

A P P E N D I X

TO

P A R T V.

OF THE

GREENWICH OBSERVATIONS,

FOR THE YEAR 1833:

CONTAINING THE

OBSERVATIONS

MADE WITH

THE TWENTY-FIVE FEET ZENITH TELESCOPE,

TOGETHER

WITH THEIR REDUCTIONS.

(1)

OBSERVATIONS

WITH THE

TWENTY-FIVE FEET ZENITH TELESCOPE.

Date.	STAR.	Approx. A. R.	Thermometer.		Face of Inst.	READING of the INSTRUMENT.			Ob- servers.	Remarks.
			Upper.	Lower.		Revs of Screw.	Parts.	Vern.		
1833. Aug. 1	γ Draconis - - - *..... Bode, 170,	H. M. 17 52 18 18			E W	83 87	49 23	50 93	P. F. S.	
3	γ Draconis - - - *..... Bode, 170,	17 52 18 18	57 ,,	57 ,,	W E	94 91	82 08	00 17	P. F. S.	
4	γ Draconis - - - *..... Bode, 170,	17 52 18 18	62 ,,	59 ,,	E W	83 87	48 23	35 86	P. F. S.	
6	γ Draconis - - - *..... Bode, 170, i Cygni - - - -	17 52 18 18 19 25	59 ,, 58	58 ,, 56	W ,, ,,	94 87 74	91 31 93	70 24 60	P. F. S. ,,	
9	γ Draconis - - - *..... Bode, 170, i Cygni - - - -	17 52 18 18 19 25	62 ,, ,,	60 ,, 59	E W ,,	83 87 74	52 23 80	50 40 40	P. F. S. ,,	
11	γ Draconis - - - *..... Bode, 170, i Cygni - - - -	17 52 18 18 19 25	59 ,, 57	59 ,, 57	W E ,,	94 91 103	94 05 36	20 50 65	P. F. S. ,,	Cloudy.
	Altered the plumb-line.									
12	γ Draconis - - - *..... Bode, 170, i Cygni - - - -	17 52 18 18 19 25	61 ,, ,,	59 ,, ,,	E W ,,	83 87 74	42 27 89	40 40 55	F. S. ,, ,,	Cloudy. Do. scarcely visible. Do.
13	γ Draconis - - - *..... Bode, 170, i Cygni - - - -	17 52 18 18 19 25	60 ,, ,,	58 ,, ,,	W E ,,	94 90 103	87 97 36	75 10 45	P. F. S. ,,	
14	γ Draconis - - - *..... Bode, 170, i Cygni - - - -	17 52 18 18 19 25	60 ,, ,,	58 ,, ,,	E W ,,	83 87 74	39 32 89	30 70 70	P. F. S. ,,	Not well defined.
16	γ Draconis - - -	17 52	59	57	W	94	91	90	F. S.	
19	γ Draconis - - -	17 52	63	60	E	83	36	95	P.	
	New plumb-line applied.									
23	γ Draconis - - - *..... Bode, 170, i Cygni - - - - 3 Lacertæ - - -	17 52 18 18 19 25 22 16	62 ,, ,, ,,	60 61 ,, ,,	W ,, E ,,	94 87 103 101	94 39 33 02	14 88 57 30	P. ,, W. R. F. S.	
25	γ Draconis - - - *..... Bode, 170, i Cygni - - - -	17 52 18 18 19 25	62 ,, ,,	57 ,, ,,	E ,, ,,	83 90 103	28 83 23	52 70 20	P. W. R. ,,	

OBSERVATIONS with the TWENTY-FIVE FEET ZENITH TELESCOPE.

Date.	STAR.	Approx. A. R.	Thermometer.		Face of Inst.	READING of the INSTRUMENT.			Ob- servers.	Remarks.
			Upper.	Lower.		Rev ^l ns of Screw.	Parts.	Vern.		
1833. Aug. 26	γ Draconis - - -	H. M. 17 52	62	60	W	94	97	05	P.	
	*..... Bode, 170,	18 18	,,	,,	,,	87	40	09	W.R.	
	ϵ Cygni - - -	19 25	,,	,,	,,	74	98	10	,,	
	3 Lacertæ - - -	22 16	57	58	,,	77	27	55	F. S.	
27	γ Draconis - - -	17 52	61	60	E	83	32	75	P.	Extremely faint.
	*..... Bode, 170,	18 18	,,	,,	,,	90	82	30	W.R.	
	ϵ Cygni - - -	19 25	,,	,,	,,	103	22	20	P.	
	3 Lacertæ - - -	22 16	60	59	,,	100	96	40	F. S.	
28	γ Draconis - - -	17 52	60	60	W	94	98	00	P.	
	*..... Bode, 170,	18 18	,,	,,	,,	87	45	27	W.R.	
	ϵ Cygni - - -	19 25	,,	,,	,,	74	98	40	P.	
	3 Lacertæ - - -	22 16	62	61	,,	77	26	15	F. S.	
29	ϵ Cygni - - -	19 25	66	65	W	75	06	45	F. S.	Cloudy.
Sept. 1	γ Draconis - - -	17 52	50	50	W	95	04	44	P.	Faint and indistinct. Uncertain.
	*..... Bode, 170,	18 18	,,	,,	,,	87	46	80	,,	
	ϵ Cygni - - -	19 25	,,	,,	,,	75	08	65	,,	
2	γ Draconis - - -	17 52	55	54	E	83	36	80	P.	Very faint.
Plumb-line deranged.										
3	* Draconis, Bode, 170,	18 18	50	51	E	90	87	65	H.	Uncertain.
	ϵ Cygni - - -	19 25	,,	,,	,,	103	37	80	,,	
4	γ Draconis - - -	17 52	52	54	E	83	31	95	P.	
	*..... Bode, 170,	18 18	,,	,,	,,	90	88	55	H.	
	ϵ Cygni - - -	19 25	,,	,,	,,	103	21	53	,,	
	* - - -	20 0	50	50	,,	105	30	26	F. S.	
	* - - -	20 31	,,	,,	,,	117	56	00	,,	
	* - - -	21 39	51	51	,,	85	18	30	,,	
	3 Lacertæ - - -	22 17	,,	,,	,,	100	98	83	,,	
5	γ Draconis - - -	17 52	56	56	W	95	06	16	P.	
	*..... Bode, 170,	18 18	,,	,,	,,	87	51	60	H.	
	ϵ Cygni - - -	19 25	,,	,,	,,	75	15	95	P.	
	* - - -	20 0	,,	,,	,,	73	07	05	H.	
	* - - -	20 31	54	53	,,	60	82	40	F. S.	
	* - - -	21 39	53	52	,,	93	22	40	,,	
	3 Lacertæ - - -	22 17	,,	,,	,,	77	40	78	,,	
6	γ Draconis - - -	17 52	55	53	E	83	30	76	P.	
	*..... Bode, 170,	18 18	,,	,,	,,	90	85	50	H.	
	ϵ Cygni - - -	19 25	,,	,,	,,	103	16	09	,,	
	* - - -	20 0	,,	,,	,,	105	29	25	,,	
	* - - -	20 31	,,	,,	,,	117	55	00	F. S.	
	* - - -	21 40	,,	,,	,,	85	15	40	,,	
7	γ Draconis - - -	17 52			W	95	00	86	H.	Cloudy.
	*..... Bode, 170,	18 18			,,	87	46	35	,,	
	ϵ Cygni - - -	19 25			,,	75	09	72	,,	
	* - - -	20 0			,,	73	02	80	,,	
8	γ Draconis - - -	17 52			E	83	29	95	H.	Cloudy.
9	ϵ Cygni - - -	19 25	58	57	E	103	14	65	H.	Cloudy.
	* - - -	20 0	,,	,,	,,	105	25	65	,,	
12	γ Draconis - - -	17 52	56	56	W	95	04	85	H.	
	*..... Bode, 170,	18 18	,,	,,	,,	87	51	86	,,	
	ϵ Cygni - - -	19 25	,,	,,	,,	75	14	36	,,	
	* - - -	20 0	,,	,,	,,	73	06	85	,,	

OBSERVATIONS with the TWENTY-FIVE FEET ZENITH TELESCOPE.

Date.	STAR.	Approx. A. R.	Thermometer.		Face of Inst.	READING of the INSTRUMENT.			Ob- servers.	Remarks.
			Upper.	Lower.		Rev ^l of Screw.	Parts.	Vern.		
1833. Sept. 12	* Cygni - - - -	H. M. 20 31	55	55	W	60	85	28	F. S.	Very tremulous.
	* - - - -	21 39	54	,,	,,	93	32	50	,,	
	3 Lacertæ - - -	22 17	53	51	,,	77	49	00	,,	
13	γ Draconis - - -	17 52	57	55	E	83	29	11	H.	
	* - - - -	20 31	,,	,,	,,	117	49	60	F. S.	
	* - - - -	21 39	,,	54	,,	85	07	10	,,	
	3 Lacertæ - - -	22 17	53	,,	,,	100	86	70	,,	
14	* - - - -	21 39	59	57	W	93	29	20	F. S.	
	3 Lacertæ - - -	22 17	,,	,,	,,	77	51	18	,,	
15	ι Cygni - - - -	19 25	59	56	W	75	18	73	W. R.	
	* - - - -	20 0	,,	,,	,,	73	09	00	,,	
	* - - - -	20 30	,,	,,	,,	60	85	00	E.	
	* - - - -	21 39	,,	55	,,	93	29	30	F. S.	
	3 Lacertæ - - -	22 17	55	,,	,,	77	50	70	,,	
16	γ Draconis - - -	17 52	57	57	W	95	03	75	H.	Cloudy.
	3 Lacertæ - - -	22 17	56	56	,,	77	56	70	F. S.	
17	ι Cygni - - - -	19 25	57	57	E	103	11	34	H.	
	3 Lacertæ - - -	22 17	56	56	,,	100	77	45	F. S.	
18	γ Draconis - - -	17 52	56	56	E	83	28	60	P.	
19	ι Cygni - - - -	19 25	54	55	W	75	17	74	W. R.	
	* - - - -	20 30	,,	,,	,,	60	93	18	H.	
	* - - - -	21 39	,,	,,	,,	93	41	50	F. S.	
	3 Lacertæ - - -	22 17	53	54	,,	77	64	45	,,	
20	γ Draconis - - -	17 52	57	55	W	95	03	55	P.	Cloudy. Do.
	* Bode, 170,	18 18	,,	,,	,,	87	50	97	H.	
	ι Cygni - - - -	19 25	,,	,,	E	103	06	20	,,	
	* - - - -	20 0	,,	,,	,,	105	17	02	,,	
	* - - - -	20 30	55	,,	,,	117	38	85	,,	
	3 Lacertæ - - -	22 17	57	55	,,	100	71	20	,,	
21	* - - - -	20 30	57	56	W	60	93	10	H.	Cloudy. Do.
	* - - - -	21 39	,,	,,	,,	93	38	00	F. S.	
23	γ Draconis - - -	17 52	60	57	E	83	29	68	H.	
	* Bode, 170,	18 18	,,	,,	W	87	47	29	,,	
	ι Cygni - - - -	19 25	,,	,,	,,	75	23	20	,,	
	* - - - -	20 0	,,	,,	,,	73	13	48	,,	
24	γ Draconis - - -	17 52	58	58	W	95	04	41	P.	Very faint.
	ι Cygni - - - -	19 25	,,	,,	E	103	11	80	,,	
	* - - - -	20 0	,,	,,	,,	105	20	15	,,	
	* - - - -	20 30	59	59	,,	117	35	55	F. S.	
	3 Lacertæ - - -	22 17	,,	,,	,,	100	68	10	,,	
25	γ Draconis - - -	17 52	60	58	E	83	32	41	H.	
26	γ Draconis - - -	17 52	61	59	W	95	02	05	P.	Cloudy.
	ι Cygni - - - -	19 25	,,	,,	E	103	09	30	,,	
	* - - - -	20 0	,,	,,	,,	105	15	92	,,	
	* - - - -	21 39	,,	,,	,,	84	90	00	F. S.	
	3 Lacertæ - - -	22 17	,,	,,	,,	100	70	20	,,	
27	γ Draconis - - -	17 52	64	57	E	83	32	63	H.	Cloudy.
	ι Cygni - - - -	19 25	61	50	W	75	20	60	,,	
	* - - - -	20 0	,,	,,	,,	73	17	33	,,	
	* - - - -	20 30	60	,,	,,	60	96	45	F. S.	
	* - - - -	21 39	,,	,,	,,	93	42	60	,,	
	3 Lacertæ - - -	22 17	59	55	,,	77	62	85	,,	
28	* - - - -	21 39	53	55	E	84	89	75	F. S.	

OBSERVATIONS with the TWENTY-FIVE FEET ZENITH TELESCOPE.

Date.	STAR.	Approx. A. R.	Thermometer.		Face of Inst.	READING of the INSTRUMENT.			Ob- servers.	Remarks.
			Upper.	Lower.		Rev ^{ns} of Screw.	Parts.	Vern.		
1833. Sept. 28	3 Lacertæ - - -	H. M. 22 17	53	55	E	100	64	40	, ,	Tremulous.
30	γ Draconis - - -	17 52	61	57	W	95	03	22	H.	Tremulous.
	ι Cygni - - -	19 25	, ,	, ,	E	103	07	80	, ,	
	* - - -	20 0	59	, ,	, ,	105	17	05	, ,	
	* - - -	20 30	58	56	, ,	117	31	31	, ,	
	* - - -	20 43	, ,	, ,	, ,	115	46	30	F. S.	
	* - - -	21 39	59	55	, ,	84	87	45	, ,	
	3 Lacertæ - - -	22 17	, ,	, ,	, ,	100	61	50	, ,	Tremulous.
Oct. 1	γ Draconis - - -	17 52	60	55	E	83	30	63	H.	Very faint.
	ι Cygni - - -	19 25	, ,	, ,	W	75	22	56	, ,	
	* - - -	20 0	, ,	, ,	, ,	73	19	80	, ,	
	* - - -	20 30	, ,	, ,	, ,	60	98	95	, ,	
	* - - -	20 43	, ,	, ,	, ,	62	91	30	, ,	
	* - - -	21 39	58	55	, ,	93	47	75	F. S.	
	3 Lacertæ - - -	22 17	, ,	, ,	, ,	77	77	50	, ,	Tremulous.
2	γ Draconis - - -	17 52	61	55	W	95	04	15	P.	
10	γ Draconis - - -	17 52	55	54	E	83	38	10	P.	Very faint.
	ι Cygni - - -	19 25	, ,	, ,	, ,	103	12	05	H.	
	* - - -	20 0	, ,	52	, ,	105	15	95	, ,	
	* - - -	20 30	, ,	, ,	W	61	13	83	, ,	
	* - - -	20 43	54	, ,	, ,	63	05	70	, ,	
	* - - -	21 39	52	, ,	, ,	93	60	45	F. S.	
	3 Lacertæ - - -	22 17	, ,	54	, ,	77	93	75	, ,	Tremulous.
11	ι Cygni - - -	19 25	55	55	W	75	31	91	H.	Faint.
	* - - -	20 0	, ,	, ,	, ,	73	29	00	, ,	
	* - - -	20 30	, ,	, ,	E	117	36	61	, ,	
	* - - -	20 43	, ,	, ,	, ,	115	43	55	, ,	
	* - - -	21 39	55	54	, ,	84	81	30	F. S.	
	3 Lacertæ - - -	22 17	, ,	, ,	, ,	100	54	57	, ,	
12	* - - -	20 43	53	53	W	63	08	45	H.	
	* - - -	21 39	51	52	, ,	93	68	15	F. S.	
	3 Lacertæ - - -	22 17	, ,	, ,	, ,	77	91	60	, ,	
14	ι Cygni - - -	19 25	56	54	W	75	32	56	H.	Faint.
	* - - -	20 0	, ,	, ,	, ,	73	31	90	, ,	
19	γ Draconis - - -	17 52	52	51	W	95	01	96	H.	Cloudy.
	ι Cygni - - -	19 25	50	49	, ,	75	35	75	, ,	
	* - - -	20 0	, ,	, ,	, ,	73	31	76	, ,	
	* - - -	20 30	, ,	, ,	, ,	61	18	01	, ,	
	* - - -	20 43	, ,	, ,	E	115	39	55	, ,	
	* - - -	21 39	, ,	, ,	, ,	84	75	67	, ,	
	3 Lacertæ - - -	22 17	, ,	, ,	, ,	100	49	65	F. S.	
20	γ Draconis - - -	17 52	51	50	E	83	47	85	H.	
	ι Cygni - - -	19 25	, ,	, ,	, ,	103	12	16	, ,	
	* - - -	20 0	49	48	, ,	105	14	82	, ,	
	* - - -	20 30	, ,	, ,	, ,	117	30	81	, ,	
	* - - -	20 43	, ,	, ,	W	63	07	65	, ,	
23	ι Cygni - - -	19 25	54	53	W	75	36	90	H.	
	* - - -	20 0	, ,	, ,	, ,	73	39	05	, ,	
24	ι Cygni - - -	19 25	60	54	E	103	13	20	F. S.	Tremulous.
	* - - -	20 0	, ,	, ,	, ,	105	13	90	, ,	
	* - - -	20 30	, ,	, ,	, ,	117	28	10	H.	
	* - - -	20 43	, ,	, ,	W	63	04	05	, ,	
	* - - -	21 39	, ,	, ,	, ,	93	70	60	, ,	
	3 Lacertæ - - -	22 16	, ,	, ,	, ,	77	99	40	F. S.	
25	ι Cygni - - -	19 25	60	53	W	75	31	26	H.	
	* - - -	20 0	59	, ,	, ,	73	30	85	, ,	

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OBSERVATIONS with the TWENTY-FIVE FEET ZENITH TELESCOPE.

Date.	STAR.	Approx. A. R.	Thermometer.		Face of Inst.	READING of the INSTRUMENT.			Ob- servers.	Remarks.
			Upper.	Lower.		Revs ^{ns} of Screw.	Parts.	Vern.		
1833.		H. M.								
Oct. 25	*	20 29	59	53	W	61	14	57	H.	
	*	20 48	,,	,,	E	115	35	30	,,	
	*	21 39	,,	,,	,,	84	73	55	,,	
	3 Lacertæ	22 17	,,	,,	,,	100	44	05	,,	
Nov. 27	γ Draconis	17 52	43	43	W	94	40	65	H.	
30	γ Draconis	17 52	45	45	E	83	67	95	H.	
Dec. 2	γ Draconis	17 52	50	47	W	94	33	75	F. S.	
5	γ Draconis	17 52	48	48	E	83	72	30	H.	
6	γ Draconis	17 52	46	46	W	94	32	55	H.	Very faint.

The instrument was undergoing some alteration during the remainder of the year.

TABLE of the VALUES of the SCALE of the ZENITH TELESCOPE.

Revolutions of the Screw.		Parts of the Micrometer.				Parts of the Vernier.	
REV.	Value in Arc.	Parts.	Value in Arc.	Parts.	Value in Arc.	Parts.	Value in Arc.
1	0 0 24, 302	1	0, 243	51	12, 394	1	0, 024
2	0 0 48, 604	2	0, 486	52	12, 637	2	0, 049
3	0 1 12, 905	3	0, 729	53	12, 880	3	0, 073
4	0 1 37, 207	4	0, 972	54	13, 123	4	0, 097
5	0 2 1, 509	5	1, 216	55	13, 367	5	0, 121
6	0 2 25, 811	6	1, 458	56	13, 609	6	0, 146
7	0 2 50, 113	7	1, 701	57	13, 852	7	0, 170
8	0 3 14, 414	8	1, 944	58	14, 095	8	0, 194
9	0 3 38, 716	9	2, 187	59	14, 338	9	0, 219
10	0 4 3, 018	10	2, 430	60	14, 581	10	0, 243
11	0 4 27, 320	11	2, 673	61	14, 824		
12	0 4 51, 622	12	2, 916	62	15, 067		
13	0 5 15, 923	13	3, 159	63	15, 310		
14	0 5 40, 225	14	3, 402	64	15, 553		
15	0 6 4, 527	15	3, 646	65	15, 797		
16	0 6 28, 829	16	3, 888	66	16, 039		
17	0 6 53, 131	17	4, 131	67	16, 282		
18	0 7 17, 432	18	4, 374	68	16, 525		
19	0 7 41, 734	19	4, 617	69	16, 768		
20	0 8 6, 036	20	4, 860	70	17, 011		
21	0 8 30, 338	21	5, 103	71	17, 254		
22	0 8 54, 640	22	5, 346	72	17, 497		
23	0 9 18, 941	23	5, 589	73	17, 740		
24	0 9 43, 243	24	5, 832	74	17, 983		
25	0 10 7, 545	25	6, 076	75	18, 227		
26	0 10 31, 847	26	6, 318	76	18, 469		
27	0 10 56, 149	27	6, 561	77	18, 712		
28	0 11 20, 450	28	6, 804	78	18, 955		
29	0 11 44, 752	29	7, 047	79	19, 198		
30	0 12 9, 054	30	7, 290	80	19, 441		
40	0 16 12, 072	31	7, 533	81	19, 684		
50	0 20 15, 090	32	7, 776	82	19, 927		
60	0 24 18, 108	33	8, 019	83	20, 170		
70	0 28 21, 126	34	8, 262	84	20, 413		
80	0 32 24, 144	35	8, 506	85	20, 657		
90	0 36 27, 162	36	8, 748	86	20, 899		
100	0 40 30, 180	37	8, 991	87	21, 142		
110	0 44 33, 198	38	9, 234	88	21, 385		
120	0 48 36, 216	39	9, 477	89	21, 628		
130	0 52 39, 234	40	9, 721	90	21, 872		
140	0 56 42, 252	41	9, 964	91	22, 115		
150	1 0 45, 270	42	10, 207	92	22, 358		
160	1 4 48, 288	43	10, 450	93	22, 601		
170	1 8 51, 306	44	10, 693	94	22, 844		
180	1 12 54, 324	45	10, 937	95	23, 088		
		46	11, 179	96	23, 330		
		47	11, 422	97	23, 573		
		48	11, 665	98	23, 816		
		49	11, 908	99	24, 059		
		50	12, 151	100	24, 302		

Example of the Use of the Table.

August 1, 1833. The observed Zenith Distance of γ Draconis = 5 66 26
required the corresponding Zenith Distance in Arc.

5 Revolutions	=	2 1, 509
66 Parts of Micrometer	=	16, 039
*26 Parts of Vernier... { .20.....	=	0, 049
{ .06.....	=	0, 015
Zenith Distance in Arc.....	=	2 17, 612

* The last being an estimate figure, the corresponding value is obtained by removing the decimal point one place to the left hand.

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REDUCTIONS of the OBSERVATIONS made with the ZENITH TELESCOPE.

Note—Several very discordant observations have been altogether omitted.

 γ DRACONIS.

Date.	Observation.			Face of Instrument.	Zenith Point.			Zenith Distance.			Zenith Dist. reduced to Arc.	Sum of Equations.	Zenith Dist. Jan. 1.
1833.	Rev.	Mic.	Ver.		Rev.	Mic.	Ver.	Rev.	Mic.	Ver.	' "	" "	' "
Aug. 1	83	49	50	E	89	15	76	5	66	26	2 17, 61	-15, 00	2 2, 61
3	94	82	00	W				5	66	24	2 17, 56	-15, 41	2 2, 15
4	83	48	35	E				5	67	41	2 17, 89	-15, 62	2 2, 27
12	83	42	40	E				5	72	60	2 19, 15	-17, 19	2 1, 96
13	94	87	75	W	89	15	00	5	72	75	2 19, 19	-17, 37	2 1, 82
14	83	39	30	E				5	75	70	2 19, 91	-17, 54	2 2, 37
16	94	91	90	W				5	76	90	2 20, 20	-17, 87	2 2, 33
19	83	36	95	E				5	78	05	2 20, 48	-18, 33	2 2, 15
23	94	94	14	W	89	12	50	5	81	64	2 21, 35	-18, 89	2 2, 46
25	83	28	52	E				5	83	98	2 21, 92	-19, 14	2 2, 78
26	94	97	05	W				5	84	55	2 22, 06	-19, 25	2 2, 81
27	83	32	75	E				5	79	75	2 20, 89	-19, 37	2 1, 52
28	94	98	00	W				5	85	50	2 22, 29	-19, 49	2 2, 80
Sep. 1	95	04	44	W	89	17	90	5	86	54	2 22, 54	-19, 87	2 2, 67
2	83	36	80	E				5	81	00	2 21, 19	-19, 96	2 1, 23
4	83	31	95	E				5	85	95	2 22, 39	-20, 12	2 2, 27
5	95	06	16	W				5	88	26	2 22, 96	-20, 18	2 2, 78
6	83	30	76	E	89	17	00	5	87	14	2 22, 69	-20, 25	2 2, 44
7	95	00	86	W				5	82	96	2 21, 67	-20, 32	2 1, 35
8	83	29	95	E				5	87	95	2 22, 88	-20, 38	2 2, 50
12	95	04	85	W				5	86	95	2 22, 64	-20, 56	2 2, 08
13	83	29	11	E	89	17	00	5	87	79	2 22, 84	-20, 60	2 2, 24
16	95	03	75	W				5	85	85	2 22, 37	-20, 69	2 1, 68
18	83	28	60	E				5	89	30	2 23, 21	-20, 70	2 2, 51
20	95	03	55	W				5	86	55	2 22, 48	-20, 68	2 1, 80
23	83	29	68	E	89	16	00	5	87	32	2 22, 73	-20, 64	2 2, 09
24	95	04	41	W				5	87	41	2 22, 75	-20, 62	2 2, 13
25	83	32	41	E				5	83	59	2 21, 82	-20, 59	2 1, 23
26	95	02	05	W				5	86	05	2 22, 42	-20, 56	2 1, 86
27	83	32	63	E	89	16	20	5	83	37	2 21, 76	-20, 52	2 1, 24
30	95	03	22	W				5	87	02	2 22, 65	-20, 39	2 2, 26
Oct. 1	83	30	63	E				5	85	57	2 22, 30	-20, 32	2 1, 98
2	95	04	15	W				5	87	95	2 22, 88	-20, 25	2 2, 63
10	83	38	10	E	89	23	23	5	85	13	2 22, 42	-19, 53	2 2, 89
19	95	01	96	W				5	77	91	2 20, 44	-18, 49	2 1, 95
20	83	47	85	E	89	24	05	5	76	20	2 20, 03	-18, 34	2 1, 69
Nov. 27	94	40	65	W				5	38	08	2 10, 76	- 8, 95	2 1, 81
30	83	67	95	E	89	2	57	5	31	62	2 9, 92	- 7, 97	2 1, 95
Dec. 2	94	33	75	W				5	31	18	2 9, 09	- 7, 31	2 1, 78
5	83	72	30	E	89	2	42	5	30	12	2 8, 81	- 6, 32	2 2, 49
6	94	32	55	W				5	30	13	2 8, 83	- 5, 98	2 2, 85
Mean of 41 Observations.													2 2, 16

* DRACONIS, Bode 170, A. R. 18^h 18^m.

Aug. 1	87	23	93	W	89	15	76	1	91	83	0 46, 60	+14, 60	1 1, 20
3	91	08	17	E				1	92	41	0 46, 76	+14, 64	1 1, 40
4	87	23	86	W				1	91	90	0 46, 64	+14, 88	1 1, 52
6	87	31	24	W	89	16	98	1	85	74	0 45, 14	+15, 35	1 0, 49
11	91	05	50	E				1	88	52	0 45, 81	+16, 45	1 2, 26

REDUCTIONS of the OBSERVATIONS made with the ZENITH TELESCOPE.

* DRACONIS, Bode 170—continued.

Date.	Observation.	Face of Instrument.	Zenith Point.	Zenith Distance.	Zenith Dist. reduced to Arc.	Sum of Equations.	Zenith Dist. Jan. 1.
1833.	Rev. Mic. Ver.		Rev. Mic. Ver.	Rev. Mic. Ver.	' "	"	' "
Aug. 12	87 27 40	W	89 15 00	1 87 60	0 45, 59	+16, 66	1 2, 25
13	90 97 10	E		1 82 10	0 44, 25	+16, 87	1 1, 12
14	87 32 70	W		1 82 30	0 44, 30	+17, 07	1 1, 37
23	87 39 88	W		1 72 61	0 41, 95	+18, 70	1 0, 65
25	90 83 70	E	89 12 49	1 71 21	0 41, 61	+19, 01	1 0, 62
26	87 40 09	W		1 72 40	0 41, 90	+19, 16	1 1, 06
27	90 82 30	E		1 69 81	0 41, 27	+19, 31	1 0, 58
28	87 45 27	W		1 67 22	0 40, 64	+19, 45	1 0, 09
Sep. 1	87 46 80	W	89 17 90	1 71 10	0 41, 58	+19, 97	1 1, 55
3	90 87 65	E		1 69 75	0 41, 36	+20, 21	1 1, 57
4	90 88 55	E		1 70 65	0 41, 47	+20, 31	1 1, 78
5	87 51 60	W		1 66 30	0 40, 41	+20, 41	1 0, 82
6	90 85 50	E	89 16 00	1 67 66	0 40, 73	+20, 51	1 1, 24
7	87 46 35	W		1 71 65	0 41, 71	+20, 61	1 2, 32
12	87 51 86	W		1 66 04	0 40, 35	+20, 99	1 1, 34
20	87 50 97	W		1 65 03	0 40, 11	+21, 43	1 1, 54
23	87 47 29	W		1 68 71	0 41, 00	+21, 50	1 2, 50
Mean of 23 Observations.....							1 1, 33

CYGNI.

Aug. 12	74 89 55	W	89 15 00	14 25 45	5 46, 41	+14, 71	6 1, 12
13	103 36 45	E		14 21 45	5 45, 44	+14, 98	6 0, 42
14	74 89 70	W		14 25 30	5 46, 37	+15, 24	6 1, 61
23	103 33 57	E		14 21 08	5 45, 35	+17, 51	6 2, 86
25	103 23 20	E	89 12 49	14 10 71	5 42, 60	+17, 97	6 0, 57
26	74 98 10	W		14 14 39	5 43, 72	+18, 20	6 1, 92
27	103 22 20	E		14 09 71	5 42, 58	+18, 12	6 1, 00
28	74 98 40	W		14 14 09	5 43, 65	+18, 64	6 2, 29
29	75 06 45	W		14 06 04	5 41, 79	+18, 86	6 0, 65
Sep. 1	75 08 65	W	89 17 90	14 09 35	5 42, 50	+19, 48	6 1, 98
4	103 21 53	E		14 03 63	5 41, 11	+20, 05	6 1, 16
5	75 15 95	W		14 01 95	5 40, 70	+20, 23	6 0, 93
6	103 16 09	E		13 98 19	5 39, 79	+20, 41	6 0, 20
7	75 09 72	W	89 16 00	14 08 18	5 42, 21	+20, 59	6 2, 80
9	103 14 65	E		13 96 75	5 39, 44	+20, 95	6 0, 39
12	75 14 36	W		14 03 54	5 41, 09	+21, 43	6 2, 52
15	75 18 73	W		13 99 17	5 40, 02	+21, 87	6 1, 89
17	103 11 34	E	89 16 20	13 93 44	5 38, 63	+22, 15	6 0, 78
19	75 17 74	W		13 98 26	5 39, 80	+22, 40	6 2, 20
20	103 06 20	E		13 90 20	5 37, 84	+22, 51	6 0, 35
23	75 23 20	W		13 92 80	5 38, 48	+22, 85	6 1, 33
24	103 11 80	E	89 23 23	13 95 80	5 39, 21	+22, 95	6 2, 16
26	103 09 30	E		13 93 30	5 38, 60	+23, 13	6 1, 73
27	75 20 60	W		13 95 40	5 39, 11	+23, 21	6 2, 32
30	103 07 80	E		13 91 60	5 38, 18	+23, 41	6 1, 59
Oct. 1	75 22 56	W	89 24 00	13 93 61	5 38, 68	+23, 47	6 2, 15
10	103 12 05	E		13 88 82	5 37, 51	+23, 86	6 1, 37
11	75 31 91	W		13 91 32	5 38, 12	+23, 87	6 1, 99
14	75 32 56	W		13 91 44	5 38, 15	+23, 89	6 2, 04
19	75 35 75	W	89 21 50	13 88 30	5 37, 38	+23, 80	6 1, 18
20	103 12 16	E		13 88 11	5 37, 33	+23, 77	6 1, 10
23	75 36 90	W		13 84 60	5 36, 48	+23, 63	6 0, 11
24	103 13 20	E		13 91 70	5 38, 21	+23, 58	6 1, 79
25	75 31 26	W		13 90 24	5 37, 85	+23, 43	6 1, 28
Mean of 36 Observations.....							6 1, 17

(9)

REDUCTIONS of the OBSERVATIONS made with the ZENITH TELESCOPE.

* A. R. 20^h 0^m.

Date.	Observation.	Face of Instrument.	Zenith Point.	Zenith Distance.	Zenith Dist. reduced to Arc.	Sum of Equations.	Zenith Dist. Jan. 1.	
1833.	Rev. Mic. Ver.		Rev. Mic. Ver.	Rev. Mic. Ver.				
Sep. 4	105 30 26	E	89 17 90	16 12 36	6 31, 83	+19, 27	6 51, 10	
5	73 07 05	W		16 10 85	6 31, 46	+19, 48	6 50, 95	
6	105 29 25	E		16 11 35	6 31, 59	+19, 70	6 51, 29	
7	73 02 80	W		16 15 10	6 32, 50	+19, 92	6 52, 42	
9	105 25 65	E		16 07 75	6 30, 71	+20, 35	6 51, 06	
12	73 06 85	W	89 16 00	16 11 05	6 31, 51	+20, 96	6 52, 47	
15	73 09 00	W		16 08 90	6 30, 99	+21, 51	6 52, 50	
20	105 17 02	E		16 01 02	6 29, 08	+22, 38	6 51, 46	
23	73 13 48	W		16 02 52	6 29, 44	+22, 87	6 52, 31	
24	105 20 15	E		16 04 15	6 29, 83	+23, 03	6 52, 86	
26	105 15 92	E	89 16 20	15 99 92	6 28, 80	+23, 29	6 52, 09	
27	73 17 33	W		15 98 67	6 28, 81	+23, 41	6 52, 22	
30	105 17 05	E		16 00 85	6 29, 03	+23, 75	6 52, 78	
Oct. 1	73 19 80	W		89 23 23	15 96 40	6 27, 95	+23, 85	6 51, 80
10	105 15 95	E			15 92 72	6 27, 06	+24, 61	6 51, 67
11	73 29 00	W	89 24 00	15 94 23	6 27, 43	+24, 68	6 52, 11	
14	73 31 90	W		15 92 10	6 26, 91	+24, 84	6 51, 75	
19	73 31 76	W	89 24 05	15 92 29	6 26, 96	+25, 02	6 51, 98	
20	105 14 82	E		15 90 77	6 26, 59	+25, 05	6 51, 64	
23	73 39 05	W	89 21 50	15 82 45	6 24, 56	+25, 00	6 49, 56	
24	105 13 90	E		15 92 40	6 26, 98	+25, 00	6 51, 98	
25	73 30 85	W		15 90 65	6 26, 56	+25, 00	6 51, 56	
Mean of 22 Observations.							6 51, 80	

* A. R. 20^h 30^m.

Sep.	4	117	56	00	E	89	17	90	28	38	10	11	29, 71	+18, 46	11	48, 17
	5	60	82	40	W				28	35	50	11	29, 08	+18, 71	11	47, 79
	6	117	55	00	E				28	37	10	11	29, 47	+18, 96	11	48, 43
	12	60	85	28	W				28	32	62	11	28, 38	+20, 38	11	48, 76
	13	117	49	60	E				28	31	70	11	28, 15	+20, 61	11	48, 76
	15	60	85	00	W	89	16	00	28	32	90	11	28, 45	+21, 04	11	49, 49
	19	60	93	18	W				28	22	82	11	25, 99	+21, 88	11	47, 87
	20	117	38	85	E				28	22	85	11	26, 00	+22, 07	11	48, 07
	21	60	93	10	W				28	22	90	11	26, 01	+22, 27	11	48, 29
	24	117	35	55	E				28	19	55	11	25, 20	+22, 84	11	48, 04
	27	60	96	45	W	89	16	20	28	19	55	11	25, 20	+23, 34	11	48, 54
	30	117	31	31	E				28	15	11	11	24, 12	+23, 79	11	47, 91
	Oct.	1	60	98	95				W	28	17	25	11	24, 64	+23, 94	11
10		61	13	83	W	89	23	23	28	09	40	11	22, 73	+25, 04	11	47, 77
11		117	36	61	E				28	13	38	11	23, 70	+25, 14	11	48, 84
19		61	18	01	W				28	06	04	11	21, 92	+25, 76	11	47, 68
20		117	30	81	E	89	24	05	28	06	76	11	22, 09	+25, 69	11	47, 78
24		117	28	10	E				28	06	60	11	22, 05	+25, 98	11	48, 03
25		61	14	57	W				28	06	93	11	22, 13	+26, 01	11	48, 14
Mean of 19 Observations.															11	48, 26

* A. R. 20^h 43^m.

	Sep. 30	115 46 30	E	} 89 16 20	26 30 10	10 39, 16	+24, 47	11 3, 63
	Oct. 1	62 91 30	W		26 24 90	10 37, 90	+24, 63	11 2, 53
	10	63 05 70	W	} 89 23 23	26 17 53	10 36, 11	+25, 88	11 1, 99
	11	115 43 55	E		26 20 32	10 36, 79	+26, 00	11 2, 79
	12	63 08 45	W	} 89 24 50	26 14 78	10 35, 44	+26, 12	11 1, 56
	19	115 39 55	E		26 15 50	10 35, 61	+26, 82	11 2, 43
	20	63 07 65	W	} 89 21 50	26 16 40	10 35, 83	+26, 93	11 2, 76
	24	63 04 05	W		26 17 45	10 36, 09	+27, 16	11 3, 25
	25	115 35 30	E		26 13 80	10 35, 20	+27, 21	11 2, 41
					Mean of 9 Observations.....			11 2, 59

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REDUCTIONS of the OBSERVATIONS made with the ZENITH TELESCOPE.

* A.R. 21^h 39^m.

Date.	Observation.	Face of Instru- ment.	Zenith Point.	Zenith Distance.	Zenith Dist. reduced to Arc.	Sum of Equations.	Zenith Dist. Jan. 1.
1833.	Rev. Mic. Ver.		Rev. Mic. Ver.	Rev. Mic. Ver.			
Sep. 4	85 18 30	E	89 17 90	3 99 60	1 37, 11	-15, 42	1 21, 69
5	93 22 40	W		4 04 50	1 38, 30	-15, 71	1 22, 59
6	85 15 40	E		4 02 50	1 37, 81	-16, 01	1 21, 80
12	93 32 50	W		4 14 60	1 40, 76	-17, 74	1 23, 02
13	85 07 10	E		4 10 80	1 39, 83	-18, 03	1 21, 80
14	93 29 20	W	89 16 00	4 11 30	1 39, 95	-18, 31	1 21, 64
15	93 29 30	W		4 11 40	1 39, 98	-18, 59	1 21, 39
19	93 41 50	W		4 25 50	1 43, 41	-19, 66	1 23, 75
21	93 38 00	W		4 22 00	1 42, 55	-20, 08	1 22, 47
26	84 90 00	E		4 26 00	1 43, 53	-21, 40	1 22, 13
27	93 42 60	W	89 16 20	4 26 60	1 43, 67	-21, 63	1 22, 04
28	84 89 75	E		4 26 45	1 43, 63	-21, 87	1 21, 76
30	84 87 45	E		4 28 75	1 44, 19	-22, 31	1 21, 88
Oct. 1	93 47 75	W	89 23 23	4 31 55	1 44, 87	-22, 53	1 22, 34
10	93 60 45	W		4 37 22	1 46, 25	-24, 28	1 21, 97
11	84 81 30	E		4 41 93	1 47, 40	-24, 46	1 22, 94
12	93 68 15	W		4 44 92	1 48, 12	-24, 65	1 23, 47
19	84 75 67	E		89 24 05	4 48 38	1 48, 96	-25, 75
24	93 70 60	W	89 21 50	4 49 10	1 49, 14	-26, 41	1 22, 73
25	84 73 55	E		4 47 95	1 48, 86	-26, 54	1 22, 32
Mean of 20 Observations.							1 22, 35

3 LACERTÆ.

Aug. 23	101	02	30	E	89 12 49	11	89	81	4 49, 14	+ 9, 61	4 58, 75	
	26	77	27	55		W	11	84	94	4 47, 96	+10, 62	4 58, 58
	27	100	96	40		E	11	83	91	4 47, 71	+19, 95	4 58, 66
	28	77	26	15		W	11	86	34	4 48, 30	+11, 28	4 59, 58
Sep. 4	100	98	83	E	89 17 90	11	80	93	4 46, 99	+13, 56	4 60, 55	
	5	77	40	78		W	11	77	12	4 46, 06	+13, 87	4 59, 93
	6	100	92	47		E	11	74	57	4 45, 43	+14, 19	4 59, 62
	12	77	49	00		W	11	68	90	4 44, 06	+16, 05	4 60, 11
	13	100	86	70	E	89 16 00	11	68	80	4 44, 04	+16, 35	4 60, 39
	14	77	51	18	W		11	66	72	4 43, 53	+16, 65	4 60, 18
	15	77	50	70	W		11	67	20	4 43, 65	+16, 95	4 60, 60
	16	77	56	70	W		11	61	20	4 42, 19	+17, 24	4 59, 43
	17	100	77	45	E	89 16 20	11	59	55	4 41, 79	+17, 54	4 59, 33
	19	77	64	45	W		11	51	55	4 39, 85	+18, 10	4 57, 95
	20	100	71	20	E		11	55	20	4 40, 74	+18, 37	4 59, 11
	24	100	68	10	E		11	52	10	4 39, 98	+19, 47	4 59, 45
	26	100	70	20	E	89 21 50	11	54	20	4 40, 49	+20, 01	4 60, 50
	27	77	62	85	W		11	53	15	4 40, 24	+20, 28	4 60, 52
	28	100	64	40	E		11	48	20	4 39, 03	+20, 54	4 59, 57
	30	100	61	50	E		11	45	30	4 38, 33	+21, 05	4 59, 38
Oct. 1	77	77	50	W	89 23 23	11	38	70	4 36, 72	+21, 30	4 58, 02	
	10	77	93	75		W	11	29	48	4 34, 48	+23, 35	4 57, 83
	11	100	54	57		E	11	31	34	4 34, 94	+23, 56	4 58, 50
	12	77	91	60		W	11	31	63	4 35, 01	+23, 78	4 58, 79
	19	100	49	65	E	89 24 05	11	25	60	4 33, 54	+25, 15	4 58, 69
	24	77	99	40	W		11	22	10	4 32, 69	+25, 99	4 58, 68
	25	100	44	05	E		11	22	55	4 32, 80	+26, 15	4 58, 95
Mean of 27 Observations.											4 59, 32	

ERRATA—1833.

PART I.

Transit Observations.

Page.
4, Jan. 22, For γ read $\odot$
8 to 12, Heading, for Illuminated End—East, read
Illuminated End—West

Circle Observations.

4, Jan. 11, Polaris, Mean of 6 Mic. for $19^{\circ} 0'$ read $18^{\circ} 8'$
8, 27, ,, ,, $24^{\circ} 6'$,, $21^{\circ} 2'$
9, .. Difference of JONES from TROUGHTON,
6 Mic. for $+2^{\circ} 6'$ read $+6^{\circ} 0'$
13, Feb. 11, $\odot$ L. L. ,, $104^{\circ} 14'$,, $104^{\circ} 13'$
14, 18, $\odot$ L. L. ,, $101^{\circ} 50'$,, $101^{\circ} 49'$
15, .. $\odot$ U. L. ,, $101^{\circ} 18'$,, $101^{\circ} 17'$
and Microscope A, for $17'$ read $16'$

PART II.

Transit Observations.

13, June 11, $\odot$ 1 L. Mean of Wires, for $53^{\circ} 94'$ read $52^{\circ} 94'$

Circle Observations.

Page.
12, May 7, γ Leonis, Mic. F, for $7^{\circ} 2'$ read $27^{\circ} 2'$
,, 8, γ Centre, ,, 85° ,, 84°

PART III.

Transit Observations.

15, Eclipse of the Sun, Time by Clock, for 7 hrs. read 1 hr.

Circle Observations.

6, 8, July 22, 24, δ Draconis, Mean of 6 Microscopes,
for $22^{\circ} 38'$ read $22^{\circ} 37'$

PART IV.

Transit Observations.

9, γ Centre, for $1^{\text{h}} 29^{\text{m}}$ read $1^{\text{h}} 39^{\text{m}}$

Circle Observations.

18, Dec. 7, γ U. L. for $81^{\circ} 14'$ read $81^{\circ} 13'$
,, .. γ L. L. ,, $81^{\circ} 15'$,, $81^{\circ} 14'$
,, .. γ Centre ,, $81^{\circ} 15'$,, $81^{\circ} 14'$

PART V. or SUPPLEMENT.

		TROUGHTON.	JONES.		TROUGHTON.	JONES.
Page 19,	54 Andromedæ, S. P.	for	$319^{\circ} 52' 20'', 89$ 17, 97 21, 55	read	$319^{\circ} 50' 40'', 89$ 37, 97 31, 55	$38^{\circ}, 69$ 38, 23
		Mean.,	$319^{\circ} 52' 20, 14$		$319^{\circ} 50' 36, 80$	$38, 46$
20,	Rangiferis, Bode 29,	,,	$5^{\circ} 41' 59, 39$	,,	$5^{\circ} 42' 9, 07$	$9, 77$
33,	51 Draconis, S. P.	,,	$323^{\circ} 8' 33, 28$ 32, 55 32, 66	,,	$323^{\circ} 8' 33, 28$ 36, 37 36, 60	$34, 58$ 36, 33 36, 36
		Mean.,	$323^{\circ} 8' 32, 83$		$323^{\circ} 8' 35, 42$	$35, 76$

1832.

PART I. (on the last page.)

		Sidereal Time.	Mean Time.		Sidereal Time.	Mean Time.
		H. M. S.	H. M. S.		H. M. S.	H. M. S.
Feb. 10,	Aldebaran, for	$1^{\text{h}} 58^{\text{m}} 37, 67$ $3^{\text{h}} 8^{\text{m}} 10, 70$	$4^{\text{h}} 39^{\text{m}} 33, 84$ $5^{\text{h}} 49^{\text{m}} 4, 44$	read	$1^{\text{h}} 57^{\text{m}} 18, 47$ $3^{\text{h}} 7^{\text{m}} 0, 50$	$4^{\text{h}} 38^{\text{m}} 14, 85$ $5^{\text{h}} 47^{\text{m}} 45, 46$
19,	γ Virginis, ,,	$12^{\text{h}} 0^{\text{m}} 13, 22$ $13^{\text{h}} 16^{\text{m}} 48, 08$	$14^{\text{h}} 4^{\text{m}} 7, 66$ $15^{\text{h}} 20^{\text{m}} 30, 86$	,,	$11^{\text{h}} 58^{\text{m}} 50, 58$ $13^{\text{h}} 15^{\text{m}} 26, 32$	$14^{\text{h}} 2^{\text{m}} 45, 24$ $15^{\text{h}} 19^{\text{m}} 8, 43$
March 8,	γ 75 Tauri, ,,	$7^{\text{h}} 49^{\text{m}} 32, 80$	$8^{\text{h}} 43^{\text{m}} 21, 96$	,,	$7^{\text{h}} 48^{\text{m}} 8, 18$	$8^{\text{h}} 41^{\text{m}} 57, 57$

PART V. or SUPPLEMENT.

Page 61, Feb. 10, 19, and March 8, the above errors have been copied, therefore, for them read the adjoining corrections.