It thus appears that two types of spectra have been visible from March 19 to May 3. Photographs of the peculiar spectrum were obtained on March 19, April 12, 26, 28, May 1, and 3; of the normal spectrum on March 23, 27, 30, April 1, 13, and 27. It is interesting to note the connection between the changes in the spectrum and in the light of the Nova, for on all the dates on which the peculiar spectrum was photographed, a minimum occurred, according to the Harvard visual and photometric observations, except on April 12. The magnitude of the star was the same on April 12 and 13, while the spectrum was different. On April 26 and 28, however, there occurred marked minima,

and the peculiar spectrum was photographed on both dates, while on the intermediate evening, April 27, when the Nova was about a magnitude and a half brighter than on either the preceding or following night, the spectrum was normal.

The following table shows the connection between the spectrum and the magnitude of the Nova. The first column gives all the dates on which the Nova was successfully photographed at Harvard with the 11 inch telescope from March 17 to May 3, 1901. The second column gives the character of the spectrum. The third column gives the magnitude from visual observations reduced to the photometric scale.

Relation of Spectrum to Magnitude.

1901	Spectrum	Magn.	1901	Spectrum	Magn.	1901	Spectrum	Magn.
Mar. 17	Normal	3.8	April 1	Normal	4.1	April 27	Normal	4.2
19	Peculiar	5.0	12	Peculiar	4.6	28	Peculiar	5.4
23	Normal	3.6	13	Normal	4.6	May 1	Peculiar	5.3
27	Normal	4.1	26	Peculiar	5.8	3	Peculiar	5.5
30	Normal	4.2						

The Spectrum of η Carinae (η Argus).

On April 16, 1898, Miss Cannon, while examining plates taken in Arequipa for the classification of stellar spectra, recorded the statement regarding Nova Aurigae, 'Spectrum made up almost entirely of bright bands that coincide in position with those of η Carinae.' This is followed by a detailed description of the spectrum of η Carinae, and a comparison with the spectrum of Nova Aurigae, in-

cluding the bright and dark hydrogen lines, which is incorporated in the Remarks in the Annals, Vol. XXVIII, page 175, now in the hands of the printer. Photographs pointing out this resemblance were contained in the exhibit of the Harvard Observatory at Paris in 1900, and are now in the Buffalo Exhibition.

Harvard College Observatory, 1901 June 6.

Edward C. Pickering.

Observations of Planets at Windsor, N. S. Wales.

The observations were all made with a filar micrometer on the 8 inch equatorial in a bright field, and have been corrected for micrometer error and refraction. The transits of both limbs of Jupiter were observed in each comparison and the north and south limbs were observed alternately.

Mr. Merfield of Sydney has kindly communicated the resulting corrections to the ephemerides. Here Michajlovski's ephemeris of (78) Diana was not received till four days after the opposition and cloudy weather prevented observation after February 25.

Date	Winds. M. T.	$\Delta\alpha$	$\Delta\delta$	Cp.	α app.	$\log p.\Delta$	δ app.	$\log p.\Delta$	Red. ad l. app.	*
1900 Jupiter.										
July 12	5 ^h 59 ^m 54 ^s	-1 ^m 45 ^s 05	-11' 7" 0	20	15 ^h 57 ^m 56 ^s 10	9.5239 _n	-19° 43' 9" 7	0.4270 _n	+4 ^s 01 - 8" 0	1
13	6 8 52	-1 57.57	-10 43.8	20	15 57 43.57	9.4921 _n	-19 42 46.4	0.4124 _n	+4.00 - 7.9	1
14	5 55 18	-2 9.15	-10 23.6	20	15 57 31.98	9.5154 _n	-19 42 26.2	0.4229 _n	+3.99 - 7.9	1
15	5 52 3	-2 20.06	-10 5.0	20	15 57 21.06	9.5133 _n	-19 42 7.6	0.4217 _n	+3.98 - 7.9	1
16	6 17 38	-2 30.42	-9 48.2	12	15 57 10.70	9.4322 _n	-19 41 50.8	0.3905 _n	+3.98 - 7.9	1
1900 (1) Ceres.										
July 15	10 10 50	+3 41.22	+ 4 9.2	8	21 11 7.11	9.6433 _n	-27 57 6.1	0.3389 _n	+4.39 +22.2	2
16	10 15 59	+2 56.83	- 2 42.6	12	21 10 22.74	9.6287 _n	-28 3 57.8	0.3125 _n	+4.41 +22.3	2
17	9 53 10	+2 12.43	- 9 23.5	10	21 9 38.36	9.6561 _n	-28 10 38.7	0.3537 _n	+4.43 +22.3	2
25	9 31 17	+0 1.68	-10 48.0	13	21 3 6.64	9.6361 _n	-29 3 3.2	0.2939 _n	+4.62 +21.9	3
25	9 31 17	-1 29.59	—	13	21 3 6.73	9.6361 _n	—	—	+4.61 —	4
27	9 34 24	+4 20.98	+14 21.8	10	21 1 21.62	9.6156 _n	-29 15 30.5	0.2533 _n	+4.69 +21.4	5

Date	Winds. M. T.	$\Delta\alpha$	$\Delta\delta$	Cp.	α app.	$\log p.A$	δ app.	$\log p.A$	Red. ad l. app.	*
July 28	8 ^h 28 ^m 3 ^s	+3 ^m 30 ^s 31	+ 8' 35" 1	15	21 ^h 0 ^m 30 ^s 97	9.6994 _n	-29° 21' 17" 2	0.4107 _n	+4 ^s 71 +21" 4	5.
29	8 56 42	+2 35.48	+ 2 30.2	15	20 59 36.15	9.6604 _n	-29 27 22.2	0.3252 _n	+4.72 +21.3	5
Aug. 3	9 4 49	-0 2.49	+11 17.9	20	20 55 3.20	9.6109 _n	-29 55 24.7	0.2218 _n	+4.80 +21.0	6.
4	8 47 21	-0 56.65	+ 6 7.8	20	20 54 9.05	9.6332 _n	-30 0 34.9	0.2561 _n	+4.81 +20.9	6
4	8 47 21	-0 59.80	—	20	20 54 9.00	9.6332 _n	—	—	+4.81 —	7
5	7 58 55	-1 49.76	+ 1 13.6	20	20 53 15.95	9.6927 _n	-30 5 29.1	0.3751 _n	+4.82 +20.9	6.
5	7 58 55	-1 52.87	—	20	20 53 15.94	9.6927 _n	—	—	+4.82 —	7
6	8 32 35	-2 45.94	- 3 50.6	15	20 52 19.78	9.6421 _n	-30 10 33.4	0.2669 _n	+4.83 +20.8	6
6	8 32 35	-2 49.02	—	15	20 52 19.80	9.6421 _n	—	—	+4.83 —	7
9	8 56 36	+6 19.69	+ 8 42.6	8	20 49 35.47	9.5711 _n	-30 24 35.0	0.1374 _n	+4.90 +19.6	8.
10	8 39 25	+5 26.56	+ 4 25.4	10	20 48 42.35	9.5972 _n	-30 28 52.3	0.1760 _n	+4.91 +19.5	8
11	8 33 23	+4 33.30	+ 0 14.3	12	20 47 49.09	9.6000 _n	-30 33 3.4	0.1777 _n	+4.91 +19.5	8
12	8 33 12	+3 40.15	- 3 46.7	12	20 46 55.95	9.5910 _n	-30 37 4.5	0.1599 _n	+4.92 +19.4	8
13	8 40 31	+2 47.36	- 7 40.2	10	20 46 3.16	9.5653 _n	-30 40 58.1	0.1154 _n	+4.92 +19.3	8
14	8 29 5	+1 55.61	-11 21.3	15	20 45 11.41	9.5801 _n	-30 44 39.2	0.1355 _n	+4.92 +19.3	8
15	8 9 11	+1 4.87	-14 50.8	16	20 44 20.68	9.6106 _n	-30 48 8.8	0.1854 _n	+4.93 +19.2	8
17	8 14 7	+3 18.26	- 4 41.8	12	20 42 39.57	9.5822 _n	-30 54 46.7	0.1315 _n	+4.95 +18.6	9
18	8 37 16	+2 28.07	- 7 47.9	14	20 41 49.38	9.5151 _n	-30 57 52.9	0.0251 _n	+4.95 +18.5	9
19	8 7 9	+1 40.44	-10 37.2	20	20 41 1.75	9.5773 _n	-31 0 42.2	0.1181 _n	+4.95 +18.5	9
20	8 20 11	+0 52.38	-13 21.2	20	20 40 13.69	9.5356 _n	-31 3 26.3	0.0506 _n	+4.95 +18.4	9
21	8 27 24	-7 56.77	- 0 35.1	10	20 39 26.49	9.5036 _n	-31 5 58.6	0.0000 _n	+4.95 +19.1	10

1900

(3) Juno.

Sept. 18	10 4 9	+3 49.27	-17 33.7	10	0 32 15.81	9.5008 _n	- 1 26 40.4	0.6745 _n	+4.38 +28.3	11
27	8 42 13	+2 9.52	- 4 40.4	14	0 26 45.77	9.5792 _n	- 3 27 42.2	0.6606 _n	+4.44 +28.7	12
30	8 27 37	+0 20.19	- 7 24.3	20	0 24 47.34	9.5809 _n	- 4 8 16.7	0.6552 _n	+4.46 +28.6	13
Oct. 1	9 55 49	-0 55.84	+ 7 37.5	10	0 24 4.69	9.3548 _n	- 4 22 29.9	0.6391 _n	+4.46 +28.6	14
2	9 1 9	-1 34.15	- 5 13.6	10	0 23 26.39	9.5001 _n	- 4 35 21.0	0.6438 _n	+4.47 +28.6	14
6	9 51 41	-1 17.07	+ 4 55.2	10	0 20 46.71	9.2785 _n	- 5 27 58.6	0.6237 _n	+4.48 +28.5	15
7	8 34 0	-1 53.64	- 7 6.0	12	0 20 10.14	9.5103 _n	- 5 39 59.8	0.6331 _n	+4.48 +28.5	15
8	8 42 4	+2 19.07	- 8 20.7	10	0 19 31.66	9.4812 _n	- 5 52 38.4	0.6281 _n	+4.48 +28.5	16

1900

(6) Hebe.

June 22	10 31 13	+3 26.04	+19 50.1	10	18 31 31.43	9.3910 _n	- 5 39 11.3	0.6251 _n	+3.92 + 5.8	17
24	9 13 28	+1 33.73	+12 18.9	20	18 29 39.14	9.5575 _n	- 5 46 42.3	0.6373 _n	+3.94 + 6.0	17
25	9 5 12	+0 35.54	+ 8 10.9	20	18 28 40.97	9.5635 _n	- 5 50 50.1	0.6376 _n	+3.96 + 6.2	17
26	8 52 44	-0 22.94	+ 3 50.5	20	18 27 42.50	9.5761 _n	- 5 55 10.4	0.6387 _n	+3.97 + 6.3	17
27	9 10 2	-1 23.09	- 0 47.8	20	18 26 42.36	9.5365 _n	- 5 59 48.6	0.6325 _n	+3.98 + 6.4	17
28	8 59 42	-2 22.27	- 5 33.0	20	18 25 43.19	9.5470 _n	- 6 4 33.7	0.6329 _n	+3.99 + 6.5	17
30	9 42 33	-4 23.96	-15 52.5	10	18 23 41.53	9.4211 _n	- 6 14 52.9	0.6194 _n	+4.02 + 6.8	17
July 1	8 48 40	-5 21.60	-21 2.1	10	18 22 43.90	9.5400 _n	- 6 20 2.4	0.6295 _n	+4.03 + 6.9	17
1	9 49 7	+3 16.64	+18 57.7	6	18 22 41.29	9.3844 _n	- 6 20 17.5	0.6161 _n	+4.04 + 6.2	18
2	9 0 25	+2 18.66	+13 36.0	15	18 21 43.32	9.5054 _n	- 6 25 39.1	0.6243 _n	+4.05 + 6.3	18
11	8 44 19	-3 53.73	+ 8 51.3	10	18 12 56.26	9.4347 _n	- 7 23 45.6	0.6060 _n	+4.13 + 6.9	19
12	8 32 34	-4 49.23	+ 1 37.6	10	18 12 0.77	9.4542 _n	- 7 30 59.2	0.6062 _n	+4.14 + 7.0	19
13	8 30 54	-5 44.20	- 5 47.6	8	18 11 5.80	9.4455 _n	- 7 38 24.3	0.6040 _n	+4.14 + 7.1	19
15	8 39 8	-5 25.25	+ 7 33.2	10	18 9 17.66	9.3912 _n	- 7 53 42.6	0.5961 _n	+4.15 + 7.0	20

1901

(78) Diana.

Febr. 22	10 33 13	+1 14.89	+ 4 26.8	10	9 59 36.63	9.2355 _n	+13 25 40.3	0.8027 _n	+2.73 -17.2	21
23	10 21 47	+0 13.63	+ 3 32.9	15	9 58 35.37	9.2679 _n	+13 24 46.4	0.8015 _n	+2.73 -17.2	21
23	10 21 47	-1 2.53	—	15	9 58 35.45	9.2679 _n	—	—	+2.73 —	22
24	10 48 13	-0 48.57	+ 2 34.0	12	9 57 33.18	9.0762 _n	+13 23 47.5	0.8061 _n	+2.74 -17.2	21
24	10 48 13	-2 4.81	—	12	9 57 33.18	9.0762 _n	—	—	+2.74 —	22
25	10 13 2	-1 47.54	+ 1 23.6	10	9 56 34.21	9.2627 _n	+13 22 47.1	0.8015 _n	+2.74 -17.2	21
25	10 13 2	-3 3.68	+ 3 24.2	10	9 56 34.31	9.2627 _n	+13 22 46.8	0.8015 _n	+2.74 -17.3	22

Mean Places of the Comparison Stars for the Beginning of the Year of Observation.

*	α	δ	Authority	*	α	δ	Authority
1	15 ^h 59 ^m 37 ^s .14	— 19° 31' 54".7	β^1 Scorpii, Naut. Alm. 1900	10	20 ^h 47 ^m 18 ^s .31	— 31° 5' 42".6	Y_3 9349, Wash. GC. ¹⁸⁷⁵
2	21 7 21.50	— 28 1 37.5	Y_3 9507, Cord. GC. 29093, 10 y. 3539, Stone 11256, Cape ¹⁸⁸⁵ 1443				4389, Cord. GC. 28633, Stone 11105
3	21 3 0.34	— 28 52 37.1	Y_3 9476, Cord. GC. 28992, Stone 11228	11	0 28 22.16	— 1 9 35.0	Y_3 254, Cape ¹⁸⁵⁰ 67, Rad ₃ 105
4	21 4 31.71	— 28 53 49.2	Cord. GC. 29030	12	0 24 31.81	— 3 23 30.5	Rad ₃ 92
5	20 56 55.95	— 29 30 13.7	Y_3 9433, Cord. GC. 28831, Stone 11173	13	0 24 22.69	— 4 1 21.0	Rad ₃ 91
6	20 55 0.89	— 30 7 3.6	Y_3 9412, Cord. GC. 28777, Stone 11153	14	0 24 56.07	— 4 30 36.0	Nautical Almanac 1900
7	20 55 3.99	— 30 8 21.4	Y_3 9413, Cord. GC. 28780, Stone 11154	15	0 21 59.30	— 5 33 22.3	Cape ¹⁸⁵⁰ 51, Y_3 203, Rad ₃ 85
8	20 43 10.88	— 30 33 37.2	Y_3 9299, Cord. GC. 28535, Stone 11071	16	0 17 8.41	— 5 44 46.2	Y_3 161, Rad ₃ 69
9	20 39 16.36	— 31 50 23.5	Y_3 9254, Cord. GC. 28438, Stone 11047	17	18 28 1.47	— 5 59 7.2	Rad ₃ 4866
				18	18 19 20.61	— 6 39 21.4	Rad ₃ 4823
				19	18 16 45.86	— 7 32 43.8	Rad ₃ 4804
				20	18 14 38.76	— 8 1 22.8	Rad ₃ 4795
				21	9 58 19.01	+ 13 21 30.7	Y_3 4273
				22	9 59 35.25	+ 13 19 39.9	Y_3 4283

Comparison of observations with ephemerides (O - C).

Date	$\Delta\alpha$	$\Delta\delta$	Date	$\Delta\alpha$	$\Delta\delta$	Date	$\Delta\alpha$	$\Delta\delta$
Jupiter.						(6) Hebe.		
[N. A. 1900. Noon Ephemeris].						[B. J. 1902].		
1900			Aug. 6	+1 ^s 85	+4 ^m 0	1900		
July 12	+0 ^s 22	-0 ^m 4	6	+1.87	—	June 22	+4 ^s 22	-20 ^m 9
13	+0.18	+0.2	9	+1.78	+4.3	24	+4.25	-21.6
14	+0.16	+0.1	10	+1.89	+4.4	25	+4.28	-21.0
15	+0.19	+0.4	11	+1.93	+3.5	26	+4.29	-21.3
16	+0.25	+0.8	12	+1.86	+4.2	27	+4.23	-21.7
			13	+1.96	+4.2	28	+4.25	-22.1
			14	+1.90	+3.8	30	+4.27	-22.3
			15	+1.97	+4.0	July 1	+4.40	-21.4
			17	+1.98	+3.0	1	+4.38	-22.7
			18	+2.00	+2.8	2	+4.35	-21.4
			19	+1.93	+2.6	11	+4.22	-21.3
			20	+1.98	+2.3	12	+4.17	-21.6
			21	+1.78	+2.9	13	+4.27	-21.2
						15	+4.09	-19.9
(1) Ceres.			(3) Juno.			(78) Diana.		
[N. A. 1900. Transit Ephemeris].			[N. A. 1900. Transit Ephemeris].			[Michajlovski's Ephemeris].		
1900			1900			1901		
July 15	+1.87	+5.6	Sept. 18	-1.32	-5.1	Febr. 22	+28.50	-267.9
16	+1.77	+4.5	27	-1.50	-3.1	23	+28.36	-266.8
17	+1.80	+4.2	30	-1.43	-6.1	23	+28.44	—
25	+1.73	+7.2	Oct. 1	-1.64	-4.5	24	+28.51	-265.5
25	+1.82	—	2	-1.52	-5.4	24	+28.51	—
27	+1.91	+4.5	6	-1.56	-2.6	25	+28.32	-264.1
28	+2.06	+4.5	7	-1.51	-2.7	25	+28.42	-264.4
29	+2.00	+3.8	8	-1.40	-5.2			
Aug. 3	+1.97	+4.5						
4	+2.03	+3.7						
4	+1.98	—						
5	+1.93	+4.3						
5	+1.92	—						

Observatory, Peninsula, Windsor, N. S. Wales, 1901 March 23.

John Tebbutt.

Planet (311) Claudia. Vergeblich gesucht 1901 Juni 19 und 22. *M. Wolf.*