	- 4.43
50					9.50						23. 19. 38.76	13 Andromedæ.	- 4.54
51					32.83						23. 27. 2.11	15 Andromedæ.	- 4.59
52													

Oct. 19, 23^h. The Transit instrument was reversed, and the error of collimation determined.

[94]

TRANSITS OBSERVED AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1843.

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	I.		II.		III.		IV.		V.		VI.		VII. WIRE.			Correction to Mean of Wires Observed.		Concluded Transit over Mean of the Seven Wires.			Observer.
			m	s	m	s	m	s	m	s	m	s	m	s	h	m	s	m	s	h	m	s	
Oct. 20	1	λ Andromedæ...	...		52.5		10.9		29.6		47.8		...		23.29.			+	9.16	23.29.29.36			H
	2	ι Andromedæ...	...		...		...		...		19.8		...		23.30.54.7			—	34.83	23.30.2.44			H
	3	κ Andromedæ...	...		41.2		59.0		16.8		34.7		...		23.32.			—	0.01	23.32.16.81			H
	4	ψ Andromedæ...	56.7		14.7		33.4		51.7		...		...		23.37.			+	27.55	23.37.51.68			H
	5	τ Cassiopeiæ...	...		...		36.2		0.5		24.6		...		23.39.			—	0.06	23.39.0.37			H
	6	ρ Cassiopeiæ...	...		23.0		46.7		10.0		33.5		...		23.46.			—	0.01	23.46.9.95			H
	7	Piazzi XXIII.242	...		...		27.3		47.4		7.0		...		23.50.			—	0.05	23.49.47.18			H
	8	σ Cassiopeiæ...	...		...		...		40.5		2.7		...		23.51.47.5			—	33.55	23.50.40.35			H
	9	Groombridge 4198	...		...		48.6		14.7		40.8		...		23.53.			—	0.07	23.53.14.63			H
	10*	Uranus	22.5		35.5		48.5		1.4		14.3		...		23.58.39.8					23.58.1.24			H
Oct. 21	11*	$\odot$ 2 L.	47.8		0.8		13.7		26.9		39.8		...		53.5 13.43. 6.6					13.42.27.02			E
	12	ζ Cygni	2.1		17.1		32.0		46.8		1.7		...		16.4 21. 6.31.2					21. 5.46.76			E
	13	Jupiter 1 L.	56.8		...		23.5		...		50.3		...		21.22.17.2					21.21.36.95			E
	14	Jupiter 2 L.	...		13.3		...		40.2		...		...		6.8 21.22.					21.21.40.10			E
	15	ϵ Pegasi	21.2		34.1		47.0		0.2		13.3		...		26.2 21.36.39.2					21.36.0.17			E
	16	α Aquarii	36.6		49.3		2.2		15.0		28.0		...		40.8 21.57.53.7					21.57.15.09			E
	17	ϕ Pegasi	11.7		26.1		40.7		55.5		10.2		...		24.8 22.34.39.3					22.33.55.47			E
	18	Fomalhaut	45.8		0.6		15.4		30.3		45.2		...		0.0 22.49.14.9					22.48.30.31			E
	19	δ Andromedæ...	23.1		40.3		57.7		14.8		31.7		...		22.54.			+	17.15	22.54.14.67			E
	20	α Pegasi	49.1		2.0		15.3		23.7		42.0		...		55.1 22.57. 8.3					22.56.28.65			E
	21	1 Cassiopeiæ...	18.0		42.8		7.3		32.0		56.8		...		21.2 23. 0.46.0					22.59.32.01			E
	22	2 Cassiopeiæ...	20.7		45.8		10.0		34.2		50.3		...		23.8 23. 3.48.6					23. 2.34.63			E
	23	8 Andromedæ...	3.1		22.5		42.0		1.0		20.6		...		39.7 23.10.59.0					23.10. 1.13			E
	24	9 Piscium	6.0		18.7		31.6		44.4		...		...		23.18.			+	19.29	23.18.44.47			E
	25	13 Andromedæ,	...		...		...		7.0		24.0		...		41.1 23.19.58.3			—	25.99	23.19. 6.61			E
	26	15 Andromedæ,	40.0		56.8		13.1		29.8		46.6		...		23.26.			—	16.62	23.26.29.88			E
	27	λ Andromedæ...	31.5		49.8		8.0		26.5		...		...		23.29.			+	27.58	23.29.26.53			E
	28	ι Andromedæ...	...		...		...		59.7		17.1		...		34.3 23.30.51.7			—	26.14	23.29.59.56			E
	29	κ Andromedæ...	...		38.6		56.1		14.0		31.7		...		49.2 23.32.			—	0.01	23.32.13.91			E
	30	ψ Andromedæ...	53.7		12.1		30.3		49.0		...		...		23.37.			+	27.55	23.37.48.83			E
	31	τ Cassiopeiæ...	...		...		33.1		57.7		21.8		...		45.5 23.40. 9.7			—	24.13	23.38.57.43			E
	32	ρ Cassiopeiæ...	57.0		20.1		43.8		7.1		30.6		...		53.4 23.47.17.2					23.46. 7.03			E
	33	Piazzi XXIII.242	...		...		24.4		44.1		4.0		...		23.50.			—	0.05	23.49.44.12			E
	34	σ Cassiopeiæ...	...		...		...		37.4		0.2		...		22.1 23.51.44.4			—	33.55	23.50.37.48			E
	35	Groombridge 4198	...		19.5		45.8		12.0		38.0		...		3.5 23.54.			—	0.02	23.53.11.74			E
	36	Groombridge 4222	16.5		42.8		9.0		35.2		...		...		23.56.			+	39.09	23.56.34.97			E
	37	Uranus	12.3		25.2		38.1		51.0		3.9		...		16.8 23.58.29.7					23.57.51.00			E
	38	α Andromedæ...	...		20.1		34.8		49.6		4.1		...		18.4 0. 0.33.1			—	7.30	23.59.49.38			E
Oct. 23	39*	ϵ Bootis	...		...		...		...		50.5		...		4.7 14.38.19.5			—	29.02	14.37.35.88			H
	40*	Saturn 1 L.	1.3		...		28.8		...		56.8		...		19.26.24.5					19.25.42.85			H
	41*	Saturn 2 L.	...		17.7		...		45.7		...		...		13.0 19.26.					19.25.45.47			H
	42	γ Aquilæ	37.5		50.8		4.0		17.0		30.1		...		43.0 19.38.56.2					19.38.16.95			H
	43	α Aquilæ	...		...		23.5		36.7		49.6		...		2.5 19.43.15.6			—	13.01	19.42.36.57			H
	44*	Jupiter 1 L.	7.5		...		34.7		...		1.7		...		21.22.28.4					21.21.48.09			H
	45*	Jupiter 2 L.	...		24.3		...		51.4		...		...		17.8 21.22.					21.21.51.17			H
	46	ϵ Pegasi	19.5		32.5		45.5		58.6		11.6		...		24.6 21.36.37.6					21.35.58.56			H
	47	α Aquarii	34.6		47.6		0.5		13.5		26.2		...		38.7 21.57.51.8					21.57.13.27			H
Oct. 25	48	β Leonis	...		...		17.4		30.8		44.1		...		57.5 11.41.10.8			—	13.35	11.40.30.77			E
	49	γ Aquilæ	...		49.6		2.7		15.5		28.6		...		41.5 19.38.			—	0.01	19.38.15.57			H
	50	α Aquilæ	56.3		9.2		22.1		35.2		48.4		...		1.3 19.43.14.2					19.42.35.24			H

ILLUMINATED END OF AXIS WEST. Order of Wires for Stars above the Pole, G, F, E, D, C, B, A.

10. The 5th interval is small.
39. Cloudy.

11. Very cloudy.

40, 41. Daylight: the extremities of the ring were observed.
44, 45. Exceedingly tremulous: the observation not good.

CALCULATION OF APPARENT RIGHT ASCENSIONS.

[95]

No. for Reference.	Error of Collimation.	Level Error.	Seconds of Transit cor. for two Errors.	Azimuthal Error.	Seconds of Transit Corrected.	Tabular R.A. of Known Stars.	Clock apparently Slow.	Adopted Losing Rate.	Clock Slow at 0 ^h Sidereal.	Correction for Duration of Passage of Semidiameter.	Apparent R.A. of Center from the Observation.	NAME or OBJECT.	Correction to Mean R.A. 1843, Jan. 1.
#	#	#	#	#	s	s	s	s	s	m s	h m s		s
1	-0.07	+0.83		-0.21	29.43			2.63	26.71		23. 29. 58.72	λ Andromedæ.	- 4.70
2					2.50						23. 30. 31.79	ι Andromedæ.	- 4.66
3					16.87						23. 32. 46.16	κ Andromedæ.	- 4.70
4					51.75						23. 38. 21.05	ψ Andromedæ.	- 4.80
5					0.46						23. 39. 29.77	τ Cassiopeia.	- 5.21
6					10.04						23. 46. 39.35	ρ Cassiopeia.	- 5.29
7					47.26						23. 50. 16.58	Piazzi XXIII.242	- 5.06
8					40.44						23. 51. 9.77	σ Cassiopeia.	- 5.28
9					14.73						23. 53. 44.07	Groombridge 4198	- 5.62
10					1.26						23. 58. 30.60	Uranus.	
11					27.04			2.54	29.67	-1. 5.68	13. 41. 52.48	$\odot$	
12					46.80	18.64	31.84				21. 6. 18.71	ζ Cygni.	- 3.29
13					38.54						21. 22. 10.46	Jupiter.	
14					0.20	32.28	32.08				21. 36. 32.17	ϵ Pegasi.	- 3.85
15					15.11	47.10	31.99				21. 57. 47.10	α Aquarii.	- 4.09
16					55.51						22. 34. 27.58	ϕ Pegasi.	- 4.06
17					30.29	62.25	31.96				22. 49. 2.37	Fomalhaut.	- 4.70
18					14.73						22. 54. 46.81	ϕ Andromedæ.	- 4.26
19					28.69	60.84	32.15				22. 57. 0.78	α Pegasi.	- 4.27
20					32.11						23. 0. 4.21	1 Cassiopeia.	- 4.57
21					34.73						23. 3. 6.84	2 Cassiopeia.	- 4.63
22					1.20						23. 10. 33.32	8 Andromedæ.	- 4.51
23					44.49						23. 19. 16.64	9 Piscium.	- 4.42
24					6.67						23. 19. 38.82	13 Andromedæ.	- 4.54
25					29.94						23. 27. 2.10	15 Andromedæ.	- 4.58
26					26.60						23. 29. 58.77	λ Andromedæ.	- 4.71
27					59.62						23. 30. 31.79	ι Andromedæ.	- 4.80
28					13.97						23. 32. 46.14	κ Andromedæ.	- 4.69
29					48.90						23. 38. 21.08	ψ Andromedæ.	- 4.80
30					57.52						23. 39. 29.70	τ Cassiopeia.	- 5.20
31					7.12						23. 46. 39.31	ρ Cassiopeia.	- 5.28
32					44.20						23. 50. 16.40	Piazzi XXIII.242	- 5.05
33					37.57						23. 51. 9.77	σ Cassiopeia.	- 5.27
34					11.84						23. 53. 44.04	Groombridge 4198	- 5.60
35					35.07						23. 57. 7.28	Groombridge 4222	- 5.67
36					51.02						23. 58. 23.23	Uranus.	
37					49.42	21.63	32.21				0. 0. 21.63	α Andromedæ.	- 4.72
38					35.92	9.29	33.37	0.56	33.22		14. 38. 9.48	ϵ Bootis.	- 1.53
39					44.16						19. 26. 17.83	Saturn.	
40					16.98	50.69	33.71				19. 38. 50.65	γ Aquilæ.	- 3.06
41					36.60	10.44	33.84				19. 43. 10.27	α Aquilæ.	- 3.16
42					49.64						21. 22. 23.36	Jupiter.	
43					58.59	32.25	33.66				21. 36. 32.31	ϵ Pegasi.	- 3.82
44					13.29	47.08	33.79				21. 57. 47.02	α Aquarii.	- 4.07
45					30.81	5.22	34.41	...	...		....	β Leonis.	
46					15.57	50.65	35.08	0.63	34.64		19. 38. 50.72	γ Aquilæ.	- 3.02
47					35.24	10.41	35.17				19. 43. 10.39	α Aquilæ.	- 3.13
48													
49		+0.60		-0.63									
50													

Oct. 20, 21^b. The Transit instrument was levelled.Oct. 21, 10^b. The additional weight was removed from the Transit-clock, the arc of vibration being too great.

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	I.		II.		III.		IV.		V.		VI.		VII. WIRE.		Correction to Mean of Wires Observed.	Concluded Transit over Mean of the Seven Wires.			Observer.											
			m s		m s		m s		m s		m s		m s		h m s			h m s														
			m	s	m	s	m	s	m	s	m	s	m	s	h	m		s	h	m		s										
Oct. 25	1*	β Aquilæ.....	25.5		38.2		50.8		4.3		16.9		29.8		19.47.42.8			19.47.	4.04	H												
	2	Jupiter 1 L.....	22.9		...		49.9		...		16.8		...		21.22.43.1			21.22.	3.19	G												
	3	Jupiter 2 L.....	...		39.3		...		6.2		...		32.9		21.22.			21.22.	6.13	G												
	4*	ϵ Pegasi.....	17.8		30.9		44.0		57.2		10.1		23.0		21.36.36.2			21.35.	57.03	G												
	5*	α Aquarii.....	33.1		46.0		59.0		12.0		24.9		37.0		21.57.50.2			21.57.	11.74	G												
Oct. 26	6*	$\odot$ 1 L.....	...		...		0.3		13.5		26.9		39.9		13.59.53.1	—	13.21	13.59.	13.53	E												
	7*	$\odot$ 2 L.....	...		59.9		13.0		26.1		39.3		52.3		14.2.5.7	—	6.60	14.1.	1.26.12	E												
	8	Arcturus.....	15.0		28.8		42.5		56.1		9.8		23.4		14.8.37.0			14.7.	5.56.09	E												
	9	ϵ Bootis.....	49.9		4.5		19.0		33.5		48.1		2.4		14.38.17.1			14.37.	33.50	E												
	10	β Ursæ Minoris..	...		55.1		44.1		33.0		22.3		10.7		14.52.	—	0.03	14.50.	33.01	E												
	11*	α Coronæ Borealis	44.8		59.1		13.7		28.2		43.0		56.8		15.28.11.4			15.27.	28.15	E												
	12	Jupiter 1 L.....	31.1		...		58.0		...		24.8		...		21.22.51.7			21.22.	11.40	E												
	13	Jupiter 2 L.....	...		47.6		...		14.7		...		41.3		21.22.			21.22.	14.53	E												
	14	α Aquarii.....	...		45.3		58.3		11.1		...		...		21.57.49.7		0.00	21.57.	11.10	E												
	15	Uranus.....	32.7		45.4		58.1		11.0		23.8		36.5		23.57.49.5			23.57.	11.00	E												
	16*	α Andromedæ..	2.0		16.1		31.0		45.3		0.2		14.5		0.0.29.3			23.59.	45.49	E												
	17	γ Pegasi.....	58.1		11.2		24.5		37.8		51.0		4.3		0.5.17.3			0.	4.37.75	E												
	18	α Cassiopeiæ....	59.3		22.3		45.2		8.1		31.0		53.3		0.32.16.4			0.31.	7.95	E												
	19	β Ceti.....	30.1		43.8		57.2		10.7		24.3		37.7		0.35.51.1			0.35.	10.70	E												
	20	Polaris.....	39.11.0	47.17.0	55.23.0	...	...	...	...	...	...	...	...	...	0.	+ 16.11.56		1.	3.28.56	E												
	21	β Leonis.....	48.7	2.4	15.7	29.0	42.6	55.7	11.41.	9.0								11.40.	29.02	H												
	22	Polaris S.P.....	...	47.26.0	55.25.0	3.29.0	12.37.0	10.42.5	13.							+	0.27	13.3.	32.17	H												
Oct. 27	23*	$\odot$ 1 L.....	...		...		...		...		16.2		29.8		14.3.43.2	—	26.43	14.3.	3.30	H												
	24*	$\odot$ 2 L.....	36.7	49.8	3.0	16.5	29.6	42.6	14.5.56.0									14.5.	16.31	H												
	25	α Coronæ Borealis	44.0	58.6	13.0	27.6	42.0	56.6	15.28.10.9									15.27.	27.53	H												
	26	β Leonis.....	48.1	1.3	14.7	28.0	41.4	54.7	11.41.8.0									11.40.	28.03	E												
Oct. 28	27*	$\odot$ 1 L.....	14.2	27.4	40.7	53.8	7.2	20.4	14.7.33.7									14.6.	53.91	E												
	28*	$\odot$ 2 L.....	27.3	...	...	...	...	...	14.9.46.8	+	0.02							14.9.	7.07	E												
	29	ϵ Bootis.....	48.6	3.1	17.5	32.0	46.6	1.0	14.38.15.6									14.37.	32.05	E												
	30*	α Coronæ Borealis	43.2	57.8	...	27.1	...	55.7	15.28.	+	10.86							15.27.	26.81	E												
	31	Jupiter 1 L.....	50.6	...	17.2	...	44.0	...	21.23.10.7									21.22.	30.63	E												
	32	Jupiter 2 L.....	...	7.1	...	34.0	...	0.8	21.23.									21.22.	33.97	E												
	33	α Aquarii.....	30.9	43.8	56.7	9.5	22.3	35.2	21.57.48.0									21.57.	9.49	E												
	34*	ζ Pegasi.....	...	38.3	51.2	4.1	17.7	30.5	22.33.	—	0.01							22.33.	4.35	E												
	35*	* N.P.D. 62°.47'..	25.8	40.1	54.3	8.7	23.1	37.4	22.46.52.0									22.46.	8.78	E												
	36*	* N.P.D. 62°.49'..	...	...	...	...	6.8	21.0	22.47.35.6	—	28.92							22.46.	52.21	E												
	37	Groombridge 3952	59.8	17.8	35.9	54.0	12.1	30.1	22.54.48.2									22.53.	53.98	E												
	38	β Pegasi.....	...	...	22.3	37.0	51.3	5.7	22.56.20.1	—	14.47							22.55.	36.81	E												
	39	ν Pegasi.....	18.0	32.0	45.9	59.8	13.8	27.6	23.17.41.4									23.16.	59.79	E												
	40*	* N.P.D. 69°.19'..	56.8	10.6	24.2	38.0	51.8	5.5	23.22.19.1									23.21.	38.00	E												
	41	71 Pegasi.....	22.1	36.0	49.9	3.8	17.7	31.4	23.25.45.1									23.25.	3.71	E												
	42	ι Piscium.....	40.8	53.7	6.7	19.6	32.4	45.2	23.31.58.1									23.31.	19.50	E												
	43	Uranus.....	17.7	30.4	43.2	56.1	9.0	21.8	23.57.34.7									23.56.	56.13	E												
	44	α Andromedæ....	0.7	14.8	29.4	44.1	58.8	13.2	0.0.27.8									23.59.	44.11	E												
	45	γ Pegasi.....	56.8	9.9	23.0	36.2	49.5	2.8	0.5.16.1									0.	4.36.33	E												
Oct. 29	46*	α^2 Capricorni...	6.5	19.7	32.8	...	...	...	20.8.	+	26.41							20.8.	46.08	H												
	47*	δ 1 L.....	...	...	53.5	7.5	21.5	...	20.9.	—	0.04							20.9.	7.46	H												
Nov. 1	48	α^2 Capricorni...	3.9	17.1	30.3	43.5	56.8	10.0	20.9.23.2									20.8.	43.54	E												
ILLUMINATED END OF AXIS WEST. Order of Wires for Stars above the Pole, G, F, E, D, C, B, A.																																
1, 5, 11, 16, 34. The intervals irregular.											28, 30. Very cloudy.											35, 40. Of the 8th mag.										
4, 5. Foggy; a bad evening for observations.											36. Of the 7th mag.																					
6, 7. Cloudy.											46, 47. Very cloudy; observed through a break in the clouds.																					
23, 24. Very hazy: the limbs ill defined and very faint.																																

CALCULATION OF APPARENT RIGHT ASCENSIONS.

[97]

No. for Reference.	Error of Collimation.	Level Error.	Seconds of Transit cor. for two Errors.	Azimuthal Error.	Seconds of Transit Corrected.	Tabular R. A. of Known Stars.	Clock apparently Slow.	Adopted Losing Rate.	Clock Slow at 0 ^h Sidereal.	Correction for Duration of Passage of Semidiameter.	Apparent R. A. of Center from the Observation.	NAME OF OBJECT.	Correction to Mean R. A. 1843, Jan. 1.
	"	"	s	"	s	s	s	s	s	m s	h m s		s
1	-0.07	+0.60		-0.63	4.04	39.15	35.11	0.63	34.64		19. 47. 39.19	β Aquilæ.	- 3.19
2					4.64						21. 22. 39.84	Jupiter.	
3					57.03	32.22	35.19				21. 36. 32.24	ϵ Pegasi.	- 3.79
4					11.73	47.06	35.33				21. 57. 46.95	α Aquarii.	- 4.05
5													
6					19.81			0.70	35.38		14. 0. 55.60	$\odot$	
7					56.11	31.84	35.73				14. 8. 31.90	Arcturus.	- 1.77
8					33.51	9.29	35.78				14. 38. 9.31	ϵ Bootis.	- 1.53
9					33.19						14. 51. 9.00	β Ursæ Minoris.	+ 5.19
10					28.16	3.90	35.74				15. 28. 3.99	α Coronæ Borealis.	- 1.49
11					12.95						21. 22. 48.96	Jupiter.	
12					11.09	47.04	35.95				21. 57. 47.11	α Aquarii.	- 4.03
13					10.99						23. 57. 47.07	Uranus.	
14					45.50	21.60	36.10				0. 0. 21.58	α Andromedæ.	- 4.69
15					37.75	13.97	36.22		36.08		0. 5. 13.83	γ Pegasi.	- 4.60
16					8.02						0. 31. 44.12	α Cassiopeiæ.	- 5.85
17					10.67	46.84	36.17				0. 35. 46.77	β Ceti.	- 4.61
18			29.58		30.53	65.97	35.44				1. 4. 6.64	Polaris.	-65.63
19					29.02	5.27	36.25	0.77	36.08		...	β Leonis.	
20					30.18	65.93	35.75				1. 4. 6.68	Polaris S.P.	-65.59
21			31.20										
22					9.79						14. 4. 46.32	$\odot$	
23					27.54	3.90	36.36				...	α Coronæ Borealis.	
24					28.03	5.29	37.26	0.70	36.82		11. 41. 5.19	β Leonis.	- 2.50
25													
26					0.47						14. 8. 37.70	$\odot$	
27					32.06	9.29	37.23				14. 38. 9.30	ϵ Bootis.	- 1.53
28					26.82	3.89	37.07				15. 28. 4.09	α Coronæ Borealis.	- 1.48
29					32.28						21. 23. 9.72	Jupiter.	
30					9.48	47.01	37.53				21. 57. 46.94	α Aquarii.	- 4.00
31					4.35	42.00	37.65				22. 33. 41.83	ζ Pegasi.	- 4.08
32					8.79						22. 46. 46.27	* N.P.D. 62°.47'.	- 4.10
33					52.22						22. 47. 29.70	* N.P.D. 62°.49'.	- 4.09
34					54.02						22. 54. 31.51	Groombridge 3952	- 4.19
35					36.82						22. 56. 14.31	β Pegasi.	- 4.16
36					59.80						23. 17. 37.30	ν Pegasi.	- 4.33
37					38.01						23. 22. 15.51	* N.P.D. 69°.19'.	- 4.37
38					3.72						23. 25. 41.22	71 Pegasi.	- 4.37
39					19.50	56.86	37.36				23. 31. 57.00	ι Piscium.	- 4.41
40					56.12						23. 57. 33.63	Uranus.	
41					44.12	21.59	37.47				0. 0. 21.64	α Andromedæ.	- 4.68
42					36.33	13.96	37.63		37.52		0. 5. 13.85	γ Pegasi.	- 4.59
43					46.06	23.92	37.86	0.73	37.25	+1. 7.20	...	α^2 Capricorni.	
44					7.44						20. 10. 52.50	δ	
45													
46	-0.43	+1.23		+2.31	43.69	23.87	40.46	0.74	39.55		20. 9. 23.86	α^2 Capricorni.	- 3.63
47													
48													

Oct. 26. The azimuthal error by Polaris and Polaris S. P., allowing 0^s.36 for clock-rate and change of R.A.Oct. 27, 21^h. The Transit instrument was levelled.

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[98]

TRANSITS OBSERVED AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1843.

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	I.		II.		III.		IV.		V.		VI.		VII. WIRE.		Correction to Mean of Wires. Observed.	Concluded Transit over Mean of the Seven Wires.		Observer.
			m s		m s		m s		m s		m s		m s		h m s			m s	h m s	
Nov. 1	1	Mars 1 L.	...	...	50.1	...	4.0	...	17.8	...	31.7	...	20. 10. 45.6	-	13.89	20. 10. 3.95	E			
	2	β Aquarii.	2.1	15.2	28.0	...	...	...	...	...	...	...	21. 22.	+	25.89	21. 22. 40.99	E			
	3	Jupiter 1 L.	...	...	5.2	...	...	...	32.0	...	...	...	21. 23. 58.8	-	13.42	21. 23. 18.58	E			
	4	Jupiter 2 L.	...	55.0	...	...	21.9	...	...	...	48.7	...	21. 23.	...	...	21. 23. 21.87	E			
	5	ϵ Pegasi.	12.9	25.8	38.8	...	51.9	...	4.9	...	17.8	...	21. 36. 30.8	...	...	21. 35. 51.84	E			
	6	α Aquarii.	28.1	41.0	53.8	...	6.7	...	19.5	...	32.3	...	21. 57. 45.2	...	...	21. 57. 6.66	E			
	7	θ Aquarii.	17.4	30.3	43.2	...	56.2	...	9.3	...	22.2	...	22. 8. 35.3	...	...	22. 7. 56.27	E			
	8	ζ Pegasi.	22.6	35.4	48.3	...	1.3	...	14.5	...	27.6	...	22. 33. 40.8	...	...	22. 33. 1.50	E			
	9	δ 1 L.	50.7	3.8	16.9	...	30.0	...	43.1	...	56.3	...	22. 37. 9.4	...	...	22. 36. 30.02	E			
	10	Groombridge 3952	...	15.0	33.1	...	51.0	...	9.2	...	27.2	...	22. 54.	-	0.01	22. 53. 51.09	E			
	11	α Pegasi.	40.7	53.8	7.1	...	20.4	...	33.8	...	46.9	...	22. 57. 0.2	...	...	22. 56. 20.41	E			
Nov. 3	12	$\odot$ 1 L.	33.8	46.8	0.2	...	13.4	...	26.8	...	40.0	...	14. 30. 53.5	...	...	14. 30. 13.50	E			
	13	$\odot$ 2 L.	47.7	1.0	14.2	...	27.6	...	41.0	...	54.3	...	14. 33. 7.7	...	...	14. 32. 27.65	E			
	14	α Coronæ Borealis	38.8	53.1	7.7	...	22.1	...	36.7	...	51.2	...	15. 28. 5.8	...	...	15. 27. 22.20	E			
	15*	Mars 1 L.	13.9	27.8	41.8	...	55.5	...	9.3	...	23.5	...	20. 16. 37.4	...	...	20. 15. 55.60	E			
	16*	Jupiter 1 L.	6.6	...	33.3	...	...	...	0.0	...	...	...	21. 24. 27.0	...	...	21. 23. 46.73	E			
	17*	Jupiter 2 L.	...	23.0	...	...	49.9	...	...	...	16.7	...	21. 24.	...	...	21. 23. 49.87	E			
	18	ϵ Pegasi.	11.0	24.0	37.0	...	50.0	...	3.1	...	16.0	...	21. 36. 39.1	...	...	21. 35. 50.02	E			
	19	α Aquarii.	26.4	39.2	52.0	...	4.9	...	17.8	...	30.7	...	21. 57. 43.5	...	...	21. 57. 4.93	E			
	20	ζ Pegasi.	20.8	33.8	46.9	...	0.0	...	13.1	...	25.9	...	22. 33. 39.1	...	...	22. 32. 59.94	E			
	21*	δ 1 L.	24.4	37.8	51.1	...	4.4	...	17.7	...	30.8	...	0. 7. 43.8	...	...	0. 7. 4.29	E			
	22*	Polaris S.P.	...	...	55. 13.0	...	3. 17.0	...	11. 25.0	...	...	...	13.	+	1.27	13. 3. 19.60	H			
Nov. 4	23*	$\odot$ 1 L.	29.8	42.7	56.5	...	9.7	...	22.9	...	36.6	...	14. 34.	+	6.68	14. 34. 9.71	H			
	24	$\odot$ 2 L.	44.0	57.6	10.7	...	24.5	...	37.7	...	50.8	...	14. 37. 4.5	...	...	14. 36. 24.26	H			
	25*	β Aquarii.	59.7	12.7	25.6	...	38.7	...	51.6	...	4.6	...	21. 23. 17.4	...	...	21. 22. 38.62	H			
Nov. 6	26*	β Aquarii.	...	10.6	23.6	...	36.8	...	49.8	...	2.7	...	21. 23.	-	0.01	21. 22. 36.69	H			
	27	α Arietis.	59.0	13.0	26.9	...	40.8	...	54.8	...	8.6	...	1. 58. 22.8	...	...	1. 57. 40.84	H			
	28*	δ 1 L.	15.5	29.5	43.1	...	57.1	...	10.8	...	24.6	...	2. 29. 38.6	...	...	2. 28. 57.03	H			
Nov. 7	29	α Coronæ Borealis	...	...	...	...	19.0	...	33.4	...	47.7	...	15. 28. 2.1	-	21.71	15. 27. 18.84	E			
	30	Jupiter 1 L.	11.8	...	38.6	...	...	...	5.5	...	...	...	21. 25. 32.3	...	...	21. 24. 52.05	E			
	31	Jupiter 2 L.	...	28.0	...	...	54.8	...	...	...	21.7	...	21. 25.	...	...	21. 24. 54.83	E			
	32	ϵ Pegasi.	7.8	20.8	33.7	...	46.8	...	59.7	...	12.7	...	21. 36. 25.9	...	...	21. 35. 46.77	E			
	33	ζ Pegasi.	17.1	30.2	43.2	...	56.4	...	9.5	...	22.6	...	22. 33. 35.6	...	...	22. 32. 56.37	E			
	34	Groombridge 3947	53.1	11.1	29.3	...	47.4	...	5.5	...	23.6	...	22. 53. 41.0	...	...	22. 52. 47.29	E			
	35	β Pegasi.	...	...	...	...	29.0	...	43.3	...	57.7	...	22. 56. 12.0	-	21.71	22. 55. 28.79	E			
	36	ν Pegasi.	10.0	23.8	37.8	...	51.7	...	5.7	...	19.4	...	23. 17. 33.3	...	...	23. 16. 51.67	E			
	37	* N.P.D. 69°.19".	...	2.6	16.1	...	30.0	...	43.8	...	57.4	...	23. 21.	-	0.01	23. 21. 29.97	E			
	38	71 Pegasi.	14.1	27.8	41.9	...	55.6	...	9.3	...	23.0	...	23. 25. 36.8	...	...	23. 24. 55.50	E			
	39	ι Piscium.	32.8	45.8	58.7	...	11.6	...	24.4	...	37.2	...	23. 31. 50.0	...	...	23. 31. 11.50	E			
	40	Uranus.	9.7	22.2	35.1	...	48.0	...	0.8	...	13.7	...	23. 56. 26.4	...	...	23. 55. 47.99	E			
	41	α Andromedæ. .	52.2	7.0	21.4	...	36.0	...	50.6	...	5.0	...	0. 0. 19.8	...	...	23. 59. 36.00	E			
	42	γ Pegasi.	48.8	1.9	15.2	...	28.4	...	41.7	...	54.8	...	0. 5. 8.1	...	...	0. 4. 28.42	E			
	43	α Cassiopeiæ. .	50.0	12.9	35.6	...	58.6	...	21.2	...	44.0	...	0. 32. 6.8	...	...	0. 30. 58.45	E			
	44	β Ceti.	20.8	34.1	47.7	...	1.2	...	15.0	...	28.2	...	0. 35. 42.1	...	...	0. 35. 1.30	E			
	45	Polaris.	39. 1.0	47. 8.0	55. 14.0	...	3. 22.0	...	...	...	...	...	1.	+	12. 8.81	1. 3. 20.06	E			
	46*	δ Arietis.	...	...	...	...	59.6	...	13.1	...	26.6	...	3. 2. 40.2	-	20.43	3. 1. 59.45	E			
	47*	δ 2 L.	28.8	42.8	56.9	...	11.0	...	25.1	...	39.1	...	3. 22. 53.2	...	...	3. 22. 10.98	E			
	48	Polaris S.P.	...	47. 9.0	55. 8.5	...	3. 13.0	...	11. 20.0	...	19. 31.0	...	13.	+	0.27	13. 3. 16.57	H			
	49	Spica.	33.5	46.6	59.7	...	12.7	...	25.8	...	38.7	...	13. 16. 51.7	...	...	13. 16. 12.67	H			
ILLUMINATED END OF AXIS WEST. Order of Wires for Stars above the Pole, G, F, E, D, C, B, A.																				
15, 46, 47. Very cloudy. 16, 17, 21. Very faint. 22, 25, 26, 28. Cloudy. 23. The intervals irregular.																				

CALCULATION OF APPARENT RIGHT ASCENSIONS.

[99]

No. for Reference.	Error of Collimation.	Level Error.	Seconds of Transit cor. for two Errors.	Azimuthal Error.	Seconds of Transit Corrected.	Tabular R.A. of Known Stars.	Clock apparently Slow.	Adopted Losing Rate.	Clock Slow at 0 ^h Sidereal.	Correction for Duration of Passage of Semidiameter.	Apparent R.A. of Center from the Observation.	NAME OF OBJECT.	Correction to Mean R.A. 1843, Jan. 1.
#	#	#	#	#	s	s	s	s	s	m s	h m s		s
1	-0.43	+1.23		+2.31	4.11			0.74	39.55	+ 0.29	20. 10. 44.58	Mars.	
2					41.13	21.15	40.02				21. 23. 21.34	β Aquarii.	- 3.85
3					20.38						21. 24. 0.59	Jupiter.	
4					51.97	32.12	40.15				21. 36. 32.19	ϵ Pegasi.	- 3.69
5					6.80	46.96	40.16				21. 57. 47.03	α Aquarii.	- 3.95
6					56.42						22. 8. 36.65	θ Aquarii.	- 4.10
7					1.63	41.95	40.32				22. 33. 41.87	ζ Pegasi.	- 4.03
8					30.17					+1. 1.71	22. 38. 12.13	δ	
9					51.20						22. 54. 31.45	Groombridge 3952	- 4.11
10					20.55	60.74	40.19				22. 57. 0.80	α Pegasi.	- 4.17
11													
12					20.73			0.84	41.09		14. 32. 2.33	$\odot$	
13					22.32	3.88	41.56				15. 28. 3.95	α Coronæ Borealis.	- 1.47
14					55.76					+ 0.29	20. 16. 37.85	Mars.	
15					48.45						21. 24. 30.29	Jupiter.	
16					50.15	32.09	41.94				21. 36. 31.99	ϵ Pegasi.	- 3.66
17					5.07	46.93	41.86				21. 57. 46.93	α Aquarii.	- 3.92
18					0.07	41.93	41.86				22. 33. 41.95	ζ Pegasi.	- 4.01
19					4.43				41.93	+1. 1.24	0. 8. 47.60	δ	
20					22.05	64.11	42.06	0.88	41.57		....	Polaris S.P.	
21													
22			18.32		17.14						14. 35. 59.24	$\odot$	
23					38.76	21.11	42.35				....	β Aquarii.	
24			38.63		36.74	21.08	44.34	0.80	43.56		....	β Aquarii.	
25				+0.70	40.91	25.26	44.35				....	α Arietis.	
26					57.10				44.36	+1. 4.25	2. 30. 45.79	δ	
27													
28					18.88	3.88	45.00	0.75	44.64		15. 28. 4.00	α Coronæ Borealis.	- 1.47
29	+0.78				53.48						21. 25. 38.79	Jupiter.	
30					46.81	32.03	45.22				21. 36. 32.13	ϵ Pegasi.	- 3.60
31					56.41	41.85	45.44				22. 33. 41.76	ζ Pegasi.	- 3.96
32					47.33						22. 53. 32.69	Groombridge 3947	- 4.00
33					28.83						22. 56. 14.19	β Pegasi.	- 4.03
34					51.71						23. 17. 37.08	ν Pegasi.	- 4.23
35					30.02						23. 22. 15.39	* N.P.D. 69°.19'.	- 4.26
36					55.54						23. 25. 40.91	71 Pegasi.	- 4.29
37					11.54	56.78	45.24				23. 31. 56.92	ι Piscium.	- 4.33
38					48.03						23. 56. 33.42	Uranus.	
39					36.04	21.52	45.48				0. 0. 21.43	α Andromedæ.	- 4.61
40					28.46	13.90	45.44		45.39		0. 5. 13.85	γ Pegasi.	- 4.53
41					58.48						0. 31. 43.89	α Cassiopeiæ.	- 5.75
42					1.34	46.80	45.46				0. 35. 46.75	β Ceti.	- 4.57
43					19.48	63.42	43.94				1. 4. 4.90	Polaris.	-63.08
44			20.54		59.50						3. 2. 44.98	δ Arietis.	- 5.35
45					11.03					-1. 5.61	3. 21. 50.92	δ	
46					17.28	63.34	46.06	0.79	45.07		1. 4. 2.78	Polaris S.P.	-63.00
47			16.15		12.71	58.23	45.52				13. 16. 58.22	Spica.	- 2.53
48													
49													

Nov. 3, 21^h. The Transit instrument was levelled.Nov. 3 and 4. The azimuthal error by tabular places of Polaris S.P. and β Aquarii, allowing 0^s.28 for clock-rate.

Nov. 7 and 8. The azimuthal error by four consecutive passages of Polaris.

[100]

TRANSITS OBSERVED AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1843.

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	I.	II.	III.	IV.	V.	VI.	VII. WIRE.	Correction to Mean of Wires Observed.	Concluded Transit over Mean of the Seven Wires.	Observer.	
			m s	m s	m s	m s	m s	m s	m s				h m s
Nov. 7	1	η Bootis	47.8	1.6	15.3	28.7	42.7	56.0	13. 47. 9.6		13. 46. 28.82	H	
	2	Arcturus	5.5	18.7	32.7	46.5	0.0	13.7	14. 8. 27.4		14. 7. 46.36	H	
Nov. 8	3	α Coronæ Borealis	34.7	49.4	3.8	18.3	32.7	47.1	15. 28. 1.7		15. 27. 18.25	H	
	4*	* N.P.D. 62°.47'..	...	...	...	...	15.0	29.5	22. 46. 43.6	—	28.92	22. 46. 0.45	H
	5*	* N.P.D. 62°.49'..	...	...	...	...	58.5	12.5	22. 47. 27.0	—	28.92	22. 46. 43.75	H
	6	β Pegasi	44.8	59.6	13.8	28.5	...	...	22. 55.	+	21.69	22. 55. 28.37	H
	7	α Pegasi	...	...	1.5	14.7	28.0	41.4	22. 56. 54.6	—	13.28	22. 56. 14.76	H
	8	ν Pegasi	9.7	23.6	37.5	51.5	5.5	18.8	23. 17. 32.8			23. 16. 51.34	H
	9*	* N.P.D. 69°.19'..	48.1	1.8	15.7	29.5	43.6	56.7	23. 22. 10.8			23. 21. 29.46	H
	10	γ Pegasi	13.6	27.6	41.4	55.2	9.0	22.8	23. 25. 36.7			23. 24. 55.19	H
	11	δ Piscium	32.5	45.1	58.0	11.0	24.0	36.7	23. 31. 49.7			23. 31. 11.00	H
	12	Uranus	3.6	16.7	29.6	42.5	55.2	7.8	23. 56. 20.8			23. 55. 42.31	H
	13	γ Pegasi	48.0	1.4	14.6	28.0	41.6	54.6	0. 5. 7.8			0. 4. 28.00	H
	14	β Ceti	20.1	33.6	47.5	1.2	14.6	28.0	0. 35. 41.6			0. 35. 0.94	H
	15	Polaris	39. 0.0	47. 9.0	55. 11.0	3. 15.0	...	...	1.	+ 12.	8.86	1. 3. 17.61	H
	16	δ 2 L.	30.5	44.6	58.7	13.0	27.6	41.6	4. 15. 55.8			4. 15. 13.11	H
	17	ν Tauri	...	...	...	14.5	28.6	42.5	4. 16. 56.5	—	20.88	4. 16. 14.65	H
	18*	τ Tauri	27.5	41.5	55.1	9.1	23.4	36.7	4. 32. 51.0			4. 32. 9.19	H
	19	ι Tauri	20.8	34.7	48.6	2.7	16.0	29.8	4. 53. 43.7			4. 53. 2.33	H
	20	Polaris S.P. ...	...	47. 10.0	55. 11.0	3. 16.0	11. 24.0	19. 28.0	13.	+	0.27	13. 3. 18.07	E
	21	Arcturus	4.1	17.8	31.4	45.1	58.8	12.3	14. 8. 26.1			14. 7. 45.09	E
	22	ϵ Bootis	39.0	53.7	8.1	22.8	37.3	51.8	14. 38. 6.2			14. 37. 22.70	E
Nov. 9	23	$\odot$ 1 L.	21.0	34.7	48.0	1.4	14.9	28.1	14. 54. 41.7		14. 54. 1.46	E	
	24	$\odot$ 2 L.	36.7	50.2	3.8	17.1	30.6	44.0	14. 56. 57.5		14. 56. 17.13	E	
	25	α Coronæ Borealis	33.8	48.3	2.7	17.2	31.8	46.1	15. 28. 0.6		15. 27. 17.22	E	
	26	Venus 1 L.	...	13.6	27.1	40.8	54.3	8.1	15. 35.	—	0.01	15. 34. 40.77	E
	27	α Serpentis	...	...	...	47.8	0.7	13.6	15. 36. 26.4	—	19.44	15. 35. 47.69	E
	28*	η Draconis	...	...	...	...	31.5	58.2	16. 22. 26.1	—	54.54	16. 21. 4.06	E
	29	Mars 1 L.	46.7	0.5	14.3	28.2	41.9	55.8	20. 34. 9.7			20. 33. 28.16	E
Nov. 10	30*	ζ Pegasi	14.5	...	40.6	...	7.5	...	22. 33. 33.0		0.00	22. 32. 53.90	H
	31*	δ 2 L.	1.0	15.1	29.6	43.8	58.4	12.2	6. 5. 26.7			6. 4. 43.83	H
	32	ϵ Bootis	37.2	51.8	6.1	20.9	35.6	50.0	14. 38. 4.3			14. 37. 20.84	M
Nov. 11	33	$\odot$ 1 L.	13.4	36.8	50.3	3.9	17.3	30.8	15. 2. 44.3		15. 2. 3.83	M	
	34	$\odot$ 2 L.	39.5	52.9	6.5	20.1	33.7	46.9	15. 5. 0.3		15. 4. 19.98	M	
	35*	α Coronæ Borealis	...	...	0.8	15.1	29.8	44.0	15. 27. 58.4	—	14.47	15. 27. 15.15	M
	36	δ Piscium	29.3	42.1	55.1	8.1	20.8	33.6	23. 31. 46.4			23. 31. 7.92	M
	37*	Uranus	...	58.3	11.3	...	37.1	50.1	23. 56. 3.0	—	7.71	23. 55. 24.25	M
	38	γ Pegasi	45.0	58.2	11.4	24.9	38.1	51.3	0. 5. 4.5			0. 4. 24.77	M
	39	ϵ Canis Majoris..	...	12.1	26.5	41.1	55.7	10.3	6. 52.	—	0.01	6. 51. 41.13	E
	40	δ 2 L.	55.8	9.9	23.9	38.1	52.1	6.2	7. 0. 20.2			6. 59. 38.03	E
	41	δ Geminorum ...	18.1	32.0	45.8	59.7	13.6	27.4	7. 10. 41.3			7. 9. 59.70	E
	42	Castor	4.4	19.7	34.8	50.1	5.2	20.3	7. 24. 35.4			7. 23. 49.98	E
	43	Procyon	40.8	53.4	6.3	19.2	32.2	45.0	7. 30. 58.0			7. 30. 19.28	E
Nov. 12	44	κ Geminorum ...	29.5	43.6	58.0	12.0	...	...	7. 34.	+	21.24	7. 34. 12.02	H
	45*	Pollux	...	26.5	41.6	56.5	11.5	25.5	7. 35. 40.0	—	7.31	7. 34. 56.29	H
	46*	δ 2 L.	6.6	20.6	34.5	48.6	2.4	15.6	7. 54. 29.6			7. 53. 48.27	H
ILLUMINATED END OF AXIS WEST. Order of Wires for Stars above the Pole, G, F, E, D, C, B, A.													
4, 5. Extremely faint; not seen till near the center.						28. Very faint.							
9. The intervals rather irregular.						30, 31, 35. Cloudy.							
18, 45. The intervals irregular.						30. A very bad observation.							
Nov. 8. During the evening the stars were very badly defined and tremulous.						37. Very cloudy.							
						45, 46. Exceedingly tremulous and clouded.							

CALCULATION OF APPARENT RIGHT ASCENSIONS.

[101]

No. for Reference.	Error of Collimation.	Level Error.	Seconds of Transit cor. for two Errors.	Azimuthal Error.	Seconds of Transit Corrected.	Tabular R. A. of Known Stars.	Clock apparently Slow.	Adopted Losing Rate.	Clock Slow at 0 ^h Sidereal.	Correction for Duration of Passage of Semidiameter.	Apparent R.A. of Center from the Observation.	N A M E OF OBJECT.	Correction to Mean R.A. 1843, Jan. 1.
"	"	"	"	"	"	"	"	"	"	m s	h m s	"	"
1	-0.43	+0.78		+0.70	28.87	14.53	45.66	0.79	45.07		13. 47. 14.39	η Bootis.	- 2.04
2					46.11	31.94	45.53				14. 8. 31.95	Arcturus.	- 1.87
3					18.29	3.88	45.59				15. 28. 3.87	α Coronæ Borealis.	- 1.47
4					0.49						22. 46. 46.31	* N.P.D. 62°.47'.	- 3.94
5					43.79						22. 47. 29.61	* N.P.D. 62°.49'.	- 3.95
6					28.41						22. 56. 14.23	β Pegasi.	- 4.02
7					14.80	60.66	45.86				22. 57. 0.62	α Pegasi.	- 4.09
8					51.38						23. 17. 37.22	ν Pegasi.	- 4.21
9					29.51						23. 22. 15.35	* N.P.D. 69°.19'.	- 4.25
10					55.24						23. 25. 41.08	71 Pegasi.	- 4.28
11					11.04	56.77	45.73				23. 31. 56.88	ι Piscium.	- 4.32
12					42.35						23. 56. 28.20	Uranus.	
13					28.04	13.89	45.85		45.86		0. 5. 13.90	γ Pegasi.	- 4.52
14					0.98	46.79	45.81				0. 35. 46.86	β Ceti.	- 4.56
15			18.09		17.03	63.25	46.22				1. 4. 2.92	Polaris.	-62.92
16					13.15					-1. 6.77	4. 14. 52.38	δ	
17					14.69						4. 17. 0.69	ν Tauri.	- 5.54
18					9.23						4. 32. 55.24	τ Tauri.	- 5.54
19					2.38						4. 53. 48.40	ι Tauri.	- 5.46
20			17.65		18.78	63.15	44.37	0.97	46.05		1. 4. 5.36	Polaris S.P.	-62.81
21					45.14	31.95	46.81				14. 8. 31.76	Arcturus.	- 1.88
22					22.74	9.36	46.62				14. 38. 9.38	ϵ Bootis.	- 1.60
23					9.31						14. 55. 55.96	$\odot$	
24					17.26	3.89	46.63				15. 28. 3.93	α Coronæ Borealis.	- 1.48
25					40.81						15. 35. 27.83	Venus.	
26					47.73	34.32	46.59			+ 0.34	15. 36. 34.41	α Serpentis.	- 2.13
27					4.09						16. 21. 50.80	η Draconis.	+ 1.75
28					28.20					+ 0.27	20. 34. 15.35	Mars.	
29													
30					53.94	41.84	47.90	1.10	46.86		....	ζ Pegasi.	
31					43.87				47.96	-1. 7.71	6. 4. 24.40	δ	
32					20.88	9.38	48.50	1.10	47.87		14. 38. 9.42	ϵ Bootis.	- 1.62
33					11.95						15. 4. 0.51	$\odot$	
34					15.19	3.90	48.71				15. 28. 3.77	α Coronæ Borealis.	- 1.49
35					7.96	56.74	48.78				23. 31. 56.91	ι Piscium.	- 4.29
36					24.29						23. 56. 13.25	Uranus.	
37					24.81	13.87	49.06		48.97		0. 5. 13.78	γ Pegasi.	- 4.50
38					41.16	31.04	49.88	1.10	49.44		6. 52. 30.92	ϵ Canis Majoris.	- 3.71
39					38.08					-1. 7.45	6. 59. 20.39	δ	
40					59.74	49.47	49.73				7. 10. 49.51	δ Geminorum.	- 5.02
41					50.03	39.75	49.72				7. 24. 39.81	Castor.	- 5.32
42					19.32	9.07	49.75				7. 31. 9.10	Procyon.	- 4.36
43													
44			-0.31		12.03			1.22	50.31		7. 35. 2.69	κ Geminorum.	- 4.99
45					56.30	47.08	50.78				7. 35. 46.96	Pollux.	- 5.07
46					48.28					-1. 6.92	7. 53. 32.03	δ	

Nov. 10, 21^h. The Transit instrument was reversed, and the error of collimation determined.

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	I.	II.	III.	IV.	V.	VI.	VII. WIRE.	Correction to Mean of Wires Observed.	Concluded Transit over Mean of the Seven Wires.	Observer.
			m s	m s	m s	m s	m s	m s	h m s	m s	h m s	
Nov. 13	1*	⊙ 1 L.	28.6	42.3	55.8	9.5	23.0	36.4	15. 10. 49.9		15. 10. 9.36	H
	2*	⊙ 2 L.	45.1	58.7	12.4	25.8	39.6	52.8	15. 13. 6.6		15. 12. 25.86	H
	3*	Jupiter 1 L.	9.5	...	35.8	...	2.9	...	21. 27. 29.8		21. 26. 49.50	H
	4*	Jupiter 2 L.	...	25.7	...	52.7	...	19.5	21. 27.		21. 26. 52.63	H
	5	♄ Piscium.	26.7	39.6	52.5	5.5	18.5	31.0	23. 31. 43.8		23. 31. 5.37	H
	6*	α Andromedæ ..	46.2	0.7	15.5	59.0	44.5	59.0	0. 0. 13.5		23. 59. 29.91	H
	7*	γ Pegasi.	42.6	55.6	9.0	22.5	35.6	48.6	0. 5. 2.0		0. 4. 22.27	H
Nov. 14	8	ε Leonis.	24.0	38.3	52.5	6.5	20.7	34.6	9. 36. 48.7		9. 36. 6.47	H
	9	δ 2 L.	2.9	16.5	29.6	43.0	56.5	9.7	9. 40. 23.0		9. 39. 43.03	H
	10*	Polaris S.P. ...	...	...	...	3. 3.0	11. 16.0	19. 23.0	13. 27. 29.0	-12. 9.14	13. 3. 8.61	H
	11	Arcturus.	57.6	11.5	24.9	38.6	52.5	5.9	14. 8. 19.8		14. 7. 38.69	H
	12	ε Bootis.	...	...	...	16.0	30.6	45.0	14. 37. 59.5	- 21.81	14. 37. 15.97	H
Nov. 15	13	⊙ 1 L.	37.5	50.8	4.6	18.3	31.8	45.5	15. 18. 58.6		15. 18. 18.16	H
	14	⊙ 2 L.	54.6	8.0	21.8	35.5	48.8	2.6	15. 21. 15.3		15. 20. 35.23	H
	15*	Venus 1 L.	57.8	11.7	25.6	39.4	53.3	7.1	16. 6. 20.9		16. 5. 39.40	M
	16	Polaris S.P. ...	...	...	...	3. 3.0	11. 10.0	19. 18.0	13. 27. 26.0	-12. 9.19	13. 3. 5.06	E
	17	ζ Ursæ Majoris..	...	56.0	19.0	41.9	4.8	27.6	13. 17.	- 0.01	13. 16. 41.85	E
	18	η Bootis.	39.0	52.6	6.1	19.7	33.4	47.0	13. 47. 0.6		13. 46. 19.78	E
	19	Arcturus.	56.1	9.8	23.4	37.2	50.8	4.3	14. 8. 18.0		14. 7. 37.09	E
Nov. 16	20*	⊙ 1 L.	...	56.6	10.1	23.8	37.3	50.8	15. 22.	- 0.01	15. 22. 23.71	E
	21*	⊙ 2 L.	0.2	13.8	27.3	41.2	54.8	8.2	15. 25. 21.8		15. 24. 41.04	E
	22	Mars 1 L.	6.1	19.8	33.3	46.8	0.5	14.1	20. 54. 27.8		20. 53. 46.92	E
	23	61 Cygni (1st star)	10.3	...	43.0	...	15.7	...	20. 59. 48.2	- 0.01	20. 58. 59.29	E
	24	61 Cygni (2nd star)	...	28.1	...	0.8	...	33.3	20. 59.	+ 0.01	20. 59. 0.74	E
	25	ζ Cygni.	38.8	53.3	8.0	22.9	37.8	52.5	21. 6. 7.2		21. 5. 22.93	E
	26	β Aquarii.	47.0	59.8	12.7	25.6	38.6	51.4	21. 23. 4.3		21. 22. 25.63	E
	27	Jupiter 1 L.	16.8	...	43.7	...	10.4	...	21. 28. 37.2		21. 27. 57.03	E
	28	Jupiter 2 L.	...	33.1	...	59.9	...	26.6	21. 28.		21. 27. 59.87	E
	29	γ Pegasi.	4.1	18.0	31.7	45.5	59.5	13.2	23. 25. 27.0		23. 24. 45.57	E
	30	♄ Piscium.	23.0	35.8	48.7	1.5	14.4	27.1	23. 31. 40.0		23. 31. 1.50	E
	31	Uranus.	17.8	30.7	43.5	56.3	9.2	22.0	23. 55. 35.0		23. 54. 56.36	E
	32	γ Pegasi.	38.7	52.0	5.2	18.5	31.8	45.0	0. 4. 58.2		0. 4. 18.49	E
	33	α Cassiopeiae.	...	2.7	25.7	48.5	11.2	33.8	0. 31.	- 0.01	0. 30. 48.37	E
	34*	β Ceti.	10.8	24.3	38.0	51.1	5.0	18.1	0. 35. 32.0		0. 34. 51.33	E
	35*	γ Cassiopeiae.	38.1	1.5	25.2	49.0	12.8	36.3	0. 39. 59.7		0. 38. 48.95	E
	36	γ Cassiopeiae.	10.7	36.3	2.0	27.7	53.3	18.8	0. 47. 44.2		0. 46. 27.57	E
	37	Polaris.	...	...	55. 3.0	3. 10.0	11. 17.0	...	1.	- 1.27	1. 3. 8.73	E
	38	θ Ceti.	...	...	6.8	19.8	33.1	45.9	1. 15. 58.8	- 13.03	1. 15. 19.85	E
	39	α Andromedæ ..	...	...	9.8	27.8	45.8	4.0	1. 18. 22.0	- 18.07	1. 17. 27.81	E
	40	χ Cassiopeiae.	...	5.8	30.0	51.7	19.1	43.3	1. 23.	- 0.01	1. 22. 54.57	E
	41	50 Andromedæ..	...	12.7	29.7	46.6	3.8	20.5	1. 27.	- 0.01	1. 26. 46.65	E
	42	δ 2 L.	22.0	35.2	48.4	1.7	14.3	27.9	11. 26. 41.2		11. 26. 1.53	H
Nov. 17	43	δ 2 L.	0.2	13.8	27.2	40.5	54.0	7.3	12. 22. 20.7		12. 21. 40.53	E
	44	Polaris S.P. ...	...	46. 54.5	54. 54.0	3. 2.0	11. 11.0	19. 17.0	13.	+ 0.27	13. 3. 3.97	H
	45	Arcturus.	54.1	7.8	21.3	35.0	48.8	2.3	14. 8. 16.0		14. 7. 35.04	E
	46	λ Bootis.	...	...	...	28.6	47.3	6.1	14. 10. 24.8	- 28.20	14. 9. 28.50	E
	47	θ Bootis.	51.1	12.1	33.2	54.3	15.6	36.6	14. 19. 57.8		14. 18. 54.39	E
	48	ε Bootis.	28.8	43.2	57.7	12.1	26.8	41.2	14. 37. 55.8		14. 37. 12.23	E
	49	Mercury 2 L. ...	22.9	36.1	49.5	3.2	16.4	29.8	14. 49. 43.1		14. 49. 3.00	E
ILLUMINATED END OF AXIS WEST. Order of Wires for Stars above the Pole, G, F, E, D, C, B, A.												
1, 2. Misty.						15. Very faint.			20, 21. Faint.			
3, 4. Very cloudy; the observation very bad.						34. The intervals irregular.						
6, 7. Cloudy. 10. A fog.						35. The 6th wire was set down 35°.3.						

CALCULATION OF APPARENT RIGHT ASCENSIONS.

[103]

No. for Reference.	Error of Collimation.	Level Error.	Seconds of Transit cor. for two Errors.	Azimuthal Error.	Seconds of Transit Corrected.	Tabular R.A. of Known Stars.	Clock apparently Slow.	Adopted Losing Rate.	Clock Slow at 0 ^h Sideral.	Correction for Duration of Passage of Semidiameter.	Apparent R.A. of Center from the Observation.	NAME OF OBJECT.	Correction to Mean R.A. 1843, Jan. 1.
	"	"	s	"	s	s	s	s	s	m s	h m s		s
1	-0.43	+0.78		-0.31	17.58			1.22	50.31		15. 12. 8.59	☉	
2					51.03						21. 27. 42.31	Jupiter.	
3					5.36	56.72	51.36				23. 31. 56.75	♈ Piscium.	- 4.27
4					29.92	21.47	51.55				0. 0. 21.33	♈ Andromedæ.	- 4.56
5					22.27	13.86	51.59			51.53	0. 5. 13.80	γ Pegasi.	- 4.49
6					6.48	59.76	53.28	1.10	52.76		....	ε Leonis.	
7					43.03					-1. 6.17	9. 39. 30.06	♏ Polaris S. P.	
8			8.19		7.69	61.06	53.37				....	Arcturus.	
9					38.70	32.03	53.33				....	ε Bootis.	
10			15.99		15.98	9.42	53.44				....		
11					26.67						15. 20. 20.13	☉	
12					39.37					+ 0.35	16. 6. 33.21	Venus.	
13					7.59	60.60	53.10	1.05	54.12		1. 4. 2.19	Polaris S. P.	-60.26
14		+1.56	3.14	+2.70	41.96						13. 17. 36.66	ζ Ursæ Majoris.	- 0.89
15					19.94	14.66	54.72				13. 47. 14.66	η Bootis.	- 2.17
16					37.26	32.04	54.78				14. 8. 32.00	Arcturus.	- 1.97
17					32.57						15. 24. 27.37	☉	
18					47.11					+ 0.25	20. 54. 42.40	Mars.	
19					59.43						20. 59. 54.47	♑ Cygni (1st star)	- 2.80
20					0.88						20. 59. 55.92	♑ Cygni (2nd star)	- 2.80
21					23.69	18.16	55.07				21. 6. 18.13	ζ Cygni.	- 2.81
22					25.81	20.95	55.14				21. 23. 20.87	β Aquarii.	- 3.65
23					58.63						21. 28. 53.69	Jupiter.	
24					45.73						23. 25. 40.88	71 Pegasi.	- 4.20
25					1.67	56.69	55.02				23. 31. 56.82	♈ Piscium.	- 4.24
26					56.53						23. 55. 51.70	Uranus.	
27					18.66	13.84	55.18		55.17		0. 5. 13.83	γ Pegasi.	- 4.47
28					48.48						0. 31. 43.67	α Cassiopeiæ.	- 5.62
29					51.52	46.74	55.22				0. 35. 46.72	β Ceti.	- 4.51
30					49.06						0. 39. 44.26	η Cassiopeiæ.	- 5.98
31					27.66						0. 47. 22.86	γ Cassiopeiæ.	- 6.19
32			10.78		6.70	60.36	53.66				1. 4. 1.91	Polaris.	-60.02
33					20.03	15.19	55.16				1. 16. 15.25	θ Ceti.	- 4.63
34					27.95						1. 13. 23.17	ω Andromedæ.	- 5.74
35					54.68						1. 23. 49.90	χ Cassiopeiæ.	- 6.74
36					46.79						1. 27. 42.02	50 Andromedæ.	- 5.64
37					1.71					-1. 7.33	11. 25. 50.05	♏	
38					40.70			1.20	56.20	-1. 8.88	12. 21. 28.64	♏	
39			2.06	+2.59	6.42	59.72	53.30				1. 4. 3.28	Polaris S. P.	-59.38
40					35.20	32.07	56.87				14. 8. 32.11	Arcturus.	- 2.00
41					23.63						14. 10. 25.54	λ Bootis.	- 0.90
42					54.50						14. 19. 51.41	θ Bootis.	- 0.32
43					12.39	9.45	57.06				14. 38. 9.32	ε Bootis.	- 1.69
44					3.17					- 0.17	14. 49. 59.94	Mercury.	

Nov. 14. The azimuthal error by tabular places of Polaris S.P. and ε Bootis, allowing 0^s.07 for clock-rate.Nov. 15 and 16. The azimuthal error by Polaris S.P. and Polaris, allowing 0^s.79 for clock-rate and change of R.A.Nov. 17, 21^h. The Transit instrument was levelled.

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	I.	II.	III.	IV.	V.	VI.	VII. WIRE.	Correction to Mean of Wires Observed.	Concluded Transit over Mean of the Seven Wires.	Observer.
			m s	m s	m s	m s	m s	m s	h m s			
Nov. 17	1	δ Draconis.....	12.8	38.0	3.3	29.0	54.3	19.4	15. 21. 44.8		15. 20. 28.66	E
	2	α Coronæ Borealis	23.6	37.8	52.2	7.0	21.3	35.7	15. 27. 50.2		15. 27. 6.83	E
Nov. 18	3	$\odot$ 1 L.....	56.8	10.6	24.2	38.0	51.4	4.8	15. 31. 19.0		15. 30. 37.83	E
	4*	$\odot$ 2 L.....	14.8	28.2	41.7	55.2	9.5	22.7	15. 33. 36.6		15. 32. 55.53	E
	5*	η Draconis.....	32.0	59.1	26.6	54.1	21.0	48.1	16. 22. 15.0		16. 20. 53.70	E
	6	η Herculis.....	44.8	1.1	18.0	34.4	51.1	7.6	16. 37. 24.2		16. 36. 34.46	E
	7*	ϵ Ursæ Minoris..	...	...	59. 27.0	1. 3.5	2. 39.3	...	17.	-	17. 1. 3.02	E
	8	β Draconis.....	52.5	13.6	34.7	56.0	...	...	17. 25.	+	31.62	E
	9	61 Cygni (1st star)	8.2	...	40.8	...	13.7	...	20. 59.	+	16.30	E
	10	61 Cygni (2nd star)	...	26.1	...	58.6	...	...	20. 58.	+	16.30	E
	11	Mars 1 L.....	...	...	...	33.5	47.0	0.6	21. 0. 14.1	-	20.42	E
	12	ζ Cygni.....	36.3	51.1	5.8	20.7	35.5	50.3	21. 6. 5.1		21. 5. 20.68	E
	13	β Aquarii.....	44.8	57.7	10.6	23.4	36.3	49.2	21. 23. 2.1		21. 22. 23.44	E
	14*	Jupiter 1 L....	5.2	...	32.0	...	...	...	21. 28.	+	26.77	E
	15*	Jupiter 2 L....	...	21.4	...	...	...	...	21. 29. 28.2	-	6.67	E
	16	Uranus.....	8.2	21.0	33.8	46.7	59.5	12.2	23. 55. 25.1		23. 54. 46.64	E
	17	α Andromedæ ..	40.1	54.8	9.4	23.9	38.4	53.0	0. 0. 7.7		23. 59. 23.90	E
	18	γ Pegasi.....	36.7	49.8	3.0	16.1	29.4	42.7	0. 4. 56.0		0. 4. 16.24	E
	19	α Cassiopeiæ....	37.7	0.3	23.2	46.2	9.0	31.8	0. 31. 54.7		0. 30. 46.13	E
	20	β Ceti.....	8.2	22.0	35.5	49.1	3.0	16.0	0. 35. 29.7		0. 34. 49.07	E
	21	η Cassiopeiæ....	36.0	59.7	23.1	47.0	10.8	34.0	0. 39. 57.7		0. 38. 46.90	E
	22	γ Cassiopeiæ....	9.0	34.4	0.2	26.1	...	...	0. 46.	+	38.42	E
	23	Piazzi I. 9.....	43.8	2.0	19.9	38.4	...	...	1. 2.	+	27.04	E
	24	Polaris.....	...	46. 54.0	54. 59.0	3. 8.0	11. 14.0	19. 16.0	1.	-	0.27	E
	25	ϕ Cassiopeiæ....	12.4	36.1	0.1	24.0	48.6	11.8	1. 10. 35.8		1. 9. 24.11	E
	26	θ Ceti.....	38.3	51.7	4.6	17.7	30.8	43.7	1. 15. 56.6		1. 15. 17.63	E
	27	Polaris S.P.	...	...	...	2. 57.0	11. 6.5	...	13. 27. 20.0	-	10. 48.17	M
	28	Spica.....	21.3	34.3	47.3	0.4	13.7	26.7	13. 16. 39.8		13. 16. 0.50	M
	29*	δ 2 L.....	39.2	53.0	6.8	20.4	34.2	47.8	13. 21. 1.4		13. 20. 20.40	M
Nov. 19	30	Arcturus.....	52.0	5.7	19.6	33.5	46.8	0.6	14. 8. 14.3		14. 7. 33.21	H
	31*	λ Bootis.....	...	...	...	26.5	45.7	4.4	14. 10. 23.0	-	28.20	H
	32*	θ Bootis.....	...	10.0	31.5	52.7	13.5	34.7	14. 19.	-	0.01	H
	33	δ Draconis.....	10.3	35.6	0.8	26.4	51.6	16.6	15. 21. 42.1		15. 20. 26.20	H
	34*	α Coronæ Borealis	...	35.6	50.2	4.7	19.4	33.6	15. 27.	-	0.01	H
Nov. 20	35*	$\odot$ 2 L.....	32.7	46.5	0.5	14.0	27.6	41.1	15. 41. 55.0		15. 41. 13.91	H
	36	β Draconis.....	50.6	11.7	32.8	54.5	...	...	17. 25.	+	31.62	H
	37	δ Herculis.....	7.7	26.5	44.6	3.6	21.9	40.6	17. 34. 58.6		17. 34. 3.36	H
	38*	Mars 1 L.....	38.6	52.5	5.6	19.5	33.5	46.5	21. 6. 0.0		21. 5. 19.46	H
	39	β Aquarii.....	42.7	55.6	8.7	21.8	34.7	47.5	21. 23. 0.6		21. 22. 21.65	H
	40	Jupiter 1 L....	56.7	...	23.5	...	50.5	...	21. 30. 16.7		21. 29. 36.85	H
	41	Jupiter 2 L....	...	12.8	...	39.6	...	6.5	21. 30.		21. 29. 39.63	H
	42	ϵ Pegasi.....	53.5	6.5	19.7	32.6	45.7	58.6	21. 36. 11.6		21. 35. 32.60	H
	43	Uranus.....	59.6	12.3	25.0	38.0	50.9	3.7	23. 55. 16.7		23. 54. 38.03	H
	44	γ Pegasi.....	34.6	47.8	1.0	14.6	27.6	40.6	0. 4. 54.5		0. 4. 14.39	H
	45	β Ceti.....	6.7	20.2	33.6	47.5	1.0	14.6	0. 35. 28.4		0. 34. 47.43	H
	46*	γ Cassiopeiæ....	...	32.5	58.0	23.6	49.7	14.6	0. 47.	-	0.01	H
	47	Piazzi I. 9.....	...	...	...	...	54.5	12.2	1. 3. 30.5	-	36.06	H
	48	Polaris.....	38. 31.0	...	54. 58.0	3. 5.0	11. 12.5	...	1.	+	6. 4.19	H
	49*	ϕ Cassiopeiæ....	...	...	...	...	46.4	9.7	1. 10. 33.7	-	47.74	H
	50*	θ Ceti.....	...	...	...	...	28.5	41.6	1. 15. 54.8	-	26.04	H
ILLUMINATED END OF AXIS WEST. Order of Wires for Stars above the Pole, G, F, E, D, C, B, A.												
4, 38. The intervals irregular.							29. Very faint, but well observed.					
5, 7, 31, 32, 34, 49, 50. Cloudy.							35. Very cloudy; the 1st limb could not be observed.					
14, 15. Very cloudy.							46. The intervals are irregular, but the star was well observed.					

CALCULATION OF APPARENT RIGHT ASCENSIONS.

[105]

No. for Reference.	Error of Collimation.	Level Error.	Seconds of Transit cor. for two Errors.	Azimuthal Error.	Seconds of Transit Corrected.	Tabular R.A. of Known Stars.	Clock apparently Slow.	Adopted Losing Rate.	Clock Slow at 0 ^h Sidereal.	Correction for Duration of Passage of Semidiameter.	Apparent R.A. of Center from the Observation.	NAME OF OBJECT.	Correction to Mean R.A. 1843, Jan. 1.
#	#	#	#	#	s	s	s	s	s	m s	h m s		s
1	-0.43	+1.56		+2.59	28.75			1.20	56.20		15. 21. 25.72	ι Draconis.	+ 1.08
2					6.99	3.93	56.94				15. 28. 3.96	α Coronæ Borealis.	- 1.52
3													
4					46.86						15. 32. 43.83	$\odot$	
5					53.79						16. 21. 50.80	η Draconis.	+ 1.88
6					34.60						16. 37. 31.63	η Herculis.	- 0.76
7					2.83						17. 1. 59.88	ϵ Ursæ Minoris.	+ 17.32
8					55.93						17. 26. 53.00	β Draconis.	+ 0.37
9					57.34						20. 59. 54.60	61 Cygni (1st star)	- 2.76
10					58.79						20. 59. 56.04	61 Cygni (2nd star)	- 2.76
11					33.56					+ 0.25	21. 0. 31.06	Mars.	
12					20.84	18.12	57.28				21. 6. 18.10	ζ Cygni.	- 2.77
13					23.62	20.92	57.30				21. 23. 20.89	β Aquarii.	- 3.62
14													
15					46.93						21. 29. 44.20	Jupiter.	
16					46.81						23. 55. 44.20	Uranus.	
17					24.06	21.42	57.36				0. 0. 21.46	α Andromedæ.	- 4.51
18					16.41	13.82	57.41		57.40		0. 5. 13.81	γ Pegasi.	- 4.45
19					46.24						0. 31. 43.67	α Cassiopeia.	- 5.59
20					49.25	46.72	57.47				0. 35. 46.68	β Ceti.	- 4.49
21					47.01						0. 39. 44.44	η Cassiopeia.	- 5.95
22					25.95						0. 47. 23.39	γ Cassiopeia.	- 6.15
23					38.20						1. 3. 35.65	Piazzi I. 9.	- 5.54
24			7.98		4.07	59.52	55.45				1. 4. 1.52	Polaris.	- 59.18
25					24.22						1. 10. 21.68	ϕ Cassiopeia.	- 6.40
26					17.80	15.18	57.38				1. 16. 15.26	θ Ceti.	- 4.62
27			57.74		1.92	59.32	57.40	1.16	57.14		1. 3. 59.69	Polaris S.P.	- 58.98
28					0.68	58.46	57.78				....	Spica.	
29					20.57					-1. 10.94	13. 20. 7.42	δ	
30				+2.10	33.35	32.11	58.76	1.00	58.26		14. 8. 32.20	Arcturus.	- 2.04
31					26.82						14. 10. 25.67	λ Bootis.	- 0.94
32					52.58						14. 19. 51.43	θ Bootis.	- 0.36
33					26.31						15. 21. 25.22	ι Draconis.	+ 1.06
34					4.84	3.95	59.11				15. 28. 3.75	α Coronæ Borealis.	- 1.54
35					14.06					-1. 9.06	15. 41. 3.91	$\odot$	
36					54.14						17. 26. 53.13	β Draconis.	+ 0.39
37					3.49						17. 35. 2.49	ι Herculis.	- 0.28
38					19.61					+ 0.25	21. 6. 19.00	Mars.	
39					21.80	20.89	59.09				21. 23. 20.96	β Aquarii.	- 3.59
40													
41					38.38						21. 30. 37.54	Jupiter.	
42					32.74	31.85	59.11				21. 36. 31.90	ϵ Pegasi.	- 3.42
43					38.17						23. 55. 37.42	Uranus.	
44					14.54	13.80	59.26		59.26		0. 5. 13.80	γ Pegasi.	- 4.43
45			47.44		47.58	46.70	59.12				0. 35. 46.87	β Ceti.	- 4.47
46					23.77						0. 47. 23.06	γ Cassiopeia.	- 6.12
47					36.46						1. 3. 35.76	Piazzi I. 9.	- 5.53
48			2.87		59.70	58.84	59.14				....	Polaris.	
49					22.30						1. 10. 21.61	ϕ Cassiopeia.	- 6.37
50					15.73	15.17	59.44				1. 16. 15.04	θ Ceti.	- 4.61

Nov. 17 and 18. The azimuthal error by three consecutive passages of Polaris.

Nov. 20. The azimuthal error by tabular places of β Ceti and Polaris, allowing 0^s.02 for clock-rate.

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	I.	II.	III.	IV.	V.	VI.	VII. WIRE.	Correction to Mean of Wires Observed.	Concluded Transit over Mean of the Seven Wires.	Observer.		
			m s	m s	m s	m s	m s	m s	h m s				m s	h m s
Nov. 20	1	ω Andromedæ...	...	47.6	5.7	23.8	41.6	59.8	1. 17.	—	0.01	1. 17. 23.69	H	
Nov. 22	2*	α Coronæ Borealis	...	...	47.4	2.0	16.2	30.7	15. 28. 45.1	—	14.47	15. 28. 1.81	E	
Nov. 23	3*	$\odot$ 2 L.	6.2	20.1	33.8	47.7	1.5	15.0	15. 55. 28.7			15. 54. 47.57	E	
	4	ζ Pegasi	59.8	12.8	25.9	39.0	52.1	5.1	22. 34. 18.2			22. 33. 38.96	E	
	5	* N.P.D. 61°.33'..	51.1	5.7	20.2	34.8	49.6	4.1	22. 37. 18.8			22. 36. 34.90	E	
	6	* N.P.D. 62°.47'..	0.3	14.7	29.2	43.7	...	...	22. 46.	+	21.69	22. 46. 43.67	E	
	7	* N.P.D. 62°.49'..	...	57.7	12.2	26.8	41.2	55.7	22. 47.	—	0.01	22. 47. 26.71	E	
	8	Fomalhaut.	...	29.3	44.2	59.2	14.1	28.9	22. 49.	—	0.01	22. 48. 59.13	E	
	9*	α Pegasi	18.1	31.3	44.7	58.0	11.4	24.0	22. 57. 37.6			22. 56. 57.87	E	
	10*	ι Piscium	15.3	28.1	41.0	54.0	6.9	19.8	23. 32. 32.7			23. 31. 53.97	E	
	Nov. 26	11*	ϵ Bootis.	...	33.8	48.1	2.6	17.2	31.7	14. 38.	—	0.01	14. 38. 2.67	E
		12	ι Draconis.	2.5	28.1	53.0	19.0	44.3	9.3	15. 22. 35.0			15. 21. 18.75	E
13		α Coronæ Borealis	...	28.1	42.2	57.0	11.7	26.1	15. 28.	—	0.01	15. 27. 57.01	E	
14		α Serpentis.	...	1.4	14.6	27.4	40.4	53.3	15. 36.	—	0.01	15. 36. 27.41	E	
15		θ Draconis	34.1	59.1	...	49.2	14.1	39.0	16. 0. 4.0	—	4.16	15. 58. 49.09	E	
Nov. 27	16	η Draconis	22.0	49.2	16.8	44.4	11.3	38.1	16. 23. 5.8			16. 21. 43.90	E	
	17	β Aquarii	34.8	47.7	0.3	13.3	26.2	39.2	21. 23. 52.0			21. 23. 13.36	E	
	18*	Mars 1 L.	40.8	54.6	7.8	21.3	34.4	...	21. 26.	+	13.43	21. 26. 21.21	E	
	19	δ 1 L.	4.4	17.8	31.1	44.8	58.1	11.3	21. 32. 24.7			21. 31. 44.60	E	
	20	Jupiter 1 L.	14.1	...	40.7	...	7.4	...	21. 34. 33.8			21. 33. 54.00	E	
	21	Jupiter 2 L.	...	30.1	...	56.7	...	23.3	21. 34.			21. 33. 56.70	E	
	22	ϵ Pegasi.	45.1	58.2	11.1	24.2	37.3	50.4	21. 37. 3.2			21. 36. 24.21	E	
Nov. 28	23	$\odot$ 1 L.	56.7	10.8	24.6	38.5	52.6	5.9	16. 14. 19.8			16. 13. 38.42	H	
	24	$\odot$ 2 L.	16.7	30.6	44.6	58.6	12.4	25.9	16. 16. 39.7			16. 15. 58.36	H	
	25	η Draconis.	21.0	48.5	15.1	43.1	10.5	37.4	16. 23. 4.7			16. 21. 42.90	H	
	26	η Herculis.	33.7	50.6	6.9	23.8	40.4	56.7	16. 38. 13.6			16. 37. 23.67	H	
	27	ζ Draconis.	...	6.7	38.1	9.8	41.4	12.6	17. 9.	—	0.02	17. 8. 9.70	H	
	28	Venus 1 L.	19.7	33.8	47.8	2.2	16.4	30.2	17. 16. 44.4			17. 16. 2.07	H	
	29	α Ophiuchi.	53.5	6.6	19.8	...	...	...	17. 28. 12.5	+	9.90	17. 27. 33.00	H	
	30	α Lyrae	40.7	57.4	13.8	30.5	46.7	3.1	18. 32. 19.7			18. 31. 30.27	H	
	31	η Bootis.	24.8	38.4	52.1	5.8	19.6	32.7	13. 47. 46.6			13. 47. 5.71	E	
	32	Arcturus.	42.0	55.8	9.3	23.0	36.8	50.3	14. 9. 4.0			14. 8. 23.03	E	
	33	θ Bootis.	38.8	0.0	21.3	42.8	3.3	24.2	14. 20. 45.8			14. 19. 42.31	E	
	34	ϵ Bootis.	16.7	31.3	45.8	0.3	15.0	29.4	14. 38. 43.9			14. 38. 0.34	E	
	35	α Coronæ Borealis	11.4	25.8	40.3	54.8	9.4	23.8	15. 28. 38.2			15. 27. 54.81	E	
Nov. 29	36	$\odot$ 1 L.	12.7	26.2	40.4	54.4	8.3	22.2	16. 18. 36.1			16. 17. 54.33	E	
	37*	$\odot$ 2 L.	32.8	46.7	0.7	14.6	28.4	42.3	16. 20. 56.1			16. 20. 14.51	E	
	38	η Herculis.	...	...	...	22.4	39.0	55.3	16. 38. 12.1	—	24.91	16. 37. 22.29	E	
	39	ζ Draconis	...	...	...	8.4	40.1	11.8	17. 9. 43.2	—	47.30	17. 8. 8.58	E	
	40*	Venus 1 L.	45.8	0.0	13.7	28.2	42.2	56.1	17. 22. 10.0			17. 21. 28.00	E	
	41	α Pegasi	10.9	24.0	37.3	50.6	3.8	17.1	22. 57. 30.3			22. 56. 50.57	E	
	42	δ 1 L.	34.4	47.7	0.8	13.8	27.0	40.1	23. 6. 53.2			23. 6. 13.86	E	
	43	ι Piscium	8.2	21.1	34.0	46.9	59.8	12.7	23. 32. 25.5			23. 31. 46.89	E	
	44	Uranus	26.8	39.8	52.6	5.5	18.3	31.1	23. 55. 43.9			23. 55. 5.43	E	
	45	γ Pegasi	24.1	37.3	50.5	4.0	17.2	30.3	0. 5. 43.7			0. 5. 3.87	E	
	46	β Ceti	56.1	9.9	23.3	37.0	50.3	4.0	0. 36. 17.5			0. 35. 36.87	E	
	47	η Cassiopeiæ....	...	47.1	11.1	34.4	58.2	21.7	0. 40.	—	0.01	0. 39. 34.49	E	
ILLUMINATED END OF AXIS WEST. Order of Wires for Stars above the Pole, G, F, E, D, C, B, A.														
2, 11. Cloudy. 3, 9, 10, 18. Very cloudy. 37. Very tremulous.														
9. The intervals irregular. 40. Very faint and tremulous.														

CALCULATION OF APPARENT RIGHT ASCENSIONS.

[107]

No. for Reference.	Error of Collimation.	Level Error.	Seconds of Transit cor. for two Errors.	Azimuthal Error.	Seconds of Transit Corrected.	Tabular R.A. of Known Stars.	Clock apparently Slow.	Adopted Losing Rate.	Clock Slow at 0 ^h Sidereal.	Correction for Duration of Passage of Semidiameter.	Apparent R.A. of Center from the Observation.	NAME OF OBJECT.	Correction to Mean R.A. 1843, Jan. 1.
	"	"	s	"	s	s	s	s	s	m s	h m s		s
1	-0.43	+1.56		+2.10	23.82			1.00	59.26		1. 18. 23.13	ω Andromedæ.	- 5.80
2		+1.48			1.95	3.98	2.03	1.10	1.43		15. 28. 4.09	α Coronæ Borealis.	- 1.57
3					47.71					-1. 9.39	15. 53. 40.48	$\odot$	
4					39.10	41.68	2.58				22. 33. 41.57	ζ Pegasi.	- 3.76
5					35.03						22. 36. 37.50	* N.P.D. 61°.33'.	- 3.62
6					43.81						22. 46. 46.29	* N.P.D. 62°.47'.	- 3.73
7					26.85						22. 47. 29.33	* N.P.D. 62°.49'.	- 3.73
8					59.28	1.77	2.49				22. 49. 1.76	Fomalhaut.	- 4.22
9					58.01	60.48	2.47				22. 57. 0.49	α Pegasi.	- 3.91
10					54.11	56.62	2.51				23. 31. 56.62	ι Piscium.	- 4.17
11				+3.05	2.83	9.59	6.76	1.10	6.22		14. 38. 9.72	ϵ Bootis.	- 1.83
12					18.83						15. 21. 25.75	ι Draconis.	+ 1.01
13					57.17	4.03	6.86				15. 28. 4.10	α Coronæ Borealis.	- 1.62
14					27.59	34.48	6.89				15. 36. 34.53	α Serpentis.	- 2.29
15					49.17						15. 58. 56.12	θ Draconis.	+ 1.24
16					43.97						16. 21. 50.94	η Draconis.	+ 1.92
17					13.55	20.80	7.25				21. 23. 20.74	β Aquarii.	- 3.50
18					21.42					+ 0.24	21. 26. 28.86	Mars.	
19					44.80					+1. 4.32	21. 32. 56.33	δ	
20					55.56						21. 34. 2.77	Jupiter.	
21											21. 36. 31.60	ϵ Pegasi.	- 3.33
22					24.39	31.76	7.37						
23					48.61			1.10	6.87		16. 14. 56.22	$\odot$	
24		+1.98									16. 21. 50.66	η Draconis.	+ 1.92
25					43.04						16. 37. 31.48	η Herculis.	- 0.77
26					23.85						17. 8. 17.49	ζ Draconis.	+ 3.10
27					9.83						17. 16. 10.32	Venus.	
28					2.30					+ 0.36	....	α Ophiuchi.	
29					33.21	40.90	7.69				....	α Lyræ.	
30					30.55	38.25	7.70				13. 47. 14.92	η Bootis.	- 2.44
31					5.92	14.93	9.01	1.20	8.31		14. 8. 32.25	Arcturus.	- 2.21
32					23.23	32.28	9.05				14. 19. 51.50	θ Bootis.	- 0.54
33					42.47						14. 38. 9.58	ϵ Bootis.	- 1.87
34					0.54	9.63	9.09				15. 28. 4.09	α Coronæ Borealis.	- 1.64
35					55.01	4.05	9.04						
36					4.64						16. 19. 13.77	$\odot$	
37											16. 37. 31.61	η Herculis.	- 0.78
38					22.47						17. 8. 17.87	ζ Draconis.	+ 3.10
39					8.70						17. 21. 37.78	Venus.	
40					28.23					+ 0.37	22. 57. 0.23	α Pegasi.	- 3.83
41					50.78	0.40	9.62			+1. 1.68	23. 7. 25.22	δ	
42					14.07						23. 31. 56.59	ι Piscium.	- 4.11
43					47.10	56.56	9.46				23. 55. 15.14	Uranus.	
44					5.64						0. 5. 13.59	γ Pegasi.	- 4.35
45					4.08	13.72	9.64		9.51		0. 35. 46.63	β Ceti.	- 4.38
46					37.09	46.61	9.52				0. 39. 44.18	η Cassiopeiæ.	- 5.75
47					34.64								

Nov. 21. The Transit clock was put forward 1^m.Nov. 24, 21^h. The Transit instrument was levelled.

MONTH and DAY.	No. for Reference	NAME OF OBJECT.	I.	II.	III.	IV.	V.	VI.	VII. WIRE.	Correction to Mean of Wires Observed.	Concluded Transit over Mean of the Seven Wires.	Observer.	
			m s	m s	m s	m s	m s	m s	h m s				m s
Nov. 29	1	Piazzi I. 9	31.7	49.8	7.8	26.0	...	...	1. 3.	+	27.04	1. 3. 25.87	E
	2	Polaris	...	47. 35.0	55. 42.0	3. 50.0	11. 59.0	20. 2.0	1.	-	0.27	1. 3. 49.33	E
	3*	φ Cassiopeiae	0.1	24.1	48.0	11.9	35.0	59.1	1. 11. 23.3			1. 10. 11.64	E
	4	δ Cassiopeiae	17.0	42.1	7.4	33.2	58.4	...	1. 15.	+	25.25	1. 15. 32.87	E
	5	ω Andromedæ	19.2	37.1	55.2	13.4	31.5	49.2	1. 19. 7.4			1. 18. 13.28	E
	6	χ Cassiopeiae	...	51.1	15.5	40.3	4.8	29.0	1. 24.	-	0.01	1. 23. 40.13	E
	7	50 Andromedæ	41.3	58.1	15.0	32.1	49.2	6.1	1. 28. 23.1			1. 27. 32.13	E
	8	54 Andromedæ	...	7.8	27.7	47.8	7.8	27.9	1. 34.	-	0.01	1. 33. 47.79	E
	9	Piazzi I. 159	...	28.8	57.1	25.8	54.1	22.1	1. 37.	-	0.01	1. 36. 25.57	E
	10	ε Cassiopeiae	43.3	11.5	40.0	8.3	...	...	1. 43.	+	42.42	1. 43. 8.20	E
	11	46 Cassiopeiae	...	...	...	53.0	27.3	1.1	1. 45. 35.0	-	51.19	1. 43. 52.91	E
	12	3 Persei	35.2	54.6	14.0	33.6	53.1	12.0	1. 49. 31.4			1. 48. 33.41	E
	13	4 Persei	45.1	6.8	28.4	50.1	12.0	33.5	1. 52. 55.2			1. 51. 50.15	E
	14	α Arietis	33.8	47.8	1.9	15.8	29.7	43.5	1. 58. 57.4			1. 58. 15.70	E
	15	h Persei	...	...	10.1	33.4	57.2	...	2. 0.	-	0.06	2. 0. 33.51	E
	16	55 Cassiopeiae	...	...	42.1	13.4	45.1	...	2. 2.	-	0.08	2. 2. 13.45	E
	17	χ Persei	...	15.2	38.8	2.1	25.8	49.1	2. 7.	-	0.01	2. 7. 2.19	F
	18	c Andromedæ	...	30.1	48.8	7.2	26.2	44.8	2. 9.	-	0.01	2. 9. 7.41	E
	19	i Persei	...	39.9	2.2	25.0	47.2	9.6	2. 12.	-	0.01	2. 11. 24.77	E
	20*	Polaris S.P.	39. 23.0	47. 36.0	55. 32.5	3. 40.0	...	...	13.	+	12. 10.15	13. 3. 43.03	H
	21*	ε Bootis	...	...	...	59.7	14.0	28.5	14. 38. 43.3	-	21.81	14. 37. 59.57	H
Dec. 1	22*	α Arietis	31.1	45.0	59.0	13.1	27.0	41.0	1. 58. 54.8			1. 58. 13.00	E
	23	η Draconis	16.0	43.5	10.7	38.0	5.3	32.4	16. 22. 59.7			16. 21. 37.95	H
Dec. 2	24	⊙ 1 L.	...	18.5	32.7	46.7	0.8	14.6	16. 31.	-	0.01	16. 30. 46.65	H
	25	⊙ 2 L.	25.7	39.8	53.5	7.5	21.5	34.6	16. 33. 49.0			16. 33. 7.37	H
	26*	ζ Draconis	...	...	...	...	37.0	7.6	17. 9. 39.5	-	1. 3.03	17. 8. 5.00	H
	27	β Draconis	36.7	57.8	18.8	40.4	...	...	17. 26.	+	31.62	17. 26. 40.04	H
	28	α Ophiuchi	...	...	...	28.5	41.5	54.5	17. 28. 7.6	-	19.78	17. 27. 28.25	H
	29	ι Herculis	53.7	12.6	30.7	49.8	8.0	26.5	17. 35. 45.6			17. 34. 49.56	H
	30*	Venus 1 L.	7.1	21.5	35.5	49.8	3.8	17.7	17. 38. 32.5			17. 37. 49.70	H
	31	α Lyrae	36.2	52.6	9.0	25.7	42.0	58.5	18. 32. 14.7			18. 31. 25.53	H
	32	Jupiter 1 L.	52.5	...	19.5	...	46.0	...	21. 37. 12.5			21. 36. 32.63	H
	33	Jupiter 2 L.	...	8.5	...	35.3	...	1.7	21. 37.			21. 36. 35.17	H
	34	Mars 1 L.	51.7	5.0	18.5	31.7	45.5	58.5	21. 41. 11.8			21. 40. 31.81	H
Dec. 5	35	η Tauri	15.8	29.7	43.7	57.7	11.8	25.8	3. 38. 30.0			3. 37. 57.79	E
	36	Polaris S.P.	...	47. 25.0	55. 25.0	3. 30.5	11. 39.0	19. 44.0	13.	+	0.27	13. 3. 32.97	H
	37	Spica	1.5	14.8	27.7	41.0	54.0	6.9	13. 17. 20.0			13. 16. 40.84	H
	38	α Coronæ Borealis	2.7	17.4	31.7	46.4	0.7	15.0	15. 28. 29.7			15. 27. 46.23	H
	39	α Serpentis	37.7	50.7	3.8	16.6	29.7	42.4	15. 36. 55.5			15. 36. 16.63	H
	40	θ Draconis	23.1	48.0	13.1	38.0	3.1	27.7	15. 59. 52.8			15. 58. 37.97	H
	41	η Draconis	10.7	37.8	5.0	32.6	59.7	26.8	16. 22. 54.1			16. 21. 32.38	H
Dec. 6	42*	⊙ 2 L.	43.2	57.5	11.6	25.6	39.4	53.6	16. 51. 7.3			16. 50. 25.46	H
	43*	α Herculis	...	...	0.0	13.4	26.7	39.7	17. 7. 52.8	-	13.30	17. 7. 13.22	H
	44*	β Draconis	...	...	13.0	34.5	55.7	...	17. 25.	-	0.06	17. 25. 34.34	H
	45*	ι Herculis	...	...	...	...	2.6	21.0	17. 35. 39.7	-	37.09	17. 34. 44.01	H
	46	Venus 1 L.	0.7	14.7	28.8	43.0	57.5	11.5	18. 0. 25.6			17. 59. 43.11	H
	47	α Lyrae	30.6	47.3	3.8	20.4	36.7	52.9	18. 32. 9.6			18. 31. 20.18	H
	48	Jupiter 1 L.	7.8	...	34.5	...	1.5	...	21. 39. 27.8			21. 38. 47.90	H
	49	Jupiter 2 L.	...	23.7	...	50.5	...	17.0	21. 39.			21. 38. 50.40	H
ILLUMINATED END OF AXIS WEST. Order of Wires for Stars above the Pole, G, F, E, D, C, B, A.													
3. The 5th wire was set down 31.0.						44. The observation not good; it is suspected that the Sun							
20, 21, 42, 43, 45. Cloudy.						shone on the object-glass, the telescope being nearly							
26. Cloudy and hazy.						vertical.							
30. The intervals irregular.													

CALCULATION OF APPARENT RIGHT ASCENSIONS.

[109]

No. for Reference.	Error of Collimation.	Level Error.	Seconds of Transit cor. for two Errors.	Azimuthal Error.	Seconds of Transit Corrected.	Tabular R.A. of Known Stars.	Clock apparently Slow.	Adopted Losing Rate.	Clock Slow at 0 ^h Sidereal.	Correction for Duration of Passage of Semidiameter.	Apparent R.A. of Center from the Observation.	NAME OF OBJECT.	Correction to Mean R.A. 1843, Jan. 1.
	"	"	"	"	"	"	"	"	"	m s	h m s	"	"
1	-0.43	+1.98		+3.05	26.05			1.20	9.51		1. 3. 35.61	Piazzi I. 9.	- 5.44
2			52.22		47.61	54.43	6.82				1. 3. 57.17	Polaris.	-54.09
3					11.79						1. 10. 21.35	ϕ Cassiopeiae.	- 6.25
4					33.02						1. 15. 42.59	δ Cassiopeiae.	- 6.56
5					13.46						1. 18. 23.03	ω Andromedæ.	- 5.65
6					40.28						1. 23. 49.85	χ Cassiopeiae.	- 6.59
7					32.31						1. 27. 41.88	50 Andromedæ.	- 5.58
8					48.05						1. 33. 57.63	54 Andromedæ.	- 6.11
9					25.70						1. 36. 35.28	Piazzi I. 159.	- 7.37
10					8.33						1. 43. 17.92	ϵ Cassiopeiae.	- 7.46
11					53.01						1. 44. 2.60	46 Cassiopeiae.	- 8.30
12					33.59						1. 48. 43.18	3 Persei.	- 6.23
13					50.30						1. 51. 59.90	4 Persei.	- 6.65
14					15.91	25.28	9.37				1. 58. 25.52	α Arietis.	- 5.28
15					33.66						2. 0. 43.27	h Persei.	- 7.08
16					13.57						2. 2. 23.18	55 Cassiopeiae.	- 8.38
17					2.34						2. 7. 11.95	χ Persei.	- 7.18
18					7.58						2. 9. 17.20	c Andromedæ.	- 6.36
19					24.93						2. 11. 34.55	i Persei.	- 7.05
20			40.31		45.23	54.13	8.90	1.22	9.14		1. 3. 55.04	Polaris S.P.	-53.79
21					59.77	9.65	9.88				....	ϵ Bootis.	
22					13.21	25.28	12.07	...	...		....	α Arietis.	
23					38.09			1.25	11.55		16. 21. 50.49	η Draconis.	+ 1.90
24					57.23						16. 32. 9.64	$\odot$	
25					5.12						17. 8. 17.56	ζ Draconis.	+ 3.13
26					40.20						17. 26. 52.66	β Draconis.	+ 0.50
27					28.46	40.92	12.46				....	α Ophiuchi.	
28					49.74						17. 35. 2.21	ι Herculis.	- 0.19
29					49.93						17. 38. 2.77	Venus.	
30					25.71	38.22	12.51			+ 0.37	....	α Lyræ.	
31					34.11						21. 36. 46.78	Jupiter.	
32					32.02					+ 0.23	21. 40. 44.94	Mars.	
33					58.01	15.53	17.52	...	...		....	η Tauri.	
34					34.97	51.07	16.10	1.36	16.91		1. 3. 52.62	Polaris S.P.	-50.73
35			29.90	+3.14	41.07	58.90	17.83				13. 16. 58.73	Spica.	- 3.20
36					46.45	4.16	17.71				15. 28. 4.23	α Coronæ Borealis.	- 1.75
37					16.85	34.61	17.76				15. 36. 34.64	α Serpentis.	- 2.42
38					38.14						15. 58. 55.96	θ Draconis.	+ 1.17
39					32.54						16. 21. 50.37	η Draconis.	+ 1.89
40					25.70					-1.10.58	16. 49. 32.98	$\odot$	
41					13.44	31.40	17.96				17. 7. 31.32	α Herculis.	- 2.03
42					34.51						17. 25. 52.41	β Draconis.	+ 0.51
43					44.20						17. 35. 2.11	ι Herculis.	- 0.20
44					43.34					+ 0.37	18. 0. 1.64	Venus.	
45					20.38	38.20	17.82				18. 31. 38.34	α Lyræ.	- 0.95
46					49.38						21. 39. 7.51	Jupiter.	

Nov. 29. The azimuthal error by Polaris and Polaris S.P., allowing 0^s.87 for clock-rate and change of R.A.

Dec. 1, 21^h. The Transit instrument was reversed, and the error of collimation determined: the instrument was also levelled.

Dec. 5 and 6. The azimuthal error by Polaris S.P. and Polaris, allowing 0^s.99 for clock-rate and change of R.A.

[110]

TRANSITS OBSERVED AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1843.

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	I.	II.	III.	IV.	V.	VI.	VII. WIRE.	Correction to Mean of Wires Observed.	Concluded Transit over Mean of the Seven Wires.	Observer.
			m s	m s	m s	m s	m s	m s	h m s			
Dec. 6	1*	Mars 1 L.	5.7	19.5	32.6	45.7	59.5	12.5	21. 52. 25.7		21. 51. 45.89	H
	2*	Uranus	11.0	24.0	36.7	49.8	2.6	15.5	23. 55. 28.5		23. 54. 49.73	H
	3	α Andromedæ ..	18.6	33.6	48.1	2.8	17.5	31.6	0. 0. 46.6		0. 0. 2.68	H
	4	γ Pegasi	15.5	28.6	41.8	55.2	8.6	21.6	0. 5. 35.0		0. 4. 55.19	H
	5	β Ceti	47.5	0.8	14.5	28.1	41.6	55.0	0. 36. 8.7		0. 35. 28.03	H
	6	Polaris	...	47. 22.0	55. 30.0	3. 36.0	11. 44.0	...	1.	+ 4. 2.46	1. 3. 35.46	H
	7	χ Cassiopeiæ ...	...	42.0	6.8	31.5	55.8	20.0	1. 24.	- 0.01	1. 23. 31.21	H
	8	50 Andromedæ ..	32.5	49.3	6.3	23.3	40.4	57.0	1. 28. 14.0		1. 27. 23.26	H
	9	Piazzi I. 159 ...	...	19.5	47.7	16.7	45.1	13.1	1. 37.	- 0.01	1. 36. 16.41	H
	10*	ϵ Cassiopeiæ ...	34.0	...	30.5	59.0	...	...	1. 42.	+ 37.62	1. 42. 58.79	H
	11	46 Cassiopeiæ ...	...	...	...	43.6	18.0	51.6	1. 45. 26.5	- 51.19	1. 43. 43.74	H
	12	3 Persei	...	...	5.0	24.6	44.0	...	1. 48.	- 0.05	1. 48. 24.49	H
	13	4 Persei	36.3	57.7	19.5	41.5	3.4	24.6	1. 52. 46.0		1. 51. 41.28	H
	14	α Arietis	25.0	38.7	52.8	6.7	20.8	34.6	1. 58. 48.7		1. 58. 6.76	H
	15	τ Tauri	54.8	9.0	23.0	37.0	50.7	4.7	4. 33. 18.6		4. 32. 36.83	H
	16*	δ 1 L.	47.7	2.6	16.7	31.0	45.6	59.6	4. 50. 14.0		4. 49. 31.02	H
	17*	δ 2 L.	3.5	17.6	32.0	46.6	0.8	15.0	4. 52. 29.5		4. 51. 46.43	H
	18	Rigel	6.7	19.7	32.7	45.7	58.6	11.6	5. 7. 24.7		5. 6. 45.67	H
Dec. 7	19	Polaris S.P. ...	...	...	55. 18.0	3. 24.0	11. 33.0	19. 40.5	13.	- 42.92	13. 3. 25.96	H
	20	Spica	58.8	11.7	25.0	38.1	51.2	4.1	13. 17. 17.4		13. 16. 38.05	H
	21	ϵ Bootis	5.5	19.8	34.6	49.0	3.8	18.0	14. 38. 32.6		14. 37. 49.05	H
	22	α Coronæ Borealis	59.9	14.5	28.8	43.6	57.8	12.1	15. 28. 26.7		15. 27. 43.34	H
	23*	η Draconis	...	35.3	...	...	...	24.2	16. 22. 51.7	- 27.22	16. 21. 29.85	H
Dec. 8	24	$\odot$ 1 L.	3.7	17.7	31.8	45.9	59.7	13.6	16. 57. 27.7		16. 56. 45.73	H
	25	$\odot$ 2 L.	25.5	39.5	53.6	7.5	21.6	35.2	16. 59. 49.1		16. 59. 7.43	H
	26	β Draconis	...	49.8	11.0	32.6	53.6	14.6	17. 27.	- 0.01	17. 26. 32.31	H
	27	Venus 1 L.	58.5	12.5	26.7	40.8	55.0	9.0	18. 11. 23.6		18. 10. 40.87	H
	28	α Lyre	27.7	44.4	0.7	17.4	33.8	50.0	18. 32. 6.6		18. 31. 17.23	H
	29	Jupiter 1 L.	18.5	...	44.8	...	11.8	...	21. 40. 38.4		21. 39. 58.38	H
	30	Jupiter 2 L.	...	34.3	...	0.8	...	27.4	21. 40.		21. 40. 0.83	H
	31	Mars 1 L.	41.4	54.6	7.7	20.8	34.4	47.6	21. 58. 0.7		21. 57. 21.03	H
	32	α Pegasi	59.0	12.4	25.7	39.0	52.4	5.5	22. 57. 18.7		22. 56. 38.96	H
	33	ι Piscium	...	9.4	22.1	35.0	48.0	0.7	23. 32.	- 0.01	23. 31. 35.03	H
	34	Uranus	7.8	20.8	33.7	46.7	59.6	12.1	23. 55. 25.3		23. 54. 46.57	H
	35	* N.P.D. 1° 32' ...	...	...	...	3. 10.0	11. 15.0	19. 17.0	1. 27. 25.0	- 12. 10.44	1. 3. 6.31	H
	36	Polaris	...	...	...	3. 35.0	11. 42.0	19. 42.0	1. 27. 54.0	- 12. 10.44	1. 3. 32.81	H
	37	θ Ceti	14.6	27.6	40.7	53.6	6.7	19.6	1. 16. 32.7		1. 15. 53.64	H
	38	54 Andromedæ ..	36.0	55.8	16.0	35.7	56.1	15.7	1. 34. 35.6		1. 33. 35.84	H
	39	Piazzi I. 159 ...	...	...	45.2	13.6	42.5	...	1. 36.	- 0.08	1. 36. 13.69	H
	40	ϵ Cassiopeiæ ...	31.5	59.6	27.7	56.5	...	...	1. 42.	+ 42.34	1. 42. 56.17	H
	41*	46 Cassiopeiæ ...	...	...	...	40.7	15.5	48.6	1. 45. 23.6	- 51.19	1. 43. 40.91	H
	42	3 Persei	...	42.6	2.0	21.6	41.0	0.0	1. 49.	- 0.01	1. 48. 21.43	H
	43	4 Persei	...	54.8	16.6	38.5	0.4	21.6	1. 52.	- 0.01	1. 51. 38.37	H
	44	α Arietis	21.7	35.7	49.8	3.7	17.7	31.5	1. 58. 45.6		1. 58. 3.67	H
	45	h Persei	...	34.6	58.1	21.7	45.6	8.7	2. 1.	- 0.01	2. 0. 21.73	H
	46	55 Cassiopeiæ ..	...	...	...	...	33.0	4.0	2. 3. 35.6	- 1. 2.70	2. 2. 1.50	H
	47	χ Persei	39.8	3.5	26.7	50.6	...	...	2. 6.	+ 35.21	2. 6. 50.36	H
	48	c Andromedæ ...	...	18.3	37.0	55.6	14.5	33.0	2. 9.	- 0.01	2. 8. 55.67	H
	49*	γ Geminorum ...	42.0	55.6	8.6	22.6	35.6	49.0	6. 29. 2.6		6. 28. 22.28	H
	50*	Sirius	16.5	29.7	43.4	56.7	10.0	23.5	6. 38. 36.7		6. 37. 56.64	H
	51*	δ 2 L.	11.5	25.6	39.9	54.0	8.4	22.5	6. 43. 36.5		6. 42. 54.06	H

ILLUMINATED END OF AXIS WEST. Order of Wires for Stars above the Pole, G, F, E, D, C, B, A.

1, 41. The intervals irregular. 2, 10. Cloudy.
16, 17. The East and West limbs appeared to be full; the
South limb was eclipsed during the passage: no cor-
rection is needed for defect of illumination.

Dec. 6. The observations much interrupted by clouds.
23. Very cloudy.
49. The intervals irregular, but the star was well observed.
49, &c. The stars hazy and tremulous: a fog coming on.

CALCULATION OF APPARENT RIGHT ASCENSIONS.

[111]

No. for Reference.	Error of Collimation.	Level Error.	Seconds of Transit cor. for two Errors.	Azimuthal Error.	Seconds of Transit Corrected.	Tabular R. A. of Known Stars.	Clock apparently Slow.	Adopted Losing Rate.	Clock Slow at 0 ^h Sidereal.	Correction for Duration of Passage of Semidiameter.	Apparent R.A. of Center from the Observation.	NAME OF OBJECT.	Correction to Mean R.A. 1843, Jan. 1.
	"	"	s	"	s	s	s	s	s	m s	h m s		s
1	-0.43	+2.16		+3.14	46.12			1.36	16.91	+ 0.23	21. 52. 4.50	Mars.	
2					49.96						23. 55. 8.22	Uranus.	
3					2.89	21.21	18.32		18.27		0. 0. 21.16	α Andromedæ.	- 4.30
4					55.41	13.64	18.23				0. 5. 13.68	γ Pegasi.	- 4.27
5					28.26	46.54	18.28				0. 35. 46.56	β Ceti.	- 4.31
6			38.71		33.97	50.82	16.85				1. 3. 52.29	Polaris.	-50.48
7					31.39						1. 23. 49.73	χ Cassiopeiæ.	- 6.47
8					23.46						1. 27. 41.81	50 Andromedæ.	- 5.51
9					16.57						1. 36. 34.92	Piazzi I. 159.	- 7.24
10					58.95						1. 43. 17.31	ε Cassiopeiæ.	- 7.35
11					43.87						1. 44. 2.23	46 Cassiopeiæ.	- 8.20
12					24.68						1. 48. 43.04	3 Persei.	- 6.17
13					41.45						1. 51. 59.83	4 Persei.	- 6.59
14					6.98	25.26	18.28				1. 58. 25.36	α Arietis.	- 5.26
15					37.05						4. 32. 55.58	τ Tauri.	- 5.97
16					31.24					+1. 7.55	4. 50. 57.33	δ	
17					46.65					-1. 7.55	4. 50. 57.64	δ	
18					45.89	4.63	18.74				5. 7. 4.45	Rigel.	- 4.98
19			22.89	+4.11	29.53	49.99	20.46	1.40	19.74		1. 3. 50.03	Polaris S.P.	-49.65
20					38.34	58.96	20.62				13. 16. 58.85	Spica.	- 3.26
21					49.29	9.82	20.53				14. 38. 9.88	ε Bootis.	- 2.06
22					43.59	4.19	20.60				15. 28. 4.23	α Coronæ Borealis.	- 1.78
23					29.98						16. 21. 50.67	η Draconis.	+ 1.88
24													
25					56.88						16. 58. 17.61	☉	
26					32.49						17. 26. 53.25	β Draconis.	+ 0.52
27					41.17					+ 0.37	18. 11. 2.34	Venus.	
28					17.45	38.19	20.74				18. 31. 38.26	α Lyræ.	- 0.94
29													
30					59.90						21. 40. 20.90	Jupiter.	
31					21.32					+ 0.23	21. 57. 42.56	Mars.	
32					39.22	0.29	21.07				22. 57. 0.30	α Pegasi.	- 3.72
33					35.30	56.46	21.16				23. 31. 56.41	ι Piscium.	- 4.01
34					46.85						23. 55. 7.98	Uranus.	
35					3.35				21.14		1. 3. 24.55	* N.P.D. 1°.32'.	-49.35
36			36.06		29.85	49.69	19.84				1. 3. 51.05	Polaris.	-49.35
37					53.92	15.06	21.14				1. 16. 15.13	θ Ceti.	- 4.50
38					36.03						1. 33. 57.25	54 Andromedæ.	- 6.01
39					13.82						1. 36. 35.04	Piazzi I. 159.	- 7.19
40					56.30						1. 43. 17.52	ε Cassiopeiæ.	- 7.31
41					40.99						1. 44. 2.21	46 Cassiopeiæ.	- 8.14
42					21.63						1. 48. 42.86	3 Persei.	- 6.16
43					38.54						1. 51. 59.78	4 Persei.	- 6.57
44					3.92	25.25	21.33				1. 58. 25.17	α Arietis.	- 5.25
45					21.89						2. 0. 43.15	h Persei.	- 6.99
46					1.60						2. 2. 22.86	55 Cassiopeiæ.	- 8.23
47					50.52						2. 7. 11.78	χ Persei.	- 7.10
48					55.87						2. 9. 17.13	c Andromedæ.	- 6.32
49					22.53						6. 28. 44.05	γ Geminorum.	- 5.71
50					56.94	18.50	21.56				6. 38. 18.46	Sirius.	- 4.67
51					54.31					-1. 7.73	6. 42. 8.11	δ	

Dec. 7 and 8. The azimuthal error by three consecutive passages of Polaris.

Dec. 8, 21^h. The Transit instrument was levelled.

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	I.	II.	III.	IV.	V.	VI.	VII. WIRE.	Correction to Mean of Wires Observed.	Concluded Transit over Mean of the Seven Wires.	Observer.
			m s	m s	m s	m s	m s	m s	h m s			
Dec. 8	1 ^c	Polaris S.P. ...	...	...	55. 19.0	3. 25.0	11. 32.0	...	13.	+ 1.27	13. 3. 26.60	E
Dec. 10	2	ε Bootis.	...	...	...	...	59.4	13.7	14. 38. 28.5	— 29.06	14. 37. 44.81	H
Dec. 11	3	α Aquarii.	42.6	55.4	8.1	21.3	34.1	46.7	21. 57. 59.7		21. 57. 21.12	H
	4	Mars 1 L.	1.7	15.4	28.4	41.7	54.8	8.0	22. 6. 21.4		22. 5. 41.63	H
	5	γ Pegasi.	...	...	...	48.0	1.4	14.5	0. 5. 27.6	— 19.92	0. 4. 47.96	H
	6	* N.P.D. 1° 32' ...	...	...	...	3. 3.0	11. 10.0	19. 9.0	1. 27. 15.0	— 12. 10.51	1. 2. 58.74	H
	7	Polaris.	...	...	...	3. 27.0	11. 34.0	19. 35.0	1. 27. 43.0	— 12. 10.51	1. 3. 24.24	H
	8	δ Cassiopeiæ.	0.5	26.0	51.5	16.7	...	...	1. 15.	+ 37.91	1. 15. 16.59	H
	9	θ Ceti.	...	...	...	49.6	2.7	15.5	1. 16. 28.6	— 19.54	1. 15. 49.56	H
	10	α Arietis.	17.8	31.6	45.8	59.7	13.6	27.5	1. 58. 41.6		1. 57. 59.66	H
	11	ι Persei.	1.0	23.7	46.0	8.4	31.6	53.6	2. 12. 16.0		2. 11. 8.62	H
	12	A. S. C. 247.	...	...	23.6	56.7	29.0	...	2. 16.	— 0.09	2. 15. 56.35	H
	13	Piazzi II. 100. .	...	35.3	55.8	16.7	37.5	57.7	2. 22.	— 0.01	2. 22. 16.59	H
	14	Piazzi II. 115. .	...	3.2	23.8	44.6	5.5	25.6	2. 26.	— 0.01	2. 25. 44.53	H
	15	12 Persei.	12.0	28.6	45.7	2.5	...	...	2. 32.	+ 25.01	2. 32. 2.21	H
	16	θ Persei.	...	...	51.6	11.6	31.6	...	2. 33.	— 0.05	2. 33. 11.55	H
	17	γ Ceti.	...	...	...	...	2.5	15.3	2. 35. 28.2	— 25.75	2. 34. 49.58	H
	18	η Persei.	51.5	13.8	36.5	59.5	21.6	44.9	2. 40. 6.7		2. 38. 59.22	H
	19*	δ 2 L.	5.2	18.7	32.1	45.4	59.0	12.2	9. 24. 25.5		9. 23. 45.44	E
Dec. 12	20*	δ 2 L.	48.6	2.6	15.5	28.6	41.8	55.0	10. 16. 8.5		10. 15. 28.66	H
Dec. 13	21	δ Leonis.	37.7	51.1	5.0	18.7	32.3	46.1	11. 6. 0.0		11. 5. 18.70	E
	22	δ 2 L.	38.2	51.6	4.8	18.0	31.2	44.3	11. 7. 57.5		11. 7. 17.95	E
	23	δ Crateris.	23.6	36.8	50.0	3.3	16.4	29.6	11. 11. 42.8		11. 11. 3.21	E
	24	Polaris S.P. ...	...	...	55. 6.0	3. 12.0	11. 20.0	19. 29.0	13. 27. 38.0	— 8. 6.46	13. 3. 14.54	E
	25	Spica.	49.8	2.7	15.8	28.8	41.9	...	13. 16.	+ 13.06	13. 16. 28.86	E
	26	ζ Ursæ Majoris..	...	...	...	7.1	30.1	52.9	13. 18. 15.8	— 34.29	13. 17. 7.19	E
	27	Piazzi XIII. 110	...	19.1	45.2	11.7	38.1	4.1	13. 23.	— 0.01	13. 22. 11.63	E
	28	α Serpentis.	...	...	...	4.2	17.1	30.1	15. 36. 43.0	— 19.44	15. 36. 4.16	E
	29	θ Draconis.	...	35.8	0.8	25.7	50.7	15.8	15. 59.	— 0.01	15. 58. 25.75	E
	30	η Draconis.	58.2	25.8	53.0	20.3	47.8	14.9	16. 22. 42.0		16. 21. 20.28	E
	31	ε Ursæ Minoris..	...	...	59. 53.5	1. 28.4	3. 4.0	...	17.	— 0.25	17. 1. 28.38	E
	32	α Herculis.	...	...	47.5	0.8	14.1	27.2	17. 7. 40.4	— 13.30	17. 7. 0.70	E
Dec. 14	33	⊙ 1 L.	...	...	47.0	1.1	15.3	29.4	17. 23. 43.0	— 14.04	17. 23. 1.12	E
	34	⊙ 2 L.	41.3	55.4	9.5	23.4	37.5	51.4	17. 26. 5.6		17. 25. 23.44	E
	35	Mars 1 L.	...	31.8	44.9	58.1	11.2	24.2	22. 14.	— 0.01	22. 13. 58.03	E
	36*	Polaris.	...	...	55. 16.0	3. 22.0	11. 29.0	...	1.	— 1.27	1. 3. 21.06	E
	37	δ Cassiopeiæ.	55.0	20.2	45.6	10.8	...	...	1. 15.	+ 37.91	1. 15. 10.81	E
	38	θ Ceti.	...	...	...	44.0	56.8	9.8	1. 16. 22.7	— 19.54	1. 15. 43.79	E
	39	Piazzi I. 159. .	...	...	...	3.7	32.0	0.2	1. 37. 28.6	— 42.64	1. 36. 3.49	E
	40	α Arietis.	12.0	26.0	39.9	53.9	8.0	21.8	1. 58. 35.8		1. 57. 53.91	E
	41	h Persei.	...	...	48.1	11.9	35.3	...	2. 0.	— 0.06	2. 0. 11.71	E
	42	55 Cassiopeiæ.	...	...	20.1	51.6	23.0	54.1	2. 3. 25.8	— 31.37	2. 1. 51.55	E
	43	χ Persei.	...	53.1	17.0	40.3	4.0	27.1	2. 7.	— 0.01	2. 6. 40.29	E
	44	c Andromedæ.	...	...	27.0	45.8	4.8	23.1	2. 9. 41.8	— 18.75	2. 8. 45.75	E
	45	i Persei.	...	18.1	40.3	3.0	25.3	47.8	2. 11.	— 0.01	2. 11. 2.89	E
	46*	δ 2 L.	36.5	49.8	3.0	16.5	29.6	42.8	12. 0. 56.0		12. 0. 16.31	H
Dec. 15	47	12 Can. Venat. (2nd star)	...	...	53.1	9.8	26.2	42.7	12. 48. 59.1	— 16.60	12. 48. 9.58	E

ILLUMINATED END OF AXIS WEST. Order of Wires for Stars above the Pole, G, F, E, D, C, B, A.

1. Cloudy.
19. Faint; a very thick fog.
20. A thick fog; no stars visible.

36. Cloudy; the observations generally much interrupted by clouds.
46. Very cloudy; a bad observation.

CALCULATION OF APPARENT RIGHT ASCENSIONS.

[113]

No. for Reference.	Error of Collimation.	Level Error.	Seconds of Transit cor. for two Errors.	Azimuthal Error.	Seconds of Transit Corrected.	Tabular R. A. of Known Stars.	Clock apparently Slow.	Adopted Losing Rate.	Clock Slow at 0 ^h Sidereal.	Correction for Duration of Passage of Semidiameter.	Apparent R.A. of Center from the Observation.	NAME OF OBJECT.	Correction to Mean R.A. 1843, Jan. 1.
	"	"	s	"	s	s	s	s	s	m s	h m s		s
1	-0.43	+2.16	23.53	+4.11	30.17	49.39	19.22	1.40	21.14		1. 3. 52.07	Polaris S.P.	-49.05
2				+3.35	45.03	9.90	24.87	1.58	23.71		14. 38. 9.69	ε Bootis.	- 2.14
3					21.36	46.46	25.10				21. 57. 46.51	α Aquarii.	- 3.45
4					41.87					+ 0.22	22. 6. 7.26	Mars.	
5					48.19	13.59	25.40		25.29		0. 5. 13.48	γ Pegasi.	- 4.22
6					56.93						....	* N.P.D. 1°.32'.	
7			27.49		22.43	47.66	25.23				....	Polaris.	
8					16.75						1. 15. 42.12	δ Cassiopeiae.	- 6.32
9			49.60		49.80	15.03	25.23				1. 16. 15.17	θ Ceti.	- 4.47
10					59.89	25.24	25.35				1. 58. 25.31	α Arietis.	- 5.24
11					8.80						2. 11. 34.23	ι Persei.	- 6.95
12					56.48						2. 16. 21.91	A. S. C. 247.	- 8.70
13					16.77						2. 22. 42.21	Piazzi II. 100.	- 6.82
14					44.71						2. 26. 10.16	Piazzi II. 115.	- 6.86
15					2.41						2. 32. 27.87	12 Persei.	- 6.15
16					11.74						2. 33. 37.20	θ Persei.	- 6.76
17					49.81	15.21	25.40				2. 35. 15.27	γ Ceti.	- 4.98
18					59.40						2. 39. 24.86	η Persei.	- 7.39
19					45.67					-1. 5.75	9. 23. 5.83	δ	
20					28.89				26.87	-1. 5.57	10. 14. 50.86	δ	
21		+1.92		+4.17	18.94	49.14	30.20	1.77	29.20		11. 5. 48.95	δ Leonis.	- 4.21
22					18.22					-1. 5.97	11. 6. 42.27	δ	
23					3.50	33.54	30.04				11. 11. 33.53	δ Crateris.	- 3.99
24			11.93		18.66	45.79	27.13				1. 3. 48.82	Polaris S.P.	-45.45
25					29.14	59.15	30.01				13. 16. 59.32	Spica.	- 3.45
26					7.33						13. 17. 37.51	ζ Ursæ Majoris.	- 1.97
27					11.73						13. 22. 41.91	Piazzi XIII. 110.	- 1.36
28					4.42	34.76	30.34				15. 36. 34.78	α Serpentis.	- 2.57
29					25.87						15. 58. 56.24	θ Draconis.	+ 1.05
30					20.38						16. 21. 50.78	η Draconis.	+ 1.88
31					27.93						17. 1. 58.39	ε Ursæ Minoris.	+18.56
32					0.95	31.48	30.53				17. 7. 31.42	α Herculis.	- 2.11
33					12.58						17. 24. 43.06	⊙	
34					58.31					+ 0.21	22. 14. 29.36	Mars.	
35					17.53	45.43	27.90		30.97		1. 3. 48.58	Polaris.	-45.09
36			23.83		10.93						1. 15. 41.98	δ Cassiopeiae.	- 6.25
37					44.07	15.01	30.94				1. 16. 15.12	θ Ceti.	- 4.45
38					3.59						1. 36. 34.68	Piazzi I. 159.	- 7.05
39					54.15	25.22	31.07				1. 58. 25.26	α Arietis.	- 5.22
40					11.84						2. 0. 42.96	h Persei.	- 6.92
41					51.62						2. 2. 22.74	55 Cassiopeiae.	- 8.11
42					40.42						2. 7. 11.54	χ Persei.	- 7.01
43					45.93						2. 9. 17.05	c Andromedæ.	- 6.26
44					3.03						2. 11. 34.15	i Persei.	- 6.91
45					16.59					-1. 7.05	11. 59. 41.40	δ	
46													
47				+2.73	9.79			1.58	32.87		12. 48. 43.51	12 Can. Venat. (2nd star)	- 3.04

Dec. 11. The azimuthal error by tabular places of Polaris and θ Ceti, allowing 0^s.01 for clock-rate.Dec. 13 and 14. The azimuthal error by Polaris S. P. and Polaris, allowing 1^s.13 for clock-rate and change of R. A.

[114]

TRANSITS OBSERVED AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1843.

MONTH and DAY.	No. for Reference.	NAME OF OBJECT.	I.	II.	III.	IV.	V.	VI.	VII. WIRE.	Correction to Mean of Wires Observed.	Concluded Transit over Mean of the Seven Wires.	Observer.
			m s	m s	m s	m s	m s	m s	h m s			
Dec. 15	1	♂ 2 L.	48.2	1.9	15.3	28.8	42.3	55.9	12. 56. 9.4		12. 55. 28.83	E
	2	Polaris S.P. ...	38. 49.0	46. 58.0	...	3. 7.0	11. 14.0	...	13.	+ 8. 6.91	13. 3. 8.91	E
	3	Spica.	46.1	59.2	12.2	25.3	38.3	...	13. 16.	+ 13.06	13. 16. 25.28	E
	4	ζ Ursæ Majoris. .	...	...	...	3.8	26.6	49.2	13. 18. 12.4	- 34.29	13. 17. 3.71	E
Dec. 16	5*	☉ 1 L.	6.9	21.1	35.0	49.2	3.3	17.0	17. 32. 31.3		17. 31. 49.12	E
Dec. 17	6	α Lyræ	...	29.8	46.6	3.0	19.6	35.8	18. 31.	- 0.01	18. 31. 2.95	H
Dec. 20	7*	α Coronæ Borealis	...	...	...	...	...	52.4	15. 28. 6.6	- 36.13	15. 27. 23.37	H
Dec. 23	8	α Coronæ Borealis	34.9	49.2	3.7	18.4	32.9	47.1	15. 28. 1.6		15. 27. 18.26	M
	9	α Serpentis.	9.7	22.8	35.7	48.8	1.7	14.5	15. 36. 27.3		15. 35. 48.65	M
ILLUMINATED END OF AXIS WEST. Order of Wires for Stars above the Pole, G, F, E, D, C, B, A.												
5, 7. Very cloudy.												

CALCULATION OF APPARENT RIGHT ASCENSIONS.

[115]

No. for Reference.	Error of Collimation.	Level Error.	Seconds of Transit cor. for two Errors.	Azimuthal Error.	Seconds of Transit Corrected.	Tabular R.A. of Known Stars.	Clock apparently Slow.	Adopted Losing Rate.	Clock Slow at 0 ^h Sidereal.	Correction for Duration of Passage of Semidiameter.	Apparent R.A. of Center from the Observation.	NAME OF OBJECT.	Correction to Mean R.A. 1843, Jan. 1.
	"	"	"	"	"	"	"	"	"	m s	h m s		"
1	-0.43	+1.92		+2.73	29.02			1.58	32.87	-1. 8.77	12. 54. 53.97	♃	
2			6.30		10.71	44.43	33.72				....	Polaris S.P.	
3			25.31		25.47	59.21	33.74				....	Spica.	
4					3.86						13. 17. 37.60	♅ Ursæ Majoris.	- 1.85
5					49.32					+1. 11.09	17. 33. 34.44	☉	
6					3.12	38.17	35.05	...	...		....	α Lyræ.	
7		+1.90			23.55	4.47	40.92	...	...		....	α Coronæ Borealis.	
8					18.44	4.54	46.10	...	...		....	α Coronæ Borealis.	
9					48.84	34.98	46.14				....	α Serpentis.	

Dec. 15, 22^h and 29, 21^h. The Transit instrument was levelled.

Dec. 15. The azimuthal error by tabular places of Polaris S.P. and Spica, allowing 0^s.01 for clock-rate.

From Dec. 16 to the end of the year the sky was scarcely ever visible.