Bond's Comet.

The stars used at Durham (see vol. 31 p. 321) corrected.

	Mean R. A. (1850,0)	Mean N. P. D.	No. of Obs.	
Lalande, 14384	7 ^h 17 ^m 9 ^s 02	43° 10' 52" 0	3	Set (1)
Anonymous	7 43 15,56	50 8 9,4	2	(2)
Lalande, 15636	7 53 33,16	52 26 57,8	2	(3)

	App. R. A.	App. N. P. D.
App. Place of (1) on Sept. 13	7 ^h 17 ^m 9 ^s 96	43° 11' 6" 9
(2)	16 7 43 16,41	50 8 22,4
(3)	17 7 53 33,95	52 27 10,2

„These are meridian observations taken with the small transit circle of the Durham Observatory. Star (2) was almost too faint for the aperture of the telescope. There was an error of 1^m in its R. A. as previously assumed.“

National Observatory, Washington.

Observations of Clio

made with the Filar-Micrometer of the Equatoreal by *J. Ferguson*. (Corrected for refraction).

1850	M. T. Wash.	No. Comp.	Star of Comp.	Clio — *		Clio apparent		A.
				$\Delta \alpha.$	$\Delta \delta.$	$\alpha.$	$\delta.$	
Oct. 28	10 ^h 11 ^m 13 ^s 7	10	a	— 1 ^m 44 ^s 69	— 5' 45" 89	23 ^h 23 ^m 18 ^s 63	+ 6° 35' 47" 37	8
29	8 44 58,6	10	Santini 1636	— 1 11,02	+ 12 54,93	23 26,60	28 46,35	9
—	9 16 40,4	4	a	— 1 36,24	— 12 51,41	23 27,05	28 41,91	9
31	7 39 36,4	14	Santini 1636	— 0 48,41	— 0 59,31	23 49,19	14 52,06	10
—	10 13 01,8	4	—	— 0 47,01	— 1 42,46	23 50,61	14 08,91	10
Nov. 1	7 33 40,9	14	—	— 0 34,08	— 7 42,03	24 03,52	08 09,33	10
—	8 28 54,9	6	—	— 0 33,59	— 7 57,11	24 04,00	07 54,25	10
2	8 15 07,6	5	—	— 0 17,53	— 14 24,55	24 20,08	01 26,79	9
—	9 00 01,5	5	—	— 0 17,25	— 14 36,47	24 20,45	01 14,87	9
4	8 16 07,7	11	b	— 0 37,28	— 12 48,11	24 57,96	+ 5 49 09,24	9
—	8 53 47,7	5	—	— 0 36,56	— 12 58,21	24 58,68	48 59,15	9
5	7 48 52,7	4	B. A. C. 8177	+ 4 54,42	+ 9 46,38	25 18,56	43 26,84	8
—	7 52 26,8	6	Weisse XXIII. 458	+ 2 32,02	+ 7 08,44	25 18,73	43 25,91	8
*) 9	8 18 33,3	12	—	+ 0 45,13	+ 14 05,54	27 01,22	22 39,27	8
—	—	12	—	— 2 10,82	+ 17 02,23	27 01,58	22 36,27	8
10	7 19 34,4	4	—	534 + 1 13,72	+ 9 40,79	27 29,79	18 14,50	7
—	—	4	—	602 — 1 41,94	+ 12 36,62	27 30,46	18 10,58	7
—	8 7 15,8	5	—	534 + 1 14,96	+ 9 30,24	27 31,04	18 03,95	7
—	—	5	—	602 — 1 41,15	+ 12 26,86	27 31,26	18 00,83	7
13	7 39 24,7	20	—	602 — 0 3,35	+ 0 14,80	29 09,00	05 48,68	8
14	7 37 29,5	12	—	602 + 0 32,87	— 3 23,35	29 45,22	02 10,85	9
18	7 20 03,7	20	B. A. C. 8233	+ 0 6,36	+ 0 54,42	32 22,16	+ 4 49 58,93	6
21	8 40 47,0	10	—	+ 2 22,32	— 5 54,70	34 38,27	43 09,66	8
24	7 39 42,7	10	Weisse XXIII. 803	— 2 22,11	+ 13 10,35	37 02,61	38 29,50	8
30	6 54 56,7	7	—	803 + 3 01,90	+ 9 23,85	42 26,55	34 41,62	8
—	—	7	—	934 — 3 08,10	+ 15 02,83	42 26,63	34 45,28	8
Dec. 8	6 41 38,9	17	—	1032 + 0 25,65	+ 6 06,96	50 35,42	40 36,79	7
9	6 47 41,1	10	—	1032 + 1 31,89	+ 7 42,70	51 41,65	42 12,32	7
11	8 46 01,2	6	—	1032 + 3 52,15	+ 11 29,81	54 01,91	45 59,43	8
—	8 42 15,2	5	—	1045 — 3 17,15	— 3 13,14	23 54 01,81	45 58,12	8
20	8 17 44,8	13	Weisse O. 83	— 0 19,98	— 10 43,53	0 4 48,25	+ 5 10 04,57	8

*) These observations to the 9th November have been published in the *Astronomical Journal*.

1850	M. T. Wash.	No. Comp.	Star of Comp.	Clio — *		Clio apparent.		A.
				$\Delta \alpha.$	$\Delta \delta.$	$\alpha.$	$\delta.$	
Dec. 21	6 ^h 49 ^m 59 ^s .6	12	Weisse, O. 83	+0 ^m 50 ^s .90	— 7' 30".30	0 ^h 5 ^m 59 ^s .12	+5 ^o 13' 17".19	8
24	9 20 17,7	7	— 210	— 2 26,40	— 3 04,65	0 9 58,57	5 24 42,53	10
26	8 52 08,7	15	— 210	+0 9,46	+ 4 56,44	0 12 34,40	5 32 43,44	10
27	7 16 10,8	12	— 210	+1 24,14	+ 8 41,52	0 13 49,08	5 36 28,46	6
1851								
Janr. 1	8 2 50,0	6	B. A. C. 129	— 4 02,59	— 8 37,29	0 20 39,19	+ 5 59 09,78	7
12	7 15 06,9	5	Weisse, O. 638	— 0 22,03	— 2 57,67	0 36 20,68	6 57 30,61	9
—	7 30 18,8	13	— 635	— 0 14,75	+ 0 17,90	0 36 21,85	6 57 38,06	9
13	7 20 02,6	17	— 657	— 0 6,96	+ 1 47,52	0 37 49,89	7 3 24,23	10
14	7 15 10,3	3	— 657	+1 22,31	+ 7 37,03	0 39 19,15	7 9 13,66	4
16	6 50 37,1	2	— 680	+3 06,73	— 8 20,05	0 42 16,04	7 21 05,11	4
24	8 35 24,9	7	— 965	— 0 18,38	— 7 27,42	0 54 37,00	8 12 18,33	7
25	8 12 23,1	6	— 965	+1 13,43	— 1 00,50	0 56 08,80	8 18 45,01	7
31	6 53 37,1	10	Weisse I. 100	— 1 31,76	+ 1 53,14	1 5 31,10	8 58 52,16	8
—	—	10	— 113	— 2 27,64	— 0 38,70	1 5 31,24	8 58 51,37	8
Febr. 6	6 59 35,3	6	— 299	— 2 57,18	+ 3 05,46	1 15 09,67	9 40 45,78	8
11	6 55 01,4	13	— 382	+0 52,71	— 2 41,87	1 23 18,57	10 16 22,13	8
12	6 52 21,5	6	— 382	+2 31,32	+ 4 25,31	1 24 57,16	10 23 29,53	10
16	6 57 28,9	11	— 569	— 0 49,23	+14 51,40	1 31 35,54	10 52 23,97	10
17	6 53 50,5	8	— 569	+0 49,96	— 7 37,99	1 33 14,71	10 59 37,26	10
18	7 42 01,5	4	— 569	+2 33,43	— 0 13,80	1 34 18,17	11 07 01,34	8
22	7 9 2,3	16	— 740	+0 25,24	— 2 45,68	1 41 37,84	11 35 51,48	10
25	7 8 21,6	7	— 855	— 0 57,34	+ 7 24,25	1 46 42,50	11 57 40,09	10
—	7 54 29,8	3	— 855	— 0 54,07	+ 7 36,60	1 46 45,76	11 57 52,44	10
March 1	7 34 33,7	10	— 943	+0 45,03	— 12 39,18	1 53 32,71	12 26 48,82	10
2	7 6 14,3	4	— 943	+2 25,51	— 5 36,10	1 55 13,18	12 33 50,87	10
—	7 22 34,1	12	— 973	+0 41,40	— 11 14,40	1 55 14,50	12 33 55,91	10
3	7 17 14,7	7	— 973	+2 23,87	— 4 03,64	1 56 56,95	12 41 06,63	9
4	7 32 5,5	12	— 1042	+0 14,27	+ 3 37,83	1 58 40,91	12 48 23,42	10
9	7 17 51,1	1	Weisse II. 64	+2 22,38	— 8 15,35	2 07 15,90	13 24 02,53	10
10	7 10 52,5	12	— 143	— 0 55,17	— 15 14,39	2 09 02,18	13 34 12,45	10
11	7 19 52,4	8	— 143	+0 49,18	— 8 10,40	2 10 46,53	13 38 16,40	8
13	7 11 45,0	6	— 182	+2 08,42	+15 42,51	2 14 15,50	13 52 12,55	10
21	7 53 14,7	4	— 479	— 0 13,35	+15 56,86	2 28 17,15	14 47 29,35	8
24	7 44 37,7	4	— 556	+1 10,76	+ 5 09,46	2 33 36,83	15 07 38,10	10
25	7 21 46,5	4	— 569	+2 17,35	— 9 33,27	2 35 22,21	+15 14 13,80	10

During these observations marked changes were observed in the apparent magnitude of this Asteroid. On the night of the 4th November it was of the same appearance as the star *b*, with which it was compared. On the succeeding night, with but slight change of Atmosphere it had diminished to the 12th magnitude. This change cannot be attributed to any general or partial change of Atmosphere, as the star *b*, (still near it) as also Hygea, which were observed on the same nights and nearly at the same times, exhibited no perceptible change. Differences to a greater amount were observed between the 22th and 25th of February and between the 1. and 4. of March. At these times stars in the same

vicinity and nearly of the same magnitude as Clio were compared with it each night. A peculiarity noted in the observations of March is that the planet had its brightest Aspect in the most unfavourable atmosphere, although in this respect the difference was not a great one.

Similar differences of magnitude have been noticed at this observatory in the other Asteroids, particularly Astraea.

On the 24th and 25th March Clio was barely visible with the slightest illumination. It was sought for on the 3d and 9th of April without success.

Adopted mean places for 1850,0 of stars of Comparison.

Star.	Mag.	α .	δ .	Authority.	No. ob.
Weisse XXIII. 452	9	23 ^h 22 ^m 18 ^s .15	+ 6° 59' 39".86	Weisse Catalogue.	
a	9.10	23 25 00,74	6 41 13,66	Wash. Equat. from Weisse 452.	7
Santini 1636	7.8	23 24 35,10	6 15 31,83	Santini's Catal. Memoirs R. A. S.	
b	9.10	23 25 32,76	6 01 37,97	Wash. Equat. from preced. *	10
B. A. C. 8177	5	23 20 21,69	5 33 21,10	British Assoc. Catalogue.	
Weisse XXIII. 458	8.9	23 22 44,27	5 35 58,17	Weisse Catalogue.	
— 534	9	23 26 13,64	5 08 14,75	—	
— 602	9	23 29 09,94	5 05 15,16	—	
Greenw. 12-year Cat. 2119	4.5	23 32 13,43	4 48 46,09	Greenwich 12-year Catalogue.	
Weisse XXIII. 803	9	23 39 22,37	4 25 01,31	Weisse Catalogue.	
— 934	9	23 45 32,43	4 19 25,17	—	
— 1032	9	23 50 07,53	4 34 13,09	—	
— 1045	9	23 50 42,43	4 48 54,62	—	
Weisse O. 83	9	0 5 6,02	5 20 31,80	—	
— 210	9	0 12 22,76	5 27 31,87	—	
B. A. C. 129	9	0 24 39,56	6 07 32,51	Santini's Catal. Memoirs R. A. S.	
Weisse O. 635	8.9	0 36 34,46	6 57 06,54	Weisse Catalogue.	
— 638	9	0 36 40,56	7 00 14,62	—	
— 657	8	0 37 54,70	7 01 23,18	—	
— 680	9	0 39 07,19	7 29 11,83	—	
— 965	7	0 54 53,24	8 19 33,22	—	
Weisse I. 101	8	1 7 00,73	8 56 47,23	—	
— 113	7	1 7 56,75	8 59 18,33	—	
— 299	8	1 18 04,73	9 37 29,16	—	
— 382	9	1 22 23,77	10 18 53,15	—	
— 569	9.10	1 32 22,67	11 07 04,88	—	
— 740	9	1 41 10,70	11 38 27,84	—	
— 855	9	1 47 37,76	11 50 06,48	—	
— 943	8.9	1 52 45,62	12 39 18,82	—	
— 973	7	1 54 31,03	12 45 01,20	—	
Weisse (I. 42). Rümker 533	7.8	1 58 24,58	12 44 36,67	Rümker's Catalogue.	
Weisse II. 64	9	2 4 51,43	13 32 09,52	Weisse Catalogue.	
— 143	8	2 9 55,29	13 46 18,65	—	
— 182	8.9	2 12 05,04	13 36 22,53	—	
— 479	9	2 28 28,07	14 31 25,42	—	
— 556	9	2 32 24,03	15 02 21,79	—	
— 569	9	2 33 02,82	+15 23 40,13	—	

Beobachtungen über den Saturnsring.

Das merkwürdige, neue Phänomen am Saturn, welches Zeitungsnachrichten zufolge zuerst in Nordamerika, dann aber (Roy. astr. soc. XI. 1850 Dec. 13 Nr. 2) von *Daves* und *Lassell* seit dem Ende des vorigen Jahres beobachtet wurde, habe auch ich an verschiedenen dazu günstigen Abenden mit dem 8f. Heliometer und dem 5 fuss. Refractor gesehen. Wenn auch meine wenigen Beobachtungen nicht im Stande sind, das Vorhandensein eines zwischen der Kugel und den hellen Ringen liegenden dunkelgrauen Ringes, mit beweisen zu helfen, so bestätigen sie doch wenigstens das Dasein eines matten, grauen Lichtschimmers im dunklen Ansenraume, und

am bestimtesten die feine, graue, vor der Kugel vorüberziehende Linie (südlich von dem vor der Kugel sichtbaren Ringarme), die also nicht mit dem Schatten des Ringes zu verwechseln ist. Ich theile hier, als Auszug aus meinem Tagebuche, die seitherigen Wahrnehmungen mit.

1851 Jan. 23. Bei vorzüglich stiller und schöner Luft erschien unter 400 mal. Vergrößerung des 8 fuss. Heliometers beim ersten Anblicke am Saturn alles wie gewöhnlich; die alte Theilung scharf sichtbar, westlich vielleicht besser als östlich. Ich gewahrte indessen bald, dicht am Südrande des vor der Kugel liegenden Ringtheiles, eine feine graue Linie,