OBSERVATIONS OF MELPOMENE, THETIS, IRENE, AND EUNOMIA,

MADE AT THE CAMBRIDGE OBSERVATORY (ENGLAND).

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DIRECTOR OF THE OBSERVATORY.

The equatorial observations were made with the 20-foot Refractor.

MELPOMENE.

1852.	Greenwich M. T.	⑱ R.A.	Log $\frac{p}{P}$	⑱ N. P. D.	Log $\frac{q}{P}$	No. Comp.	*
	h. m. s.	h. m. s.		° ′ ″			
June 26	12 25 27.6	18 10 55.16	+7.811	98 21 10.7	—9.9377	8	*a*
29	11 34 38.5	18 7 48.46				Meridian	
	12 18 18.8	18 7 46.53	+7.896	98 30 18.0	—9.9381	8	*b*
30	11 29 40.0	18 6 45.70		98 33 36.1	—9.9392	Meridian	
July 1	11 24 42.0	18 5 43.41		98 37 7.2	—9.9394	"	
3	11 14 47.1	18 3 40.04		98 44 49.5	—9.9400	"	
5	11 4 53.7	18 1 38.09		98 53 12.3 (?)	—9.9406	"	
6	10 59 58.4	18 0 38.56		98 57 30.9	—9.9409	"	
7	10 55 3.5	17 59 39.43		99 2 4.9	—9.9412	"	
8	10 50 9.0	17 58 40.65		99 6 45.7	—9.9415	"	
9	10 45 15.5	17 57 42.86		99 11 32.3	—9.9418	"	
12	10 30 41.8	17 54 56.43		99 27 1.0	—9.9429	"	
15	10 16 17.8	17 52 19.79		99 43 33.8	—9.9440	"	
17	10 6 48.5	17 50 42.04					
19	9 57 25.6	17 49 10.74		100 7 28.4	—9.9456	"	
22	9 43 31.6	17 47 4.05		100 26 29.3	—9.9469	"	
23	9 38 57.0	17 46 25.29		100 33 1.5	—9.9473	"	

The stars *a* and *b* are XVIII. 265 and XVIII. 213 in Weisse's Catalogue, from which the following adopted mean places were taken: —

	Mean R.A. 1852.0.	Mean N. P. D. 1852.0.
	h. m. s.	° ′ ″
a	18 12 2.15	98 2 20.6
b	18 10 3.44	98 41 5.1

THETIS.

1852.	Greenwich M. T.	⑰ R.A.	Log $\frac{p}{P}$	⑰ N. P. D.	Log $\frac{q}{P}$	No. Comp.	*
	h. m. s.	h. m. s.		° ′ ″			
July 5	10 41 6.8	12 33 3.79	+8.600	87 10 25.6	—9.8931	2	*a*
	10 54 50.8	12 33 4.49	+8.605	87 10 31.7	—9.8922	1	*b* and *c*
7	9 59 16.4	12 35 26.04	+8.577	87 29 31.8	—9.8896	1	*d* and *e*
	10 20 4.9	12 35 26.86	+8.591	87 29 42.3	—9.8908	2	*a*
	10 35 11.6	12 35 26.86	+8.599	87 29 48.3	—9.8919	2	*f*
8	10 22 5.5	12 36 40.21	+8.595	87 39 32.8	—9.8916	5	*f*

The planet was very faint. Some of the measures on each day were taken while the instrument was carried by clock-movement, the differences of R.A. being measured on a graduated sector attached to the hour-circle.

Assumed Mean Places of the Stars.

	Mean R.A. 1852.0.	Mean N. P. D. 1852.0.	Authority.
	h. m. s.	° ′ ″	
a	12 30 49.67	87 19 49.0	B. A. C. 4254
b	13 0 3.23	87 43 51.5	H. C. 24373
c	13 1 27.52	87 2 53.8	Weisse XIII. 2
d	12 43 33.19	87 19 30.9	Weisse XII. 744
e	12 45 0.77	87 15 3.4	" 765
f	12 34 50.07	87 34 11.9	" 583

IRENE.

1852.	Greenwich M. T.	⑭ R.A.	Log $\frac{p}{P}$	⑭ N. P. D.	Log $\frac{q}{P}$	No. Comp.	*
	h. m. s.	h. m. s.		° ′ ″			
July 9	13 56 44.6	23 40 56.96	—8.412	103 28 38.4	—9.9436	5	*a*
12	13 36 26.8	23 41 21.38	—8.433	103 39 14.9	—9.9422	6	*b*
15	12 47 4.3	23 41 35.09	—8.506	103 51 0.4	—9.9341	8	*c*

Assumed Mean Places of the Stars.

	Mean R.A. 1852.0.	Mean N. P. D. 1852.0.	Authority.
	h. m. s.	° ′ ″	
a	23 36 10.46	103 50 3.2	Weisse XXIII. 740
b	23 43 18.10	103 38 40.8	" 883
c	23 42 53.57	103 56 2.3	" 876

EUNOMIA.

1852.	Greenwich M. T.	⑮ R.A.	Log $\frac{p}{P}$	⑮ N. P. D.	Log $\frac{q}{P}$	No. Comp.	*
	h. m. s.	h. m. s.		° ′ ″			
July 19	13 35 9.7	3 16 30.40	—8.670	61 0 26.8	—9.8285	1	*a*
22	13 16 37.4	3 22 22.40	—8.672	60 32 48.2	—9.8371	3	*b*
23	12 29 47.2	3 24 15.49	—8.664	60 24 2.5	—9.8722	8	*c*

Assumed Mean Places of the Stars.

	Mean R.A. 1852.0.	Mean N. P. D. 1852.0.	Authority.
	h. m. s.	° ′ ″	
a	3 11 23.99	61 29 30.3	B. A. C. 1025
b	3 21 12.80	60 28 16.0	H. C. 6405 and 6406
c	3 23 5.85	60 30 2.0	H. C. 6466 and 6467.

MELPOMENE.

Dr. Petersen with his usual kindness has communicated the following additional observations of this eighteenth asteroid :—

1. Göttingen, — by Dr. Westphal with the transit-instrument, and Mr. Klinkerfues with the Repsold meridian-circle.

1852.	M. T. Göttingen.	⑱ α	⑱ δ	
	h. m. s.	h. m. s.	° ′ ″	
July 4	11 10 22.18	18 2 40.87		T. I.
5	11 5 25.84	18 1 40.27		"
	24.37	39.80	—8 53 2.5	M. C.
6	11 0 30.19	18 0 40.37		T. I.
	30.07	40.25	8 57 17.6	M. C.
7	10 55 35.12	17 59 41.05		T. I.
	34.84	40.77	9 1 55.0	M. C.
8	10 50 40.96	17 58 42.66		T. I.
	40.95	42.65	9 6 48.5	M. C.
9	10 45 47.40	17 57 44.85		T. I.
	47.66	45.11	9 11 28.1	M. C.
10	10 40 55.22	17 56 48.43		T. I.
			—9 16 21.9	M. C.
11	10 36 3.68	17 55 52.65		T. I.

1852.	M. T. Göttingen.	⑱ α	⑱ δ	
	h. m. s.	h. m. s.	° ′ ″	
July 11	10 36 3.54	17 55 52.51	—9 21 28.4	M. C.
12	10 31 13.25	17 54 57.99		T. I.
			9 26 48.0	M. C.
13	10 26 24.26	17 54 4.75		T. I.
14	10 21 36.16	17 53 12.42		"
15	10 16 49.28	17 52 21.33		"
			9 43 23.5	M. C.
16	10 12 3.83	17 51 31.65		T. I.
			9 49 17.1	M. C.
17	10 7 20.00	17 50 43.59		T. I.
	19.86	43.45	9 55 4.1	M. C.
19	9 57 56.00	17 49 11.09	10 7 18.3	"
20	9 53 16.66	17 48 27.61		T. I.
	17.08	28.03	10 13 30.6	M. C.
21	9 48 38.78	17 47 45.53		T. I.
	38.46	45.22	10 19 50.1	M. C.
23	9 39 28.58	17 46 26.94		T. I.
24	9 34 55.40	17 45 49.57		"
			10 39 17.7	M. C.
25	9 30 24.41	17 45 14.40	—10 46 3.4	"

2. Marburg, — by Mr. LESSER with the ring-micrometer.

1852.	M. T. Marburg. h. m. s.	⑱ α	⑱ δ	No. Comp.	*
July 8	11 33 32.8	269° 40′ 6.″8		19	*a*
	11 56 44.7		—9° 6′ 53.″7		
9	11 16 51.5	269 25 53.9		17	*a*
	11 19 36.4		—9 11 55.2		
10	11 16 17.9	269 11 39.5		19	*b*
	11 16 7.2		—9 16 35.8		
11	10 57 51.0	268 57 51.7		11	*b*
	11 12 49.0		—9 21 37.2		

Apparent Places of the Comparison-Stars.

July 8	*a*	269° 52′ 12.″6	—9° 11′ 25.″4	Weisse XVII. 1260
9	*a*	52 12.65	11 25.4	
10	*b*	269 24 48.7	—9 16 3.2	Weisse XVII. 1212
11	*b*	24 48.8	16 3.1	

3. Kremsmünster, — by Professor RESLHUBER with the meridian-circle.

1852.	M. T. Kremsmünster. h. m. s.	⑱ α h. m. s.	⑱ δ
July 4	11 10 25.80	18 2 41.74	—8° 48′ 34.″32
6	11 0 33.55	18 0 40.98	8 57 22.90
7	10 55 39.02	17 59 42.21	9 1 55.84
8	10 50 34.77	58 43.54	6 33.88
11	10 36 6.99	55 53.21	21 32.66
13	10 26 27.37	54 5.11	32 11.76
14	10 21 39.40	53 12.91	37 47.04
15	10 16 52.67	52 21.96	43 28.15
16	10 12 7.48	17 51 32.55	—9 49 13.19

Professor RÜMKER has sent me the following Hamburg Observations: —

1852.	M. T. Hamburg. h. m. s.	⑱ α h. m. s.	⑱ δ	No. Comp.
June 28	12 7 31.8	18 8 51.380	—8° 27′ 5.″32	10
30	10 16 50.5	18 6 50.894	8 33 24.08	3
July 2	12 42 27.7	18 4 40.118	8 41 1.9	15
3	12 0 24.3	18 3 39.864	8 44 52.4	19
4	10 26 39.1	18 2 42.691	8 48 44.1	9
4	11 10 21.9	18 2 40.569	—8 48 50.9	M. C.

1852.	M. T. Hamburg. h. m. s.	⑱ α h. m. s.	⑱ δ	No. Comp.
July 5	10 20 16.3	18 1 41.806	—8° 52′ 53.″5	14
5	11 5 25.8	18 1 40.216	8 53 5.8	M. C.
6	11 0 30	18 0 40.130	8 57 26.8	"
7	10 55 34.9	17 59 40.816	9 2 1.0	"
8	10 50 40.8	17 58 42.434	9 6 41.6	"
9	10 45 47.2	17 57 44.546	—9 11 29.8	"

Messrs. SCHÖNFELD and THORMANN have computed new elements, their former computation having been vitiated, without fault of their own, by a mistake in one of the fundamental places. The new orbit is as follows: —

Epoch, 1852, July 0, M. T. Berlin.

M	283° 7′ 54.″44	
L	299 15 38.98	Mean Equinox of epoch.
π	16 7 44.54	
Ω	149 51 49.78	
i	10 11 46.87	
φ	12 24 35.41	
Log. a	0.3606775	
" μ	3.0089905	

NEW COMET.

DR. WESTPHAL, Assistant at the Göttingen Observatory, discovered, July 24, a new comet about $1\frac{3}{4}$° south of *f Piscium*. It appeared in the comet-seeker as a tolerably bright nebula, several minutes in diameter.

At midnight, July 24, Dr. WESTPHAL estimated the apparent place of the comet as

$$\alpha = 1^{h}.\ 11^{m}.7 \qquad \delta = +1°\ 4′.$$

July 25, the comet was near the star WEISSE I. 197. By comparison with this star Mr. KLINKERFUES found the position

	M. T. Göttingen. h. m. s.	App. α h. m. s.	App. δ
July 25	13 55 20	1 12 59.4	+1° 44′

and Dr. WESTPHAL found by estimation

	h. m.	h. m.	
July 25	13 45	1 13.1	+1° 47′.

G.

Cambridge, 1852, *August* 13.