

ELEMENTS OF VIRGINIA.

BY JAMES FERGUSON.

THE following elements are computed from Washington observations of Oct. 5, Nov. 11 and Dec. 18.

M	=	1° 35' 8.9	Oct. 5.0 1857
Ω	=	173 29 44.6	
π	=	10 29 20.8	
i	=	2 47 45.7	
φ	=	16 41 14.6	
$\log a$	=	0.423409	
$\log \mu$	=	2.914894	

NEW ASTEROIDS.

THE *fifty-first* of the asteroid-group was discovered by Mr. LAURENT at the observatory of Professor VALZ in Nismes. At the time of discovery it was of the 11 magnitude, but promised to attain the 10 magnitude at least, not having arrived at its stationary point. Mr. VALZ has given to it the name *Nemausa*, derived from that of the tutelary deity of the place.

The approximate positions given are :

	Nismes M. T.	α .	δ
1858	Jan. 22 14 ^h	11 ^h 55 ^m .44 ^s	— 4° 13'.5
	24 16	11 56 21	— 4 16.5

The *fifty-second* was detected, February 4, by Mr. GOLD-SCHMIDT, at Paris, and the following approximate positions found by him :

	M. T. of Place.	α	δ
1858	Feb. 4 10 ^h 55 ^m	10 ^h 47 ^m 5 ^s	+ 12° 2'
	6 8 55	10 45 44	+ 12 16

Professor PETERS publishes an Altona observation :

1858	Feb. 9 13 ^h 24 ^m 30.2	10 ^h 43 ^m 45.9	+ 12° 35' 28.0;
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and Professor LITTROW one at Vienna :

1858	Feb. 13 9 ^h 45 ^m 49.2	10 ^h 41 ^m 10.4	+ 13° 2' 5.2.
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EPHEMERIS OF VESTA FOR 1858.

BY PROFESSOR AUGUSTUS W. SMITH.

[Communicated by Prof. WINLOCK, Superintendent American Ephemeris.]

Washington Mean Noon.

1858	(4) α	(4) δ	$\log \Delta$	$\log r$	Mer. Pass.	1858	(4) α	(4) δ	$\log \Delta$	$\log r$	Mer. Pass.
Jan. 0	13 35.5	— 2 35.9	0.35959	0.35797	18 59.5	July 9	14 0.2	— 5 16.3	0.22762	0.33300	6 52.2
10	13 49.5	3 26.7	33410	35614	18 33.9	19	14 9.2	6 52.8	25436	33257	6 21.7
20	14 2.5	4 5.8	30692	35433	18 7.2	29	14 20.2	8 33.6	28002	33226	5 53.2
30	14 14.1	4 32.0	27813	35256	17 39.1	Aug. 8	14 32.8	10 16.4	30442	33206	5 26.3
Feb. 9	14 23.8	4 44.4	24806	35082	17 9.1	18	14 46.9	11 59.2	32741	33198	5 1.0
19	14 31.5	4 42.2	21712	34913	16 36.1	28	15 2.4	13 40.3	34892	33200	4 37.0
Mar. 1	14 36.7	4 25.7	18612	34748	16 2.6	Sept. 7	15 19.1	15 17.8	36901	33217	4 14.1
11	14 39.1	3 55.3	15601	34590	15 25.3	17	15 36.8	16 50.3	38761	33244	3 52.4
21	14 38.5	3 12.7	12830	34437	14 45.0	27	15 56.6	18 16.1	40478	33283	3 32.7
31	14 34.5	2 22.2	10488	34291	14 1.3	Oct. 7	16 15.3	19 33.9	42057	33332	3 11.9
Apr. 10	14 27.8	1 29.4	08765	34151	13 15.0	17	16 35.8	20 42.5	43492	33393	2 52.8
20	14 19.1	0 49.9	07808	34020	12 24.8	27	16 57.0	21 40.6	44791	33465	2 34.6
30	14 9.7	— 0 7.6	07736	33896	11 37.8	Nov. 6	17 18.8	22 27.3	45957	33547	2 16.7
May 10	14 0.9	+ 7.5	08519	33781	10 49.5	16	17 41.2	23 1.7	46987	33639	1 59.8
20	13 53.8	+ 0.04	10037	33676	10 3.0	26	18 3.9	23 23.3	47884	33741	1 42.9
30	13 49.3	— 29.9	12136	33580	9 19.1	Dec. 6	18 26.8	23 31.9	48649	33852	1 26.4
June 9	13 47.7	1 19.9	14596	33493	8 38.1	16	18 49.8	23 27.3	49281	33972	1 9.9
19	13 49.2	2 26.7	17269	33418	8 0.1	26	19 12.8	23 9.8	49782	34101	53.4
29	13 53.4	— 3 46.7	0.20019	0.33354	7 24.9	36	19 35.7	— 22 39.9	0.50152	0.34237	36.8

EPHEMERIS FOR OPPOSITION.

Washington Mean Noon.

1858	⊕ α	⊕ δ	log Δ	log r.	1858	⊕ α	⊕ δ	log Δ	log r
Mar. 21	14 ^h 38 ^m 21.72 ^s	−3° 12′ 46.5″	0.1283383	0.3443684	Apr. 23	14 ^h 16 ^m 19.43 ^s	−0° 29′ 54.6″	0.0769356	0.3398195
22	38 6.64	3 7 58.5	1257712	3442191	24	15 22.75	26 12.8	0767318	3396949
23	37 49.66	3 3 6.8	1222484	3440704	25	14 25.93	22 40.8	0766167	3395711
24	37 30.83	2 58 11.6	1207716	3439225	26	13 29.10	19 19.4	0765906	3394481
25	37 10.16	2 53 13.4	1183429	3437752	27	12 32.27	16 7.8	0766524	3393260
26	36 47.69	2 48 12.3	1159641	3436286	28	11 35.55	13 6.6	0768016	3392047
27	36 23.33	2 43 6.3	1136478	3434826	29	10 39.02	10 16.2	0770382	3390843
28	35 57.20	2 37 57.3	1113645	3433373	30	9 42.75	7 37.0	0773615	3389648
29	35 29.30	2 32 45.8	1091465	3431928	May 1	8 46.83	5 8.4	0777707	3388461
30	34 59.67	2 27 31.0	1069859	3430488	2	7 51.35	2 52.5	0782667	3387283
31	34 28.33	2 22 16.4	1048846	3429057	3	6 56.37	−0 0 49.4	0788468	3386115
April 1	33 55.29	2 17 0.3	1028442	3427632	4	6 1.95	+0 1 1.0	0795108	3384954
2	33 20.58	2 11 41.7	1008668	3426214	5	5 8.21	2 38.4	0802527	3383803
3	32 44.22	2 6 22.6	0989545	3424804	6	4 15.22	4 3.0	0810848	3382662
4	32 6.28	2 1 3.0	0971091	3423401	7	3 23.03	5 14.5	0819943	3381528
5	31 26.77	1 55 43.6	0953322	3422005	8	2 31.68	6 12.9	0829838	3380402
6	30 45.77	1 50 24.6	0936264	3420616	9	1 41.30	6 58.0	0840509	3379286
7	30 3.32	1 45 7.0	0919934	3419235	10	0 51.93	7 29.5	0851962	3378180
8	29 19.47	1 39 51.1	0904350	3417862	11	14 0 3.64	7 47.1	0864154	3377082
9	28 34.27	1 34 37.4	0889529	3416496	12	13 59 16.50	7 50.9	0877087	3375994
10	27 47.80	1 29 26.5	0875489	3415138	13	58 30.56	7 41.1	0890725	3374915
11	27 0.25	1 24 19.1	0862252	3413787	14	57 45.91	7 17.6	0905067	3373846
12	26 11.33	1 19 15.3	0849823	3412444	15	57 2.56	6 40.5	0920087	3372786
13	25 21.41	1 14 15.4	0838214	3411108	16	56 20.59	5 49.0	0935771	3371734
14	24 30.48	1 9 20.2	0827437	3409781	17	55 40.04	4 42.6	0952096	3370692
15	23 38.62	1 4 30.1	0817506	3408462	18	55 0.99	3 24.2	0969038	3369660
16	22 45.90	0 59 45.7	0808419	3407150	19	54 23.45	1 51.0	0986577	3368638
17	21 52.37	0 55 7.6	0800201	3405846	20	53 47.49	+0 0 3.5	1008650	3367626
18	20 58.13	0 50 36.0	0792856	3404551	21	53 13.10	−0 0 58.3	1023374	3366623
19	20 3.30	0 46 11.6	0786388	3403264	22	52 40.31	4 11.5	1042598	3365630
20	19 7.93	0 41 54.9	0780801	3401984	23	52 9.16	6 39.3	1062342	3364646
21	18 12.10	0 37 45.9	0776098	3400713	24	51 39.68	9 19.9	1082582	3363671
22	14 17 15.90	−0 33 45.8	0.0772282	0.3399450	25	13 51 11.86	−0 12 13.7	0.1103299	0.3362706

ELLIPTIC ELEMENTS OF THE FIRST COMET OF 1858,

BY JAMES C. WATSON.

My first approximate elements of this comet (*Astron. Journal*, N° 110) were computed from observations of only three days, and, from the faintness and diffused appearance of the comet at the time when the observations were taken, were liable to considerable inaccuracy. I have therefore computed, from the observations at Cambridge (Mass.), Jan. 4, and Ann-Arbor, Jan. 19, and the following position :

1858 Ann-Arbor M.T. ⊕ α ⊕ δ
 Feb. 3 7^h 23^m 34^s.0 1^h 47^m 56^s.27 +8° 51′ 19″.1,
 a new system of parabolic elements. They are the following :

T = 1858 Feb. 19.931474 Washington M. T.
 π = 109° 2′ 17.9 } Mean Equinox 1858.0
 Ω = 266 25 32.4 }
 i = 56 52 17.4
 log q = 0.026758
 Motion Direct.

The middle place is represented in the following manner :

c. − 0.
 $\Delta\lambda = -2' 45''.4$; $\Delta\beta = -0' 49''.0$.

The resemblance between these elements and those of the Second Comet of 1790 is so striking, that the identity of the comet may be considered as being beyond a doubt, while the large residual error in the middle place is alone sufficient to induce us to abandon the hypothesis of the parabolic form of the orbit; and, in order to determine whether this is the first reappearance since 1790, or whether the comet has returned several times unperceived during this interval of 68 years, I have computed, by the ordinary method, with indeterminate eccentricity, the following system of elliptic elements :