KG
11365
166

H.12

Equatoreal
1850 September 21
to
February 25, 1851

Vol. II 393-488

KG11365.166

Miſsing Stars Oct. 15th
" Nov 7/8th

Orion, h' star p479 p436-469
Reference to Daguerreotyping p416

Electric Telegraph to Boston
p469-

Stars near the Cluster in Hercules

30500 $^{\wedge}$ HC * $7^m, 8^m$ AR $16^h\,37^m\,42^s.6$ Dec $+36.47.39$ Cluster AR $16.36.28$
30518 HC * $9^m, 8^m$ AR $16.38.17.3$ $+36.39.44$ Dec $+36^\circ.45'$
372 BZ * 9^m AR $16\;38.18.4$ $36.39.48$

New Planet Victoria

Gr. m. n Nov 8^{th} $23^h.26^m.2$ Dec $+5^\circ.32'$
~~12 27.9 +5.19~~

at 7^h Camb. Nov 9^{th} $23.26.5$ Dec $+5^\circ.33$
10^2 $23.28.2$ $+5.27$

KG 11365,166

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1850phab.proj..16

Oct. 23rd Sent to Dr. Gould for Astr. Journal

I. Observations on the II Comet of 1850 -
comprising 1st Dif. AR & Dec of comet & stars
2nd Mean places of stars -
3rd AR & Dec of Comet
4th Remarks

II. Note on the name of the new planet Victoria -

III. Ephemeris of the II Comet of 1850

Not entered in Report.

Nov 14th Sent to Dr Gould for Astr. Journal

I Obs. on the II Comet of 1850 from Oct 28th to Nov 13th

II The Obsns on Parthenope on Nov 7th & 9th

1850phde.proj..166

Stars to be obs^d with the Comet Sept 21/22 2 to 4 Am

B.A.C - 2952 - 6^{mag} Cancri $8^h.. 36^m.1$ Dec $31^\circ..16'$ } THS
17499 - HC - 6 — .. 45.1 — .. $31..9$
17501 - " - 40.5 — .. — $31..13$

☄ hourly motion - Æ - $24^s.8$
δ - $7''.13$

☄ Æ at $14^h 1/4$ ... $8^h..40^m..06^s$
δ — $25^\circ..39'$

3..40

Stars to be Observed
Star of Comp Oct. 6th 1850 Æ $10^h..21^m..02^s$ Dec $-7^\circ..30'$ Star of the 8th mag.

Sept. 21/22 A.M.

Star is 7 mag n p Comet

Comp. comet and Star 7/8 mag
* north prec. δ

hly mo in AR = $\frac{20 \times 60}{24}$ in minute $\frac{20 \times 60^s}{24 \times 60}$

motion in AR in 1^m = $\frac{5}{6}$ of a second

11.6
1.93
9.67

× Star	Comet		
39.5	55 28.8	49.3	
3 ,, 54 ,, 52.1	3 55 ,, 40.	47.9	

diff Declination

57.	56 45	48.0	4^h ,, 06^m ,, 05^s	2^r ,, 47
3 ,, 56 ,, 09.	56 ,, 58	49.0	4 ,, 7 ,, 00	*
15.	58. 5.2	50.2	4 ,, 8 ,, 00	1^r ,, 02
57 ,, 29	58 ,, 17.1	50.1	4 ,, 8 ,, 55	
38.	59 28.	50.0	8 ,, 10 ,, 99	Minus 0^r 15 = 85
3 ,, 58 ,, 50.	3 ,, 59 ,, 41.1	51.1		
	263	756	8 ,, 11 ,, 28	

3 ,, 57 ,, 33 49.45
~~6~~ ,, 37 9.67 = motion in 11^m ,, 35^s
6 59.12 = dAR

3 ,, 57 ,, 33
4 ,, 09 ,, 08
11 ,, 35

Times for dδ

4 ,, 07 ,, 00	2^r.47
4 08 ,, 55	1.02
4 ,, 11 ,, 28	−0.15
27 ,, 23	3.34
4 ,, 09 ,, 08	1.11
6 ,, 37	50.03
4 ,, 02 ,, 31	48 92
12 ,, 00 ,, 48	19.6
16 ,, 01 ,, 43	479.3
2 ,, 38	7′ ,, 59″.3 = Dif Dec Comet S. of * 7th/8th
15 ,, 59 ,, 05	0^m ,, 59^s.12 Dif AR Comet follows *

M. S. Time

Place of star

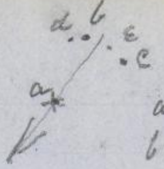
2557 — — 4^h ,, 19^m ,, 29^s.5

AR — 7^h ,, 33^m ,, 10^s }
7 ,, 33 ,, 10 }

N. P. δ — 64° ,, 21′ ,, 20″

4 ,, 19 ,, 23
6 ,, 40
4 ,, 12 ,, 43
4 ,, 26 ,, 50
8 ,, 39 ,, 33
+27
* AR 8 ,, 40 ,, 00
Dec 25 ,, 29′

395



a = 9 mag
b. 10–11
c. 10–11
d. 15. –
ε. 15–16

Dif R Star 9 mag. South prec. comet

diff Dec

* 4 ,, 47 ,, 26 R 4 ,, 44 ,, 48	52.80			$\frac{5}{6}$	12.8 2 13 10.67
		~~47 26~~			
		4 ,, 44 ,, 48	52.80		
		48 ,, 06	50.14		
		51 ,, 46	47.72		
		24 ,, 40	.66		
* 4 ,, 46 ,, 40 R 4 ,, 48 06	50.14	4 ,, 48 ,, 13	50.33		
		6 ,, 37	50.03		
		4 ,, 41 ,, 36	Dif Dec 0' ,, 03".0 N of Star		
		12 ,, 00 ,, 48 16 ,, 40 ,, 48 2 ,, 44			
* 4 ,, 50 ,, 18 R 4 ,, 51 ,, 46	47.72 * n. pre.	M.S.T. 16 ,, 38 ,, 04			

Dif R Stas	Comt	dif. R.
* 4 57 ,, 55	○ 4 ,, 59 ,, 27.2	1 ,, 32.2
4 ,, 58 ,, 06 5	4 ,, 59 ,, 38.5	1 ,, 32.0
5 ,, 00 ,, 48	5 ,, 02 ,, 21	1 ,, 33.0
5 ,, 01 ,, 00	5 ,, 02 ,, 33.4	1 ,, 33.4
	0	10.6
	5 ,, 01 ,, 00	1 ,, 32.65 dR at 5 ,, 01 ,, 00

place of star of comps

5 ,, 5 ,, 32 —— $H - 8^h ,, 19^m ,, 34^s$

6 ,, 40 NPD – 64° ,, 34' ,, 0"

4 ,, 58 ,, 52

8 ,, 19 ,, 34

8 ,, 39 ,, 18

cor + 27

* R 8 ,, 39 ,, 45

Dec 25 ,, 26

-10.67 cor for -12 ,, 47

1 ,, 21.98 = dR 4 ,, 48 ,, 13

Sept 21st 16h ,, 38m ,, 04s M.S.T.

Comet follows * dR 1m ,, 21s.98

Comet North of * dδ 0' ,, 03".0

Star of Comp	Dec Oct 15/16
R 8h ,, 39m ,, 22s.43	Dec 25° ,, 24' ,, 52".1
1 ,, 21.98	0 ,, 03.0
R 8 ,, 40 ,, 44.41	Dec 25 ,, 24 ,, 55.1

In B.Z 341 are two Stars of 9th mag

1850 a 8 ,, 34 ,, 53.8k 25 ,, 20 ,, 29

b 8 ,, 35 ,, 34.1 25 ,, 21 ,, 25

Sept 21st 16h ,, 38m ,, 04s M.S.T.

Comets R 8h ,, 40m ,, 44s.41 } Mean Eq.

Dec 25° ,, 24' ,, 55".1 } Jan. 1st 1850.

H. C. 17456

h m s = 8.9 mag

* R 8.. 48.. 44

N. P. D. 70.. 04.. 75

R 8.. 48.. 33

δ +19.. 58.. 8

Comet's place for Sept. 24/25 A.M.

at $2^h.. 45$

N. P. D. = $73^\circ.. 13'.. 47$ Hourly var = +6'.. 18

R = $9^h.. 07^m.. 49$ " " = +$19^s.6$

Two stars in B.Z. −273

AR 9^h 6^m $5^s.333$ NPD 73 15 7.03 Mg. 9

37.650 22 38.22 8

Mean Equinox 1850.0

Place of the Comet for $2^h.. 16$ A.M.

calculated from the Ephemeris Hourly var. in R = +15^s

Comets h m s Hourly var. in δ = −5'.. 6"

R 9.. 47.. 27

Dec + 2.. 47'.. 09"

See under proper date

New Ring of Saturn.

Nov 15th 1850 Breadth =

☞ Sharp edge next to Ball
Seen on both sides

~~Gen~~
WCB thinks he sees the new ring clear of connection with the old But the side nearest the old ring is not definite as ~~next~~ the planet so that it is not certain whether it is connected or not with the inner ring

When it crosses Saturn it appears a little wider ~~where it~~ at the outside of the ball than in the centre

Ring in every part perfectly sharply defined - there can be no optical illusion When the new ring crosses Saturn it is Not so dark as as the shadow of the ring below

Oct 1^{st}. 20^h
$9^h.54^m.20^s$
+0°.37′

89 Sextantis
10.00.15.6
+0°.21′.30″

Weiss 1076
× 8^m $9^h.49^m.43^s.4$ + 0°.36′.35″

H.C. 19742 Weiss 1286
9.59.47.6 +0°.28′.35″

* W. 1076	Comet	Dif. R
5. 25. 29.5	5. 29 53.3	4. 23.8
25. 43.5	30. 07.1	4. 23.6

* 5. 33. 32
58

5. 37. 58

Dif. Dec. Comet n of * 10″
50.96

50.96
50.03
93
18
9″.02 = d. Dec

5. 41. 08.0	5. 45. 35.4	4. 27.4
41. 23.0	45. 51.0	4. 28.0
	151. 26.8	22.8
	5. 37. 51.7	4. 25.70 = d R

3.079 −16.84
— 03 sec var
3.079 16.81
7697 420.2
$1^m.16^s.97$ 7′.00″.2

5. 37. 51.7
7. 06
5. 30. 46
12. 40. 13
16. 50. 33
2. 45
M.S.T. 16. 47. 48

Star Weiss 1076

	9. 48. 26.36	+0. 43. 35.2
prec	+1. 16.97	−7. 00.2
1850	9. 49. 43.33	Dec 0°. 36′. 35″.0
d R	4. 25.70	d δ 9.6
g R	9. 54. 09.03	Dec 0. 36. 44.6

Oct 1^{st}. $16^h.47^m.48^s$
Comets R $9^h.54^m.09^s.03$
Dec +0°. 36′. 44″.1
By 4 Comp. in R. & 1 in Dec.
with a star 8^m Weiss 1076

Sept 30th 1850

8..55

At ~~9~~h..55m Was in the Dome with visitors saw two sudden flashes which I at the instant supposed to be lightning - On going to the Balcony saw in the NE the train left by the meteor As near as I can now determine it began 3° or 4° in a horizontal line from Algol (β Persei) was about 10° long & grazed ~~[illegible]~~ the three bright stars in Musca Borealis

Commenced AR 2h..50 Dec +36°
Ended 2..35 +26

But I am not sure of the place as I was most interested in getting the Comet seeker upon the north balcony & pointing it so as to give Mdlle ~~Jenny~~ Lind a sight of it through the telescope - The train lasted one hour moving towards the meridian parallel to the ecliptic - Vide drawings on next page

Richard thinks that one end of the train was close to the lower star in Musca Borealis

	Camb	Explosion Naut	Prov	Springfield
alt	29°	30	20	
az	10 N of E	62 N of E	25 N of E	
Dist.	115 miles	115 miles	240	205

Height above sea 55 miles

Observed by Mr C. S. Coffin at Boscawen N.H. 10 miles NW of Concord
alt 30° not accurate az 45° E. of S. not 5° in error (Cannot well be so)
middle of the train

Seen at Springfield by Mr John C. Hoadley

Train reached from the Pleiades 25°? in a horizontal direction to the head of Cetus - parallel to the horizon.

At 9h..18m the train had risen 8° in alt. was wider & more diffuse & in the same az nearly as before

For the Traveller.

The Meteor of September 30, 1850.

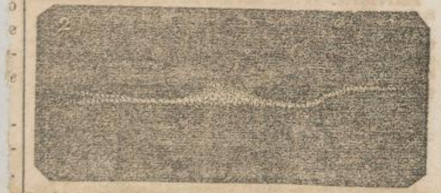
It rarely happens that an Aerolite remains visible to us during a sufficient period of time to enable an observer to trace its path, and determine its velocity with anything approaching to the degree of accuracy with which we can, from their slower apparent motion, obtain the same data for the orbits of Planets or Comets. It is not surprising, therefore, that so little is certainly known regarding the origin of Meteors.

Laplace considered it *possible* that they might be fragments of the Moon, ejected from some of the numerous craters of our satellite by volcanic power; others have supposed that innumerable smaller masses of dense matter, not in immediate connection with the larger planetary bodies, might be dispersed throughout infinite space, and occasionally brought within the preponderating influence of the earth. Some persons have believed that meteors were the smaller, as the asteroids may be the larger portions of a planet which formerly occupied a position between the orbits of Jupiter and Mars. Whatever hypothesis may be adopted in regard to their origin, we must assign to meteors the properties of dense matter, subject to the laws of gravitation; as this fact has been sufficiently established in numerous instances where portions of them have been seen to strike the earth, which, upon examination have proved to be solid bodies. The analysis showing them to be, in general, composed of native iron, sulphuret of nickel, quartz and mag nesia.

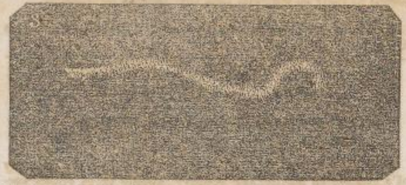
The object of this communication, however, is not to advance any new theory, but to put on record the circumstances which attended the exhibition of the remarkable Meteor of the 30th of September, as witnessed at Cambridge.

My attention was called to this phenomenon by Miss Jenny Lind, who happening at the time of its first appearance to be looking at the planet Saturn through the great Equatorial Teles cope, nearly in the direction of the Meteor's path, was startled by a sudden flash of light, no doubt much concentrated by the power of the glass; probably not more than a second of time intervened before the Meteor exploded, leaving a bright train of light some eight degrees long, extending from near the Head of Medusa towards a point three degrees below the star Alpha Aristis, this being the direction of motion, and projecting a portion of its mass forward about two degrees, as represented in Fig. 1.

This took place at 8h. 54m. m. s. t. of the Observatory, and in or very near the small constellation "Musca Borealis" in right ascension 2h. 30m. and north declination 27 deg. There were numerous radiations, but nothing sparkling in its appearance. At 8h. 57m. this had subsided into a serpentine figure about half a degree broad in the widest part and ten degrees long. as seen in Fig. 2.



At 9 o'clock the preceding portion had extend. ed upward, curved in the form represented in Fig. 3.



or as expressed by a person who noticed the same appearance at Framingham, it appeared "to draw up its head like a serpent."

Three minutes later, it had assumed the figure given in Fig. 4.

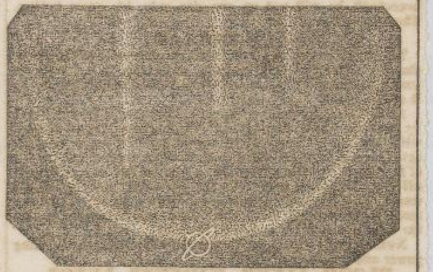
During these changes, the Meteor had continued a bright, conspicuous object, some ten degrees in length, lying nearly horizontal. It was examined with three different telescopes—the Comet seeker, a four feet refractor, and the great Equatorial. The appearance was that of a congregation of minute, bright clouds, of the formation usually denominated Cirrocumuli.

At 9h. 7m. we had the regular cometary figure of Fig. 5.

This, the most durable form, forcibly reminded one of the drawings made by Sir John Herschel of Halley's comet, as seen by him at the Cape of Good Hope, on the 28th of January, 1836.

The Meteor now commenced a slow, regular motion, passing about a degree below the star Alpha Arietis, towards a point somewhat above the Planet Saturn, at the same time *rotating* apparently on a point answering to the nucleus of the explosion, and expanding in every direction.

At 9h. 28m. its position in regard to Saturn was as represented in Fig. 6,



the external outline touching the Planet. The Meteor was now extended in breadth to twelve degrees, its longest diameter reaching upwards nearly to the Zenith. Its *rotary* motion had therefore been equal to an angle of about 90 deg in twenty minutes of time. Although it had now become a faint nebulous light, yet it continued to exhibit a well defined boundary until past ten o'clock, having been under observation more than an hour; I have never met with any account of a single Meteor having been visible for so long a time.

From the observations communicated by the Hon. William Mitchell, of Nantucket, combined with our own, we have ascertained that the vertical height of this Meteor above the surface of the earth, was about fifty miles, and its distance from Cambridge one hundred miles in a north-eastern direction.

We have accounts of its having been seen from near Albany on the Hudson river, Brooklyn, Long Island, Providence, Rhode Island, Nantucket, Manchester, Cape Ann, Portland, Maine, Boscawen and Peterboro', in New Hampshire, Quebec on the St. Lawrence, and the interior stations, Springfield, Quincy, Pepperell, Framingham and Lancaster in Massachusetts, and Norwich in Connecticut.

We have no intelligence in regard to this Meteor from Nova Scotia where it must have been seen if the sky was clear. It is much to be regretted that among the thousands who witnessed this splendid phenomenon, that only so small a number regarded it with sufficient interest to note *the direction of motion, position among the stars, and time of its first appearance and duration.*

W. C. B.

Cambridge Observatory, Oct, 14th., 1850.

Search for Victoria

Sept 13. 11^h .. 30^m
0.4583
0208
0.4791
0.3534
0.8743

13^d.4791
4371
13.9162

14^d .. 8^h .. 29^m
0.3333
201
0.3534
0.4944
3.1410

17^d 11^h .. 52^m
0.4583
361
0.4944

14^d.353
1 57
15.92

13.92
1592

R

3.141) 156.53 (49.83
12564
30890
28269
26210
25128
10820

Daily mo
15^d.92
Dec - ~~8~~ 8'.. 57"

23.44.45.08
~~44.02.56~~
874) 42.52 (48^s.63 = daily mo
3496
7560
6992
5680
5384
2960

R
13^d.9162

Dec
- 8'.. 15"

23.. 44.. 02.56
41.. 26.03
2.. 36.53
120
156.53

Daily motion 15^d.50 = 49^s.56

13.. 11.. 29.. 36
17.. 11.. 52.12
4 00 23
4.016
2.008
13.479
15.487

23.. 44.. 45.08
23.. 41.. 26.03
3.. 19.05
18
4.016) 199.05 (49.56
16064
38410
36144
22660
20080
25800

Op. 17.5

17.. 11^h.. 52
4 44
17.. 7 08
35.. 10 00
18.3

13.. 31.. 24

7.13
874) 7.2 (8.23
6992
2080
1748
3320

24) 540 (22"
48
60

21
2
23
0.4

14.06.. 7
13.. 31.. 4
3.14) 35.3 (11.24
314
390
314
760
628
1320

21
21
231
3.51

Shall use 50^s.2
18.1
502
4016
502
60) 908.62 (15^m.. 09^s
60
308
300

17^d 23.. 41.. 26
15 09
Oct 5^d R 23.. 26.. 17

17^d 13.. 31
3.. 48
Oct 5^d Dec 9.. 43

13.. 59.. ~~54~~
13.. 31.. 4
3.14) 28.1 (8.95
2512
2980
2826
1550

11.. 24
8 24
) 3
2

Daily accel of mo, in Dec
+ 0'.. 21"

8.. 57
8 15
2) 42
21

8.. 57
3.. 40
12.. 37

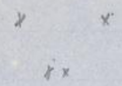
increasing absolute motion

12.6
181
126
1008
126
228.06 = 3^0.. 48'

New Planet Victoria
Oct 5^d R = 23^h.. 26^m.. 17^s
Dec + 9^0.. 43'

Search for Victoria

1850 23.. 26.. 17 +9.. 43
prec 1.. 16 −8
1825 23.. 25.. 01 +9.. 35



hly mo Dec − 27″
AR − 2.^{s}0

22. 48 38
7 16
22 38.. 09
23.. 26 17
50.. 00

* 9th = a & b = 9th
b S of a

22.. 48 8 beats 22.. 52 73.^{r}00
8 53 73.. 00
50 7 23.. 02 73.06

neith a nor b are the planet
Nor c ~~73.06~~

a & b
23.. 14 = 73.. 08

c N of b
22^h.. 55^m 63.91

mid of field c n of b
b 22 57.. 53 63.87
about c 23.. 00.. 10
23.. 04.. 00 63.96

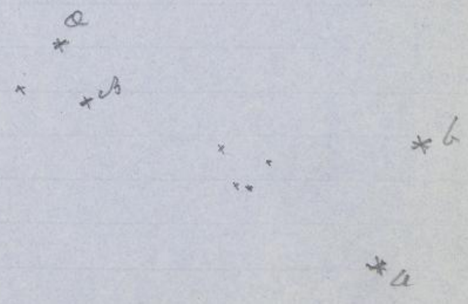
b 23.. 05.. 49
c 64.03

* 9th = a & B = 10th a S of B

23.. 16.. 20	67.11
17.. 50	67.19
19.. 05	67.22
20.. 50	67.16
21.. 40	67.. 21

b 23.. 09.. 17
c 23.. 11.. 25 about
a * 16th prec c 25^s S
c is not the planet

neith a nor B are the planet
B is 3′ S of b & prec b 60^s



Search for Victoria

* 8th γ 23 " 30 " 25 69.40 γ is 25'' s of α
* 10th 31 " 07

32 " 30 69 " 37

dR

γ 23 " 35 " 00
10th 36 " 00 1 " 00
α 37 21

γ 23 " 40 " 30 69 " 35
10th 23 " 41 " 20

δ s of ε δ * 9th ε * 11th ζ * 9th ~~10th~~

ε n of ζ 3'' 23 " 45 58.93 59
58.61 ζ is a star 9th following α 10^s & $7'$ n of it
49 59 " 03
58.65

2557 0^h " 01^m " 16^s
~~R~~ 7 17 0 " 27 " 28

23 " 51 59 " 00
58.78

23 " 54 " 00 ?
H 0 " 27 " 28 Dec 9° " $44'$
α R 23 " 26 " 32

53 58.94
58.55

So that we were observing in the right neighbourhood

ε 56 59 03
ζ 58 63

δ, ε, ζ are not the Planet

104

Comet of Aug. 29th

Monday A.M. Oct $\frac{6^{th}}{7^{th}}$ 1850

7.. 21
★ 6.. 30.. 54 −7° 28′ −2′ ref
h Σ 3.. 57.. 14
6.. 23 .. 33
10.. 20 .. 47
+ 15
★ R 10.. 21 .. 02
Zero 50.05

~~★ 8th~~ " Comet s.f. ★ 8th mag ★ R 10h.. 21m.. 02s
Dec −7° 30′

~~★ 8th~~ 6.. 14.. 40 98r.. 25
~~Comet~~ 6.. 16.. 20 98.. 59

24) 300 (12.5
24
60
48
120
60) 125 (0.21
120
50

dR

★ 6.. 19 21.7
Comet 19 38.0 16s.3

6.. 19.. 38
20.. 20
21.. 05
22.. 07
3.. 10
6.. 20.. 48

16.3
15.7
16.5
17.0
15
16.38
cor. ref. +.07
dR 16.45
motion in 14s .05
dR 16.40

5×60
24×60
5/24

24) 15.2 .21
24) 19.8 (.41
16
20

160
21
16
32
336

20.. 04.8
20.. 20.5 15.7

~~10.. 24.. 45~~
10.. 19.. 42
2.. 06

2.7
5.4

20.. 48.7
21 05.2 16.5

−7.. 45
2
7.37

at 6.. 20.. 34
7.. 21
6.. 13.. 13
12.. 59.. 56
17.. 13.. 17
2 49
M.S.T. 17.. 10.. 28

Star of Comp
R 10h.. 21.. 02s
Dec −7° 30′ −5′ 2″

21 50.5
22 07.5 17.0

Comet S of ★ 8′.. 14″.3
" follows ★ 0m.. 16s.40

6.. 2

6.. 24.. 18 −1.62 = 101.62
6.. 27.. 00 −2.96 102.96
2.. 18 1 42
6.. 20.. 34 100.. 35
50.. 02
50.. 33
10.1
49 3.2
8′.. 13″.2
cor Ref +1.1
Dif. Dec 8′.. 14″.3

ref
-2

Oct. 9th   2557. fast 28^s Victoria. $23^h..23^m$ + $9^\circ..25'$

$20..30$

$2..53$

$9..07$

$9^h..28^m.0$ 49..11.4   a 10 mag

20..49.28.0

10

2,5

20.50..23.6

40.4   b 11

.49.1

20..51..05.4   c 9^h

51 .42.1   12

20..51 .58.1

52..46.3

20..53..02.4

Dec + 9..25

56..8.9   d & e

9..28.0   20..56..25.3   8-9 mag two stars, southern in advance $0^s.3$

d & e are neither of them the Planet

8.5

18..9.0   8.9 mag – d & e again   Zone $9^\circ..25'$

18.46.0 southern star

9..50..37   18..46.8 northern star

19..02,4 s

21.19..03.0 n

406

beats beats

22..18..30 23 22..20..24

07 06

27 26

d & e

22..26 79..33

..28 79..52

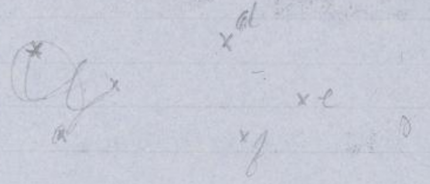
29 79..58

22..33 79..39

e & f

22..23..40 59.06

31 59.09



g & h

22..40 67.72

22..42 67..62

d e f g & h are not the planet

22..51 69.45

52 69.53

i & k are not the Planet

23..06 61.64

61.82

61.71

23..12 l & m are not the planet

23..18 75.35 n & o are not "

23..20 75..25 p & q are not "

23..28 77.79 r & s "

23..36 74..51 74.45 23^h..45 t & u are not the planet

23..37 74..57

23..40

41 52..42 23..46 52.21 v w x & y

43 52..33 49..52 05 are not the Planet

52 52..33

Oct. 9th

begin star 8,9 mag - Dbl ✱ n pre - 15 mag

- .65
+ .40
- .25
- .35
- .15
-.28

in 18'

49.1 a
21 .. 33 .. 05.3 8-9 mag

15.4 b
21 .. 36 .. 31.9 12 mag

04.6 c
21 .. 37 .. 21.0 8-9 mag s 1

36.5 d
x 21 .. 39 .. 53.0 9 mag - n of center 1'

21 .. 42 .. 53.7 e
3 . 10.4 11 mag.

h m s
10 .. 10 .. 48

Zone Dec + 9° .. 19' .. 40'' 84.40.20

f
3 25.9 8 mag n 3'
21 .. 43 .. 41.8

Returned to double star

57.1
21 .. 50 .. 13.6 8-9 4' north

.. 22.2 11 mag
21 .. 53 .. 39.3

12.4 8-9 m
21 .. 54 .. 28.7

22 . 0 . 2.4
22 .. 0 .. 18.4

44.1 10 m
x 21 .. 57 .. 0.4

22 . 0 .. 49.8 twin 8 mag

208

Oct. 9th ref^d to double star

30.2 8 mag ~~[illegible]~~
22 .. 09 .. 46.5

56.5
13 .. 12.8 11

45.5
22 .. 14 .. 1.7 8 mag near the centre

17.0
22 .. 16 .. 33.4 9-10 mag

34.5
22 .. 19 .. 50.9 11 mag

6.4
22 .. 20 .. 23.0 8 mag

−0.05
−0.95
−0.10
−0.35
−0.40
−1.90
−0.42 19'
−0.20 18
−0.72 37'

31.7
31.7 } 31.7

31.5
31.7 } 31.6 at 22h.16m

38.50 37.70
38.60 37.30
38.10
38.20
38.20
38.20

8.7 9th mag
39 25.1

34.6
42 51.0 11th

23.7 8th.9th
43 39.9

−0.25 −0.20
−0.40
−0.55
−0.15
−0.40
−0.28

~~46~~ 54.7 10th
46 11.7

47 50.9 = 11 not in
7.2

49 13.1 11
24.3

44.9 8
30 1.3

1850phae.pro..166

27.1
23 = 0 43.9:

3 53.0
4 9.5

8^d 9^h 4 42.1
58.5

10^h 7 14.0
30.4

Oct 10th
Have spent several evenings in a fruitleſs search for Mr Hinds new Planet –

Have swept about 20′ in Declination on each side of its place & two or three minutes in R.
Expecting it to be not leſs than a star of the 10th mag.

Repeated Oct 10th

8th 21.. 27.. 03.5
38.0
27.. 41.5
32.5
28.. 14.0
31.5
28.. 45.5
32.0
29 17.5

21.. 48 = 57.44
49 = 57 55
50.. 57.55

21.. 55 57.50

21.. 57 69.18
59 69.18

Oct. 10 Eve gamma Andromeda

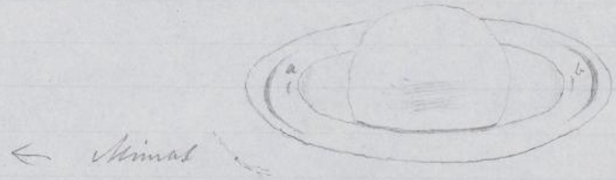
γ^2 Andromeda 10..50 P.M. Power 860 - beautifully defined

Pos	Dist	Zero
240°. 30'	50.090	
240 . 40	49.920 - 50.80	
242 .. 15 x	50.085	50.010
	50.072	49.988
	50.080	50.017
		50.005
		50.005

Fine vision

γ^2 Andromedae is divided finely with ~~on~~ the discs completely distinct from each other a dark space between.

Ring too Broad by far (ie minor axis too large)



Oct 10th 10 P.M. Saw Saturn very finely

I never before saw the division of the Ring so plainly as it is now better situated than it has been since the Great Refractor was mounted Am not fully satisfied that a second division of the Ring is seen at a & b but almost so

Inside of the ring near a & b there is an appearance which I think I have before noticed. but could not account for

It looks as if the edge of the ring was there quite broad & feebly illuminated by the light reflected from Saturn on the side in front of the planet - This cannot be the true explanation - for many reasons - But I am sure that the appearance exists

The ring throws a very narrow shadow on the ball above & there is a dusky line bordering the projection of the Ring on the Planet below

The motion of Mimas from Saturn was very apparent

Oct. ~~18~~ 13/14

Lal 9^m 21214
AR $10^h .. 56^m .. 06^s$
Dec $-15^\circ .. 05'$

13 .. 17 .. 15	9 .. 20	
4 .. 45	4 .. 40	1 . 46
13 . 22 . 00	24	106
	280	53
10 .. 55 . 37	23	4.5
23		15 .. 23 . 5
10 .. 55 .. 14		−15 .. 19 . 0

10 .. 54 .. 39 8^m
−14 .. 53

at $17^h .. 15^m$ Comets AR $10^h .. 55^m .. 14^s$
Dec $-15^\circ .. 19'$

8½ 10 .. 57 .. 18 , 7 21245
− 15 .. 26 , 25

8½ 10 .. 58 .. 37 , 1 21273
−15 .. 10 .. 27

6 .. 30 .. 40
10 .. 55
4 25

The inst was set at $-15^\circ .. 16'$ & the comet appeared about 4' *below* the centre of the field. But the eyepiece was not centred

2.7
8.8

10 .. 55
6 .. 37
h 4 .. 18

Eph. comets AR 10 .. 55 .. 14
cor. Eph − 37
Comets AR 10 .. 54 .. 34 Dec $-15^\circ .. 19'$ + 1' cor Eph
obsd dAR 2 dδ 8
10 .. 54 .. 36 −15 .. 10

Comets motion in $1^m = -0^s.150$
3.7
105
45
0.55

* $8^m .. 9^m$ Star of Comp AR $10^h .. 54^m .. 36^s$
Dec $-15^\circ .. 09'$

Oct 13/14 Actt

Comet is s.p * 9th mag ∓ rate + as it was cloudy * harder to see them the Comet

6.. 36.. 40 7 beats
37.. 07 6
37.. 25 7
37.. 48 6
38.. 10 6
.. 130 6.40
6.. 37.. 26 3ˢ.20

As it was already daylight & the comet becoming faint, could not wait for any better star Saw none near s of the Comet of any magnitude

It was fortunate that there was one so near as it clouded up as soon as the measures for Dif. Dec could be taken

6 39. 45 4ʳ.32
42. 25 4.. 50
10 82

Faint & impossible to be well observed
clouded up

6.. 41.. 05 4.. 41
39 50.. 01
6.. 40.. 26 4560
13.. 27.. 32 9.1
17.. 12.. 54 4469 = 7′.. 26.9
2 49 ref +6.6
17.. 10.. 05 M.S.T. Dif Dec 7.. 33.5 ps

Star of Comp
reading on fixed wire
at 6h.. 42m Dec −15°.. 01′
ref 6
Dec * = −15°.. 07′

0m.. 03s.20
ref −0.30
~~dR~~ 0.. 02.90
−0.55
dR = 0.. 02.35

[illegible] Dec
Reduction to Dif. Dec 3m 7/10
Comet prec.

Stars to be determined Tuesday mg. Oct 14/15 4..37 1929

0.45 Sept 10/11 964.
15
0.60 " 20/21 16..04

296
Dec = f 148
7.0 23 93 6.. 38.18 41.00 AC 21188 2..28

10..54..56 Star of Comp 9th
10..55..14 −15..19 −15..57..13 R 10h..57m..11s
4..37 45 Dec −16°..04'
R 10..59..51 Dc. −16..04 11h..00m A star 12th follows by 1m..18s
6 45 is n 1'..30"
4.15 * of Comp 8th
42

Comet is n f * 9th −15°..59' 2557 6..52..50.5

* 6..37..00.0 41r..06 w = ½ ref −4.8 co H 7..55..09

f 39 03 w = ½ * Dec 16..03.8 6..52..08

2..03.0 Zero 10..56..59

40 40.5 40.74 41.53 49.89 by 4 obs ref + 17

42..43.5 49.89 probably altered by * R 10..57..11

Visitors early in the Eng. Star of 3rd mag

2..03.0 8.36

43 32.0 40..39 17 Restored to 50r.00 ~~7..38..00~~

45..33.5 8/19 −13°..54' 7..11..38.

2..01.5 1'..21.9" co H ~~7..59..19~~

47..07.0 41.86 ref +1.0 2557 fast 0..42

49 10.7 Dif. Dec = 1..22.9 7..10..56

2..03.7 h 4..00..41

Δ R 13s 11..11..37

49..44.0 42.09 Δ Dec 3'.7

51..48.0 * 3rd 11h..11m..37s −13..54 7..14..58.5

2..04.0 cor Ref +13s − 3.7 8..02..40

52..50.5 43..05 Ind. R 11h..11m..50 Dec −13.58 42

54 56.5 919 Tab R 11..11..50.7 −13..58 7..14..16.

283 15.5 2..06.0 41.53 cor Inst 0m+0s.7 0°..00' 3..57..20

Mean 6..47..12.6 212 11..11..36

0 42 2..03.53

6..46..30 −0.06 ref

13..31..28 2..03.47 = Dif. R Comet follows * 8th By 6 passages mid. field

17..15..02 1'..22".9 = Dif. Dec " North of " 6 Micr. Dif. Dec's

2..50

17..12..12

M.S.T.

Cor. Inst in R + $0.^{s}7$
" in Dec + $0.'0$

Oct 14^{d} .. 17^{h} .. 15^{m}

Comet obsd R 10^{h} .. 59 .. 14 obsd Dec − 16° .. $03'$
comp R 10 .. 59 . 51 comp Dec − 16 . $04'$
Cor. of Eph O−C + 37^{s} 0 + $1'$

α Aquilæ $19^h 43^m 27^s.8$ $+8° 28'.30''$

Oct. 15th

Adjusted the position circle to read 90° & 270° so as to leave no zero correction - which before was + 0°.12' since the date when the Micrometer was removed for Daguerreotyping.

6

$6^h 17^m 15^s.2$
51° 52' 14"

2557 23.. 40.. 42 Dec 51°.. 52'
6.. 18.. 58
h 6.. 38.. 58

a & b = 192 & 193

Star in Arg Zone 163 No 192 ~~the mean of~~ two

c is the Star of Comp Sept 10th/11th

	a	b
	0.. 36.. 34.4	37. 13.5
c	41.. 20.5	41 57.5
	4.. 46.1	4 44.0

a	0.. 43.. 59.3	b	0.. 44.. 38.1
c	48 45.3	c	49 22.5
	4. 46.0		4. 44 4

6.. 12.. 29.13
4.. 46.1
6.. 17.. 15 2

51.. 56.. 57
4.. 43
51 52.. 14

27.07
28 93
58
28 35
4.. 43.5

c S of a

Precession

+4.738 -. 1.18
8 8
37904 -9.44

0.. 54

6.. 13.. 56.78
1.92
6.. 13.. 58.70
4.. 44.20
6.. 18 42.90

21.02
50 00
28 98
5.8
284.0
4'.. 44".0

$6^h.. 12^m.. 29^s.13$ 51.. 56.. 56.6
+49.67 +7.8
+ 0.08 - 0.6
6.. 13. 18.88 51.. 57.. 03.8
prec + 0.. 37.90 * a - 9.4
1850 6.. 13.. 56.78 R Dec 51.. 56.. 54 4
d R 4.. 46.05 4.. 44. 0
R 6.. 18.. 42.83 Star c 51.. 52.. 10. 4 = Dec
By * b 42.90
6.. 18.. 42.86

Star of Comp. Sept 10/11

R $6^h.. 18^m.. 42^s.83$ } Mean Eq. Jan 1st 1850
Dec 51°.. 52'.. 10".4 } by 4 comp in R & 4 in Dec with Arg. Zone 163 No 192 & 193

Am confident that it is the right star.

2/3.3
132

192
4
.0768
4.816
+4.734
-.001
prec. in R +4.738 for 1846
for R 6h.. 13m
Dec +52°..00

~~a~~ 49.. 06 } same dec
a 49.. 31.0
c 49 56.0

15.22
50 08
34.78
7.0
340.8
5'.. 40.8

a 51.. 35.0
~~a~~b 52.. 05.0

The Star a is not Arg. Zone 163 No 205

This Star in Argelander is not that I know of recorded with 30s too large a Right Ascension

a R 6.. 18.. 28
b ~~R~~ 6..

Obs'd Dif. Dec a & b   a is n of b

a prec b

15".22	0.. 05.. 20.7	06.. 12.4	07.. 10.6	07.. 00.5
15.07	51.0	06 42.5	07 40.8	08 30.7
15.12	30.3	30.1	30.2	30.2

u

Cannot Recognise Argelanders Stars 205 &

No 204

The Stars 205 & 204 in Arg. Zone 163
are missing.

Oct 15th/16th 1850

12.41
3760

2„ 50„ 42
8„ 30„ 50
5„ 40„ 50

2„ 55„ 42
8„ 30 50
5„ 35„ 50

5.6).126(.0223
112
140
112
280

28„ 25
61„35
– 10
61. 25

183
3^m„03
1„ 32
8„27„ 36
8„ 26 04

3.667
–.009
–.002
+3^s.657
–.007

3„13„ 42
8„ 30„ 51
5„17„51

8

–11″.94
sec Dun – .15 sec
1209

B Z 9 p * of Sept 20/21 Diagram recognized

B Z 3„ 18„ 12
*

12^m.41
12.27

12.41
27
68

–.028 „ 10″

B Z *
3 24 „04.2 25„ 31.0 1„26.8
22.0 25 49.3 27.3

12.34
5000
37.66
75
369.1 = 6′„09″.1

26. 15.8 27 42.5 26.7
26 33.8 28„ 00.7 26.9

1837 +3.650
41.25
1^m„31.25

–12.09
302.2
5′„02″.2

30 44.8 3 32„ 11.5 26.7
31. 02.3 29.8 27.5
41 9

B.Z. 352
8^h„ 26^m„ 55^s.70 28°„ 25′„ 14″.5 1„26.98
+ 40.79 – 11.8
– 0.02 + 0.8
AR. 8^h„ 27^m„36^s.47 Dec. +28°„ 25′„03″.5 1825.0
prec. +1„ 31.25 – 5„ 02.2
8„ 29„07 .72 28„ 20„01 .3 1850
d AR 1„ 26.98 d δ 6„ 09.1
AR 8„ 30„ 34 .70 Dec. 28„ 26„ 10 .4

Mean Eq. Jan 1st 1850
Star of Comp. Sept. 20th/21st
By 6 dif. AR & 2 dif. Dec with B.Z 352

3.. 40.. 42   Stars of Sept 21/22   5.. 06   4.. 52
8.. 40.. 00
5.. 00 00

a & b in BZ 341
c was called = ~~[illegible]~~ = * 9th is = 10

a   b   c = * of comp

46 58.8   47 39.0   51.. 27.8   4.. 29.0   50.. 17.8   3.. 48.8
47 16.3   56.5   45.5   4.. 29.2   ~~35.4~~   3.. 49.0

54 ~~11.7~~   54.. ~~51.5~~   59 ~~02.5~~
~~29.3~~   55 ~~09.0~~   ~~20.0~~

4.. 02 13.0   02.. 52.8   06.. 41.8   4.. 28.8   3.. 49.0
02 30.2   03 10.5   06.. 59.3   4.. 29.1   3.. 48.8
4.. 29.25   3.. 48.90
-0.400
0.050

b is s.p c   The * called 7th is = 9th 8th
4.. 09.. 50   26.41   α is 13' n of c   27
50.00   3'.. 51".3   15s following   23
23.60   54
4.7
231.3

3.581   2.23) .052 (.0233   3.57
-.011   446   17.8
+.003   3.   740   2m.. 58s
+3.573   ~~-12.54~~   467   1.. 29

Star BZ 341 = b
8.. 33. 42.10   25°.. 26'.. 25".4   dec var -006   233   8.. 34.. 04
+22.24   -10.3   4) 3.567   -12.54.2   1407   8.. 32.. 35
± 0.02   -0.7   89.1.78   -0.150   1401   1244
1825.0 8.. 34.. 04.36.   25.. 26.. 14.4   1m.. 29.17   12.692   934   622
prec. +1.. 29.17   -5.. 13.6   .1088   -0.011   10.. 22
8.. 35.. 33.53   25.. 21.. 00.8   63.31   3.605   25.. 26.. 14
dR 3.. 48.90   3.. 51.3   63.31   3.579   25.. 36.. 36
*R 8.. 39.. 22.43   Dec 25.. 24.. 52.1   1850.0   139) 26 (0018   64.23.. 24
Place of Star of Comp. Sept 21/22 No 2   139   121   .003   63.. 55
12.542   28'
313.6   .467
5'.. 13".6

Sunday Oct 20th

At $5^{h}.05^{m}$ or ~~about~~ a few minutes before Sunset saw a bright meteor from a station 1/4 of a mile W.N.W. from the Observatory

Commenced in az N. 55° W alt 17°

Ended " N. 69° W alt 4°.½

The place of ending well fixed to about 1°

Its direction was inclined 45° to the horizon its motion rapid left no permanent train

shape as in diagram

a sensible diameter of 3' or 4' & bright white light.

duration uncertain about 1^{s} Did not see it explode it seemed rather to be consumed.

1685
6|992
16..30

17..15
6 45

14..02
6..45
7..17

21 Ch
~~2419~~
2557

11..29
7 00
4..30

Oct 21/22 AM Comet of Aug 29th 1850

$17^h..15^m$ AR $11^h..31^m..32^s$
Dec −20..10

H.C 22028 AR

		AR	Dec
* 8^m	HC 22028	$11^h..29^m..23^s$	$-20..07..57''$
8^m	" 22081	11..31..21.7	−20..20..31

22/23

AR 11..36..00
Dec −20..35

HC 22233 8^m
AR $11^h..37^m..53^s.0$
Dec $-20^\circ..38'$

	Ref AR	Dec
At $7^h..00^m$	$0^m..56^s$	14'.8
7..30	22	6.1

Have kept up a constant look-out for the comet up to Oct 28th but have been completely frustrated by cloudy weather -

1850phae.prpd..166

Not the Comet-

Oct 27/28

60)1003
16..43
111..40..58
11..57..41

153
2m..33
11..56..01.9
11 58 34.9

7h fol 45.3s
5 58'
another 3 f Min

AR 11..57..52
− 22..09

H.C. 22306
11h..40m..53s
− 21..15..35

H C 22723 8m
AR 11h..58m..34.9s
Dec − 21°..58'

7..33..20
4..05..20
11..38..40

7..30..00
1..26
7..28..34
11..58..35

ζ Crateris
11h..37m..10s
− 17..31

Star

7..41..20
4..19..20
12 00 40

2419 8..12..47.0 − 22..08
3..48..25
2419 fast 2..10
8..10..37
3..48..25
11..59..02
Ref +

Comet 21 s

AR

2419 7..48..05 26.70

7..53..20	21	Pole beats
54..15	20	
7..58..40	19	
59..30	19	ill
8..02	26..70	very
	26..58	
8..04	19	uncertain
05..30	19	
11	18	

This could not have been the Comet as the AR was too large & the dec too far South

It was a very doubtful object during the obs. & ~~but~~ no confidence was felt in its being the comet except that it was supposed to be in the right place. which it was not

Haw

Oct $28^{th}/29$ Comet of Aug. 29^{th}

2419 7.. 59 53.0 292° 13′ 40″
ch 7.. 56.. 23.0
(1) 12.. 03 ..30..0

8.. 02 56.5 292..13..40
ch 7.. 59.. 27.0
(2) 12.. 03 ..295

8.. 05 35.5 292. 14. 24
ch 8.. 02.. 03.0
(3) 12.. 03 ..325

8.. 12 02.0 292..15..12
8.. 08.. 24
(4) 12.. 03 ..386

8.. 14.. 21.0 292..15..24
8.. 10.. 40.5
(5) 12 .. 03 ..40.5

The comet is quite bright much more so than I had expected to see it. Notwithstanding it is very low—only 4° or 5° high—& the bright twilight sufficient to read common print by.

It seems brighter than when last seen Oct 14^{th}

Comet

8„ 17.04.5 292°„15′.50″
8„ 13„23
(6) 12 03 41.5

β Corvi

2419
8 27„ 42.0 (2) 292„ 25„ 12
cwh 7„ 59„ 20.0
12 „28 „22.0

8„ 19„ 40.5 262„16„00
8„ 15„ 57
(7) 12„ 03 „43.5

8„ 30„ 49.0 292„ 25„ 50
8„ 02„ 27.0 (3)
12„ 28 „22.0

8„ 33„ 47.0 292„ 26„ 08
8„ 05„ 21
12„ 28 „26 ~~(4)~~

8„ 37„ 28.0 292„ 26„ 36
8„ 09„ 00.0
12„ 28 „28.0 (4)

8„ 40 „15.0 292„ 26„ 48
8„ 11 „42.0
12„ 28 „33.0 (5)

292°„27′„28″
8„ 45′„02.0
8„ 16„ 31.0
12 „ 28 „31.0 (7)

8„ 43 „02.5 292„ 27„ 06
8„ 14„ 33.
12„28 „29.5 (6)

Computation of the observations of Oct $28^{th}/29^{th}$

cos.z = m + n cos h　　m = sin.δ sin.L　　ref. in R = r sin.v sec.δ

sin.v = cos L cosec.z sin h　　n = cos δ cos L　　" Dec = r cos v

For the Comet.					For the Star				
δ = − 22°.. 15′	sin.	$\overset{n}{9}.57824$	cos	9.96640	δ′ − 22.. 26	sin	$\overset{n}{9}.58162$	cos	9.96582
L = 42.. 23	sin	9.82872	cos	9.86844	L 42.. 23	sin	9.82872	cos	9.86844
− 0,25524 = m		$\overset{n}{9}.40696$	n	9.83484	− 0.25724 = m′		$\overset{n}{9}.41034$	n′	9.83426

Comet			Star	
cos h $7^h.. 56^m$	cos h	9.94182	cos h	9.94182
8.. 00		9.93753		9.93753
8.. 04		9.93307		9.93307
8.. 08		9.92842		9.92842
8.. 12		9.92359		9.92359
8.. 16		9.91857		9.91857
	n	9.83484	n′	9.83426
n cos h = 0.59794		9.77666	0.59714 = 9.77608	n′ cos h =
" 59206		9.77237	.59127 = 9.77179	
" .58601		9.76791	.58524 = 9.76733	
" .57978		9.76326	.57900 = 9.76268	
" .57337		9.75843	.57260 = 9.75785	
" .56677		9.75341	.56601 = 9.75283	
m − .25524			− .25724	
cos z 0.34270	z		.33990	
" .33682	"		− 33403	
" .33077	"		32800	
" .32454	"		.32176	
" .31813	"		.31536	
" .31153	"		.30877	

Used cos.h for sin.h

Computation of the Observations of Oct 28/29th 1850

a h 7..56 cos h 9.68557 9.68557
b 8..00 9.69897 9.69897
c 8..04 9.71184 9.71184
d 8..08 9.72421 9.72421
e 8..12 9.73611 9.73611
f 8..16 9.74756 9.74756
n 9.83484 n' 9.83426

0,33145 = 9.52041 0,33100 = 9.51983
,34183 = 9.53381 ,34137 = 9.53323
.35211 = 9.54668 ,35164 = 9.54610
.36228 = 9.55905 ,36180 = 9.55847
.37235 = 9.57095 ,37185 = 9.57037
.38239 = 9.58250 ,38179 = 9.58182

m - 25524 r from Carlini's Tables. m' - 25724 r

cos z +0.07621 z = 85°..38' 10'..57".3 cos z' 0.07376 z' = 85°..46' 11'..12".9
0.08659 = 85..02 9..53.2 ,08413 85..10 10..06.6
0.09687 = 84..26 9..00.2 ,09440 84..35 9..12.7
0.10704 = 83..51 8..15.7 .10456 84..00 8..26.7
0.11711 = 83..16 7..38.2 ,11461 83..25 7..47.3
0.12715 = 82..42 7..06.2 ,12455 82..51 7..14.0

cos L 9.86844 r 657.3 = a 2.81776 593.2 b 2.77320 540.2 c 2.73255
cosec z 0.00126 sin v 9.81152 9.80760 9.80356
0.00163 sec δ 0.03360 0.03360 0.03360
0.00205 dR. 460".1 = 2.66288 411".5 = 2.61440 371".3 = 2.56471
0.00251 cos v 9.88180 9.88457 9.88741
0.00301 dDec. 500.7 = 2.69956 454".8 = 2.65777 416".8 = 2.61996
0.00353 d e f

sin h 9.94182 495.7 2.69522 458.2 2.66106 486.2 2.62961
9.93753 9.79937 9.79504 9.79054
9.93307 sec δ 0.03360 0.03360 0.03360
9.92842 dR 337".4 = 2.52819 308".8 = 2.48970 284".3 = 2.45375
9.92359 cos v 9.89020 9.89294 9.89577
9.91857 385".0 = 2.58542 358.1 = 2.55400 335".3 = 2.52538

cos v
9.88180 9.81152 sin v
9.88457 9.80760
9.88741 9.80356
9.89020 9.79937
9.89294 9.79504
9.89577 9.79054

The above are for the Comet

For Star see next page

Reduction of the Observations on Oct 28th/29th 1850

Star.

	a'		b'		c'		d'
r 672″.9	2.82795	606.6	2.78290	552.7	2.74249	506.7	2.70475
sin v	9.81152		9.80760		9.80356		9.79937
sec δ	0.03418		0.03418		0.03418		0.03418
471″.7	= 2.67365	421″.4	= 2.62468	380″.4	= 2.58023	345″.4	= 2.53830
cos v	9.88180		9.88457		9.88741		9.89020
512.6	= 2.70975	465.0	= 2.66747	426.5	= 2.62990	393.5	= 2.59495

	e'		f'
r 467″.3	2.66960	434.0	2.63749
sin v	9.79504		9.79054
sec δ	0.03418		0.03418
315″.4	= 2.49882	289.9	= 2.46221
cos v	9.89294		9.89577
365″.2	= 2.56254	341.4	= 2.53326

Comet δ = -22°. 15′ Inst.

Star δ - 22.. 26 Inst.

co. hour angle 12h - h	dR			dδ			dR'			dδ		
7h 56m	460″.1			500″.7			471.7			512″.6		
		-48.6			-45.9			-50.3			-47.6	
8.00	411.5		+8.4	454.8		+7.9	421.4		+9.3	465.0		+9.1
		40.2			38.0			41.0			38.5	
8.04	371.3		6.3	416.8		6.2	380.4		6.0	426.5		5.5
		33.9			31.8			35.0			33.0	
8.08	337.4		5.3	385.0		4.9	345.4		5.0	393.5		4.7
		28.6			26.9			30.0			28.3	
8.12	308.8		+4.1	358.1		+4.1	315.4		+4.5	365.2		+4.5
		-24.5			-22.8			-25.5			-23.8	
8.16	284.3			335.3			289.9			341.4		

Rate of
2419 + 4ˢ.00
hly = +0.167

	Comet	Star	Comet	Star
(2)	12..03..29.5	12..28..22.0	-22..13..40	-22..25..12
cor. ref	+27.85	+28.61	-7..40.7	-7..52.3
	12..03..57.35	cor rate -0.07	-22..21..20.7	-22..33..04.3
	12..28..50.54	12 28..50.54	-22..33..04.3	-22..21..20.7
Δ prec *	24ᵐ..53ˢ.19	By (2)	Δ N of *	11'..43".6
(3)	12..03..32.5	12..28..22.0	-22..14..24	-22..25..50
	+26.01	+26.39	-7..14.6	-7..21.0
	12 03..58..51	-0.07	-22 21 38 6	-22..33..11.0
	12..28..48.32	12..28..48.32		22..21..38.6
	24..49.81			1 ..32.4
(4)	12..03..38.0	12..28..28.0	-22..15..12	-22..26..36
	+22.27	+22.49	-6..22.1	-6..25.9
	12..04..00.27	-0.07	-22..21..34.1	-22..33..01.9
	28..50.42	12 28..50..42		-22..21..34.1
	24..50.15			11 ..27.8
(5)	12..03..40.5	12..28..33.0	-22..15..24	-22..26..48
	+21.21	+21.19	-6..07.0	-6..07.5
	12..04..01.71	-0.07	-22..21..31.0	-22..32..55.5
	28..54.12	12..28..54.12		-22..21..31.0
	24..52.41			11..24.5
(6)	12..03..41.5	12..28..29.5	-22..15..50	-22..27..06
	+20.02	+19.92	-5..50.0	-5..49.6
	12..04..01.52	-0.07	-22..21..40.0	-22..32..55.6
	28..49.35	12..28..49.35		22..21..40.0
	24..47.83			11..15.6
(7)	12..03..43.5	12..28..31.0	-22..16..00	-22..27..28
	+18.97	+19.13	-5..35.5	-5..38.8
	12..04..02.47	-0.07	-22..21..35.5	-22..33..06.8
	28..50.06	12..28..50.06		-22..21..35.5
	24..47.59			11..31.3

Oct. 28th/29th Reductions continued

corrected for refraction

		dα Comet prec *	dδ Comet N of *
2419	8..02..56	24ᵐ..53ˢ.19	11′..43″.6
	8..05..35	24..49.81	32.4
	8..12..02	24..50.15	27.8
	8..14..21	24..52.41	24.5
	8..17..05	24..47.83	15.6
	8..19..40	24..47.59	31.3
	71..39	300 98	175 2
[illegible]	8..11..56	24..50.16	11..29.2
	2..11		
[illegible]	8..09..45		

β Corvi

Apparent place α 12ʰ..26ᵐ..31ˢ.51 Dec − 22°..34′..00″.4

dα 24..50.16 dδ 11 29.2

Comets Apparent α 12..01..41.35 App. Dec − 22..22..31.2

8..09..45

14..26..40 g = 28..24

17 43..05 H = 52..24

2..54 a 180..26

M.S.T. 17 40..11 (g+a) 208..50

tan δ ~~9ⁿ.61436~~ (H+a) − 232..50

(g+a) cos 9ⁿ.94252 ~~cos~~ sin 9ⁿ.68328 sin 9.90139 cos 9ⁿ.78113

12″.159 1.08458 1.08458 (H+a) ~~cos 9ⁿ.78113~~ ~~sin~~ ~~9ⁿ.90139~~

~~+1.38~~ = 1ⁿ.02710 ~~−5″.86~~ = 0ⁿ.76786 δ sec 0.03397 δ sin 9ⁿ.58039

−10″.64 9ⁿ.61436 19″.25 h 1.28443 h 1.28443

6″.62 i 0.82086 0.38222 −16.59 1ⁿ.21979 +4.42 0ⁿ.64595

cos δ 9.96603 + 2″.41

6″.12 = 0.78689

g = +24.54

+ 2.41

− 16.59

26.95

15)+10.36 (0.69

96

136

i cos δ + 6″.12

− 10.64

+ 4.42

+ 10.54

− 0.90

12.03.30
4.14
12.07.48
12.28.26
20.38
2.09
18.21

−22.13.40
14
−22.28

12.26.31.51
−.69
12.26.30.82

−22.34.00.4
−0.1
−22.34.60.5

12.07.48
7.56
4.11.48

7.48

Ap. R 12.01.41.35
cor. to Mean Eq. −0.69
12.01.40.66

Ap. Dec −22°.22′.31″.2
cor to Mean Eq. +0.1
−22.22.31.3

By computation

Oct. 28^{d} 17^{h} 40^{m} 11^{s} M.S.T.

Comets R 12^{h} 01^{m} 40^{s}.66 } Mean Eq.
Dec −22° 22′ 31″.3 } Jan. 1st 1850

By 6 comparisons with β Ceti by the Circles.
The readings differing 1^{s} or 2^{s} from the mean in R
" 10″ ~~or 15″~~ " Dec

R probably not 0^{s}.5 in error
Dec " 8″ "

Oct. 29/30

Oct. $29^d/30^d$ Comet of Aug. 29^d

a is H.C. 22971

Comet S.p * α_r

Comet	8 .. 00 .. 01.0	23.11	
* 7^t	02 10.5		
Comet	8 .. 03 .. 28.0	23.00	
* 8^d	05 .. 36.5		

8 .. 08 40
12 .. 05 55
3 .. 57 .. 15

8 .. 27 .. 29
18 .. 20
8 .. 45 .. 49

Comet sufficiently bright & well enough condensed for good observation. The only trouble is its being low. It is round & without tail to appearance but none would be visible though it might have one on account of the twilight.

	Comet	Star	
8	07 .. 24.6	09 34.0	2 .. 9.4
	07 44.5	53.2	8.7
	10 .. 18.2	12 26.4	8.2
	10 37.7	45.5	7.8
	13 .. 34.5	15 .. 41.4	6.9
	13 53.5	01.0	7.5
	213 0		48.5

8 .. 10 .. 35.5

2 .. 08.08
ref. − .30
dR 2 .. 07.78

3.083 −20.054
+003 + 002
3.086 −20.052
1 54.3 100.2.6
2 .. 34.3 16 .. 42.6

Comet S of *

8 .. 18 .. 15 21.86
8 .. 21 .. 50 21 .. 55
43 .. 44 9.52
8 .. 10 .. 56 −22.38
2 .. 13 50.10
8 .. 08 .. 43 27 72
14 .. 30 .. 37 5.5
17 .. 38 .. 06 271.7
2 .. 53 4′ .. 31″.7
M.S.T. 17 .. 35 .. 13 ref +4.5
dδ 4 .. 36.2

Star is H.C 22971

	12 .. 05 .. 27.15	−22 .. 14 .. 22.8
Prec +	2 .. 34.30	− 16 .. 42.6
1850.0	12 .. 08 .. 01.45 * a	−22 .. 31 .. 05.4
dR	−2 .. 07.78	dδ − 4 .. 36.2
☄ R	12 .. 05 .. 53.67	Dec 22 .. 35 .. 41.6

Micrometric

Oct 29^d .. 17^h .. 35^m .. 13^s
Comet's R 12^h .. 05^m .. $53^s.67$ } Mean Eq.
Dec −22° .. 35′ .. 41″.6 } Jan, 1850
By 6 comp. in R and 4 in Dec with a star of the 7^{th} mag. H.C 22971

Computations are checked so that this is probably a good place.

a is HC 22971

* a   8.. .. 27 ..29.0 $21''.55$
"   27 .. 50.3

β Corvi 8 .. 46.. 20.0 $39''.32$

177.7
3.5
174.2 = $2'..54''.2$

* a prec β Corvi $18^{m}..29^{s}.7$
a North of " $2'..54''.2$

Zero
50.10
50.11
50.10

Zero was
reduced to 50.00

		12.. 26.. 30.9	−22.. 34.. 00.3
		18.. 29.7	2.. 54.2
Place of	By comp. with β. Ceti	12.. 08.. 01.. 2	−22.. 31.. 06.. 1
Star a	By Hist. Cel	12.. 08.. 01. 45	−22.. 31.. 05.4

The reduction to apparent R & Dec for β Corvi and for the Comet Differs in R $0^{s}.05$ in Dec $0''.2$

Oct 30/31 1856

Æ 12..10..05 BAC 4101 Æ $12^h..03^m..20^s.79$ H.C 22850
Dec − 22..48 6^{th} mag. Dec − $22^\circ..45'..58''.7$

Oct 31

5..37
6..23
12..00

261..38..40
$17^h..26^m..35^s$
~~* 21..26 35~~

− $21^\circ..42'..08$

BAC 5954 6^m
17..29..44.27
− $21^\circ..49'..03''$

Cor. of inst for Parthenope.

BAC 6064 7^{th}
$17^h..47^m..19^s.73$
− $21^\circ..55'..46''.7$

B.A.C 6064

2419 21..27..29.5
h 3..37..05
17 50..24
2419 + 2..18
Inst. Æ 17..48..06
* Æ 17..47..20
cor Inst Æ & ref 46

[illegible] 338..10..00
− 21..50 Inst Dec
21..55..47 * Dec
cor Inst Dec $5'..47''$
& ref.

2419 21..32..49.5 [illegible] $338^\circ..10'..20$ [illegible] 68..10
3..42..25 − 21..50
17..50..24
2..18
17..48..06

21..44..30.5 [illegible] $338^\circ..12'$
3..54..00 21..48
17..50..30
2..18
17..48..12
17..47..20
..52

Zero of position 89°.. 54′
Determined with much care

40.. 51.3
41 02.5

41.. 24.7
41 35.9

41 55.0
42 05.4

42 30.8
42 41.7

52.5

2′

16.5
27.5
23.5
00.. 20.. 34.5
08.8
21.. 09.9
47.5
21.. 59.0
20.0
31.3
46.5
22.. 57.7

11
56
11
34.3
01.1
37.6
11.5

h m Dif Dec
00.. 26.. 00 14.11
14.33
14.39

Oct. 31st   Orion h Star.

Neptune with a star S. f of the 10th..11th

h m s Neptune n of *
0..33..00 25.94
38..15 26.00

*

N prec * 11th

0.. 42.. 36.1 44 58.0 2..21.9
51.8 45.. 14.0 22.2

45 58.3 48.. 20.5 2..22.2
46.. 14.3 48 36.5 22.2

1850 Oct 31/Nov 1st "h" star not visible seeing not good. See Comet seeker book

Nov 7/8 A.M

For Comet

+

12226 (14
12
106

cor Eph

AR 12h..42m..17s -30s
Dec - 23°..51' +1'.30"

				α	δ
a	6.7	HC	23841 23843	AR 12h.39m.55s.0	-24°.11'.39"
b	6.7	HC	23844 23845	AR 12.39.55.7	- 24°..02'..02"
	8½	HC	23856	AR 12..40..22.7	- 24..03..45

Parthenope	B.A.C. 6064 7
AR 17h..41m..04s	17h..47m..19s.7
Dec - 22°..00'..24"	-21°..55'..47"

For 6h..07m 17..41..02.7
- 22..00..26

	17..41..04	-22..00..24
cor ref &c	46	5..47
& Inst	17..41..50	21..54..37
Error 2557	10	338..05..23 ♃ should read
AR	17..42..00	

Use as AR without correction

Star follows Parthenope 6m..15s
Star is n of Parthenope 5'..37"

Per from ★ 13 in AR

21h..00m 53r.82 - dist obsd
54.36
54.46

1850 Nov 7th P.M.

Parthenope

~~21.. 02.. 46.2~~ 2

~~03.. 06.4~~

Parthenope with ✱ a 8.9$^{\text{m}}$

P is s.p. ✱ a dR 40$^{\text{s}}$

dδ 7'..30"

There can be no doubt that the object observed was really Parthenope as its motion was very sensible among the small stars near it

2557 Parthenope = ✱ 12th or less

21.. 05.. 40.5

06.. 00.0 40.5

at 21h Par. fol ✱ 15th 5 beats

21..25 " 12 "

Par	✱ a 8.9$^{\text{m}}$	
07.. 05.0	07 45.5	40.5
07.. 24.0 5?	08 05.5	41.5 40.5?
08 56.0	36.5	40.5
09.. 12.3	09 53.0	40.7

hly motion in R +5$^{\text{s}}$.1

Dec −.5.4

21..13
17..41
h = 3.32

Dec −22°

21..27
17..41
3 40

1

21..51
17 41
4..10

Par S of ✱ a

21.. 12.. 30
21.. 13.. 55
21.. 13.. 12

95.19
95.42
95.31

95.31
50.00
45.31
9.1
444.0
7'.24.0

7'.24".0
ref +3.1
cor motion +0.1
7..27.2 = dδ Parthenope S of ~~B.A.C.~~ ✱ a

Par	✱ a		✱ 7th B.A.C. 6064	
21.. 17.. 08.0	17..47.5	39.5	23 29.3	5.. 41.8
17.. 26.6	18.. 06.0	39.4	23.. 48.4	.. 42.4
21 25 16.3	25 55.3	39.0	31.. 37.8	5.. 42.5
25 35.2	26.. 13.9	38.7	56.4	42.5

118 234
21.. 14.. 48
8
21.. 14.. 40
15.. 06.. 06
6.. 08.. 34
1.. 00
M.S.T. 6.. 07.. 34

0$^{\text{m}}$.. 39.84
ref. +0.16
dR = 0.. 40.00
Par. prec ✱ a

5.. 42.30
cor ref −0.08

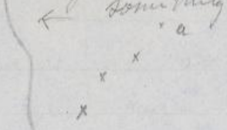
h =

✱ a prec. B.A.C. dR 5.. 42.22
✱ a n of .. dδ 2'.. 43".1

Nov 7th

40 21.0
40 38.0

From the uppermost (ap) of 4 or 5 stars of the 10th 11th mags. something like these ←



above a
1h 35m Pos 169° 00'
Dist 67.20
50.00

Cometary neb?

2559 fast 14h 43m 15 +0° 9 −33° 20'
W H 1 52 20 ref. 4
−33 24
0h 09m Æ 23h 50m 46s

*a 26.5 56.42 *a n of BAC
21 45 43.5

BAC 24.3 72.78
5 40.8 16.36

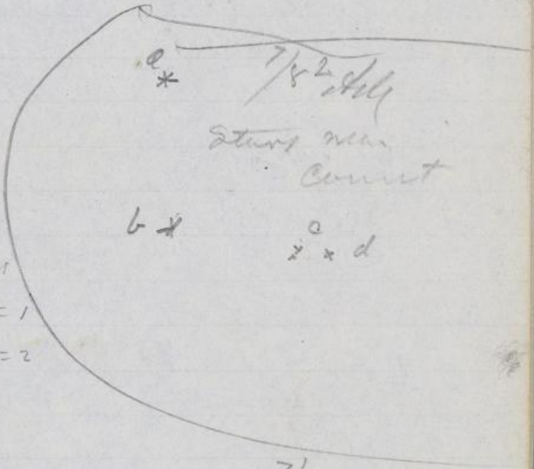
Term Obs not good
Stars ~~planet~~ too low

16.36
74
16.55

*a 21 53 58.8 59.23
3.3
162.2 = 2' 42".2

BAC 40.5 75.97 h =
16.74 By 2 obs

cor ref. + 3.5 alone
2 45.7 wt = 1
Nov 9th 1 obs 2 41.8 wt = 2
2 43.1



22 02 37
5 42
22 08 19

dÆ BAC 6064
Æ 17 47 19.73 −21° 55' 46".7
0.28 15' 5 42.22 2 49.1
2.7 *a Æ 17 41 37.51 −21 53 03.6 = Dec *a
1.4
4.1 dÆ 0 40.00 do 7 27.2
Parthenope Æ 17 40 57.51 Dec − 22 00 30.8

74
0.21
74
148
155.4

4.2
24
168
294
3.10

2.7
11.9 1.7
10.2
9.7 0.5

13
27
41
26
3.5

15
+7
+6
0.28
2.7
196
56
0.756

Nov. 7th 6h 07m 34s

21 50
17 41
4 09

Mr Runkles Eph O−C
Æ 17 41 03.12 + 5s.61
Dec − 22 00 23.2 + 7".6

836
45.7
3) 129.3
43.1

Parthenope's Æ 17h 40m 57s.51 } Mean Eq
Dec − 22° 00' 30".8 } Jan. 1st 1850
By 4 comp. in Æ and 2 in Dec with
a star of the 8th 9th determined from B.A.C. 6064

Comet of Aug. 29^d 1850 Nov 7/8th A.M.

Clouds obscure the Comet which is probably fainter than when last seen.

24)300(12.5
24
60
48
120

Hly mo in Dec −12".5

d = * 8^d fol of two *   Comet

2557   29 50.0   31.. 13.0   1.. 23.0
8.. 30.. 09.0   31 31.5   1.. 22.5   dα = 5'

8.. 32.. 36
12.. 41.. 47
4.. 09

32.. 18.5   33 41.2   22.7
36.5   33 59.5   1.. 23.0
8.. 32.. 36   112

alt   v

1.. 22.80   h = 4^h.. 09^m Dec −24°   2°.. 20'   41°
ref − 0.98   dδ 7'.2
1.. 21.82

Comet n of * d

* 8.. 36.. 36.0   93.80
~~36..03~~

Corrected for ref.

Diff R $1^m.. 21^s.82$ Comet fol. * d.
Diff. Dec 7'.. 28".1 " n of * d

* 8.. 38.. 03   94.. 23
8.. 37.. 20   94.. 01
1.. 23   50.. 00
8.. 38.. 43   44 01
−6.. 07   8.8
8.. 32.. 36   43 13 = 7'.. 11".3
2557 ~~fast~~ 09   cor. ref + 15.5   See page over
8.. 32.. 27   mo. in $-6^m.. 07^s$ + 1.3
15.. 06.. 06   7.. 28.1
17.. 26.. 21
2 51
17.. 23.. 30 = M.S.T.

HC 23844 & 23845 same star

+3.165   −19.74
sec. var + .0045   +02
2)3.1695   2)−19.72
$2^m.. 38^s.47$ = 158.47   986.0
−16'.. 26".0

$12^h.. 37^m.. 17^s.37$ −23°.. 45'.. 32".3
2.. 38.. 47   −16.. 26.0
b * 1850.0 R $12^h.. 39^m.. 55^s.84$ −24.. 01.. 58.3
d *   dR +0.. 26.84   dδ +3.. 21.2
* d R 1850.0 12.. 40.. 22.68   Dec −23.. 58.. 37.1
dR of fol. * d +1.. 21.82   n + 7.. 28.1
Comets R = $12^h.. 41^m.. 44^s.50$ Dec −23°.. 51'.. 09".0

Nov. 7th $17^h.. 23^m.. 30^s$ M.S.T.

Comets R $12^h.. 41^m.. 44^s.50$ } Mean Eq.
Dec −23°.. 51'.. 09".0 } Jan 1850

By 4 comp in R. & 2 in Dec. with H.C. 23844 & 23845 which are identical

There is no star in the place of Hist. Cel 23856.

8..48
12..40
3..52
0.75
3″

d n of b = 6th = HC 23844-5

b 8..45..16   70.25
d 45 46

~~46..34~~

Mean 70.19
50.00
20.19
40
197.9 = 3′..17.9   h = 3h..52m Dec − 24°
cor ref +3.3
3..21.2 * d n. of HC 23844-5

b 8.. 51.. 38   70.13
52 45

b

53	06.5	53, 33.8	27.3
	22.0-6	53 49.0-6	27.0
	14.0	41.0	27.0
	28.5	55.3	26.8
55	50.5	56.. 17.5	27.0
56.	04.8	32.0	27.2
58	22.0	48.8	26.8
	36.5	59.. 03.3	26.8

0m.. 26s.99   h = 3h..45m Dec − 24°
cor ref −0.15
0..26.84 d. follows H.C 23844-5

d R ead 13 & 4/5 beats

d Dec 55.86
55.76
55.81
d n of c 50.00
5.81
12
a * 5.69 = 0′..56″.9

a prec b 0s.7 corrected for ref

Refraction Nov 7/8th Obs 1850

h 4h..09m

Dec −23°..56' sin $\overset{3}{9}$.60818 cos 9.96095

φ 42..23 sin 9.82872 cos 9.86844 cos 9.86844

−0.27346 = m $\overset{n}{9}$.43690 n9.82939

cos h 9.66803 sin 9.94694

=9.49742

+ 0.31436 =

cos φ 0.04090 cos z

alt = 2°..21'

z corr 0.00037

z = 40°..52' z sin 9.81575 cos z 9.87866

cos δ 9.96095 1.5798

9.8548 1.4585

dr for dα = 10' = ~~38~~ 38"

2..21

ref 15

ap alt 2..36

dr 1.5798

27".2 = 1.4346

15) 27 (1.80

15

120

$\frac{3}{4}$ of 28'.7

72

574

2009

4) 20.66

52

15.5

For Dif Dec 10' cor dR = $\frac{3}{4}$ 1s.80

h 4h.09m Dec −23°..56'

72

360

1260

4) 1.296

32

0.98

$\frac{d\alpha}{d\delta}$ = 0.755

h 3..52 = 58°..00'

Dec −24..01 sin $\overset{n}{9}$.60960 9.96067

9.82872 9.86844 9.86844

−0.27436 = $\overset{n}{9}$.43832 9.82911

cos h 9.72421 h sin 9.92842

n 0.35753 n 9.55332 z corr 0.00150

0.08317

alt 4°..46' for h = 3h.52m $\frac{d\alpha}{d\delta}$ 766

10 − 17

ap alt 4..56 5362

766

13022

z = 38°..57' 9.79836

cos δ 9.96067

9.8377

13.0 1.1139

8.9 0.9516

15) 8.9 (.59 = 0s.59

75

140

59

13

171

59

17) 761 (45

68

81

dr for dα = 10' 17"

dr for dδ = 10 13".0

cor dR for dδ = 3'.3 = 0s.20

Dec .. 3".3

For h = ~~4~~ 3h.45m alt 5°..46' dr 13"

dr for dδ = 10' = 10" 7.6

$\frac{13}{17}$ 0s.59 dδ = 3'.3 2.5

~~dr for dR~~

App Alt 5..56

dr for dα = 10' = 17"

Nov 9th P.M.

Parthenope R $17^h 45^m 16^s$
Dec $-22° 04' 30''$

22.04.30
− 5.47
21.58.43
338.01.20

BAC 6064
$17^h 47^m 19^s.7$
$-21° 55' 47''$

Inst. R $17^h 46^m 06^s$ for Σ errors
Dec. 338° 01′ vernier II

BAC 6064

17.47.20
20.24
2.37

* a Star of Comp. with Parthenope Nov 7th

20.35.41
20.41.21
20.35.40
17.41.37
h = 2.54
Dec −21.53

33.53
50.00
1647
33
161.4 2.41.4
ref. +0.4
Dif. Dec 2′ 41″.8

* a n p B.A.C. 6064

Parthenope

* A s p BAC 6064

20.70
500
293
5
288

$2^m.03^s$
5
$1^m.58^s$

20.43
20.46
20.48
20.46
17 47
3 00

γ
20.72
20.67
~~20.57~~
20.65

20.65
5000
29 35
59
2876 = 4′.47″.6
ref = +1.1
4.48.7 *A s of BAC 6064

4.48
8.43
4 00
240″

45
1.1

$h = 3^h.00^m$ Dec −22

Ap BAC

10.8 beats
11.0
11.1
10.5
10.8
10.7
11.0
59
10.84

38.5

BAC 6064 17.47.19.73 −21.55.46.7
dR 0.05.47 4.48.7
Star A R. 17.47.14.26 Dec −22.00.35.4 *A

ref h = 3.10 Dec −22
$0^m.05^s.42$ + 0.05
*A prec. BAC $0^m.05^s.47$

21.04 43.0
05.01.0 05.22.0
23.07 03.0
07.27.5

Nov 9th P.M. Parthenope

24)117 (4".9 = hly motion
96
210

21..08 50.5 54.0
09 09.0

98
1.6
1.14

Mr Runkle's Ephemeris
266°..18'.31 −22°..04'.35".3
$17^h..45^m..14^s.07$

Parthenope ★ A

2557 21..~~06~~..36.0 08..41.8 2..05.8
06 53.9 09..00.5 06.6

21..14 43.5 16..49.0 2..05.5
15 ..01.5 ~~17~~..07.0 05.5
34
2..05.85 h 3..26 De −22°
ref. +0.08
$2^m..05^s.93$ Parthenope precedes ★ A
4'..09".4 " South of "

Parthenope s p ★ A ~~2557~~
~~21..19..35~~

21..22..50 24".58
21..26..15 24.73
21..24..32 24.65

For Star A see prec page

50.00
25 35 ★ R 17h..47m..14s.26 De −22..00..35.4
51 d.R 2..05.93 4..09.4
248.4 Par. R 17 45..08.33 De −22..04..44.8

21..06.6
06.9 De −22°
14.7 h 3..40 4'..08".4
15.0 ref + 2.1
21..10.48 14m av mo − 1.1
04 4'..09".4 = dD
21..10..44
15..13..59
5..56..45
0..58
5..55..47 M.S.T.

Mr Runkle's Eph. c−o
R 17..45..14.07 + 5s.74
De −22..04..35.3 + 9".5

Nov. 9th $5^h..55^m..47^s$ M.S.T.

Parthenope's R $17^h..45^m..08^s.33$ } Mean Eq
De −22°..04'..44".8 } Jan 1850

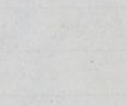
By 4 comp. in R & 2 in Dec with a star of the 8th mag. compared with BAC 6064

Nov $10^{th}/11^{th}$ 1850

			h m	
23..55..55		at $0^h..00^m$	0.20	$75^r.75$
0..29..44	$60^r.35$		0.33	75.60
23.26 11				

		7	6½	
$12^h..53^m..16^s$	*	12..47..19	12..53..32	Japetus?
−24..03		−24..08..24	−23..51..20	+

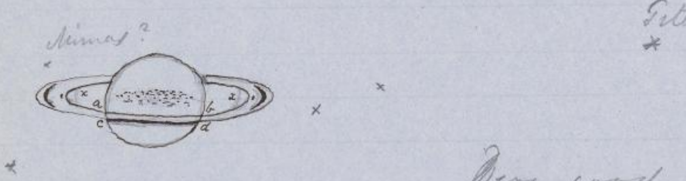
Found the Comet this morning without difficulty But there was no star within any reasonable distance of it.



$*7^t$ s.p Comet
9 .. 01 .. 06

Nov 11th P.M. 1850

2557 $22^h.50^m$



Very good definition we notice tonight with full certainty the filling up of light inside of the inner edge of the inner ring at x x x also what is very singular - where the ring croſses the ball from c to d or below the edge is a dark band no doubt the shaddow of the ring. but there is also a dark line from a to b or above the ring very plainly seen so that there can be no question of the line where the ring croſses the ball.

The light which fills the corners of the inner ring at x x x is suddenly terminated on the side towards the ball the light does not arise I think from any optical cause For I can not see why the same appearance should not be visible on the outside of the ring or indeed of any object which we look at

Am very confident of having seen to night a second division of the ring near the inner edge of the inner ring.

G.P.B.

Nov 13/14 Comet of Aug. 29th

H.C. 24443

☄ R 13.. 03.. 44 * R 13h.. 02m.. 14s

Dec −24.. 11 Dec −24°.. 13'.. 47"

+3s.222 +19".386

sec var + 004 − 036

3.226 19.35

161,30 967.5

* Comet n of *

2557 8.. 56.. 38.5 57 34.0 0m.. 55s.5 2m.. 41s.30 16'.. 07".5

57.. 01.7 57.. 56.5 54.8

8.. 59.. 48.5 00 45.0 56.5 Comet is getting almost

9 00.. 11.0 01.. 07.5 56.5 too faint to observe well

at the low altitude at which

9.. 02.. 16.0 03.. 12.8 56.8 it is seen – It is much

02 37.7 03. 34.7 57.0 fainter than on Oct 28th

8 .33.4 371

8h.. 59m.. 46s 0m.. 56s.18 Comet follows H.C. 24443

dR 56

9.. 00 .. 46 Cor ref +0.14

* 9.. 06.. 03 54".50 0.. 56.32

08.. 00 55,81

10.. 05 55.58 The Comet was observed at the same

12.. 55 55.17 alt with the other for dif. Dec by estima-

9.. 09.. 01 106 tion with the eye

dR 56 55,26

9.. 09.. 57 50 00

−

526

10

0'.. 51".6

9.. 18.. 11.0 Comet 0.0 cor ref Star is H.C. 24443

30.0 not visible 0'.. 51".6 Comet n of *

12h.. 59m.. 33s.32 −23°.. 57'.. 38".1

9.. 00.. 46 prec + 2.. 41.30 −16.. 07.5

2557 + 4 1850.0 * R 13 02.. 14.62 −24.. 13.. 45.6

9.. 00.. 42 dR +0.. 56.32 dδ +0.. 51.6

15.. 29.. 45 ☄ R 13h.. 03m.. 10s.94 δ −24°.. 12'.. 54".0

17 .. 30 .. 57

2 .. 52

17.. 28 .. 05

M.S.T.

Nov. 13th.. 17h.. 28m.. 05s M.S.T.

Comets R. 13h.. 03m.. 10s.94 } Mean Eq

" Dec −24°.. 12'.. 54".0 } Jan 1st 1850

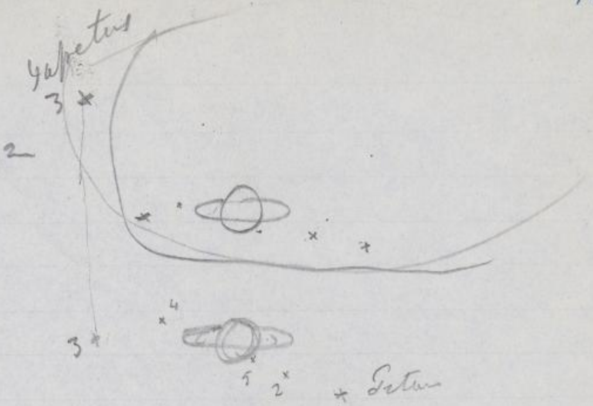
By 6 comp. in R and 4 in Dec with

H.C. 24443

Nov 15th 1850

See some observations made at this date placed accidentally after Sept 24th/25th

7h. 30m



The best definition of Saturn's ring we have ever had

old ring

8h RU

Nos 4 = 401

Examined with power of ~~500~~ seen better than with 140 I cannot be sure that the new ring is divided from (Saturn?) but there can be no doubt that it exists — it is perhaps better seen with 500 than with 140 Its inner edge is sharply defined I did once or twice fancy with the higher power that there was a division between the old & ~~new~~ rings.

All the ^whole^ Southern region of Saturn is dusky & striped with belts

On further examination we agree that the new ring is narrower than the outer ring say its inner edge is as far from the inner edge of the inner ring as $\frac{2}{3}$ of the breadth of the outer ring

I found in measuring the inner diameter of the old inner ring that there was difficulty in telling when its inner edge was covered by the wire

The new ring may be as bright — perhaps a little brighter — than the part of the moon illuminated by the Earth compared with its illuminated disc by the light of the Sun when the Moon is ~~four or fi~~ three or four days old

In crossing the ball the new dusky ring is an exceedingly narrow dark line — broader at the edges than in the centre

Nov 15th 1850

26.7
26
2.41
26.75
29.16

40.44
26.78
13.66
1.36
12.32
1.36
14.8
7.2

43.9
25.4 =

25.4) 43.9 (1.728
25 4
18 50
17 78
720
508
2120

26.8) 40.5

43.9
26.7

26.7) 43.9 (~~1.644~~
26 7
17 2
16 02
11 80
10 68
11 20

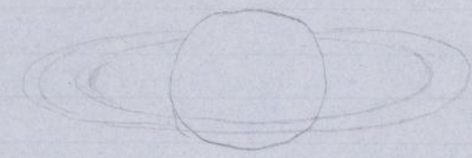
1,812

3) ~~4.5~~
15

43.90
25.40
18.50
26
2) 21.1
10.5

log ♄ mean dist 0.97965
♄ dist Nov 15 ~~0.98188~~
9.95218

43.9	1.64246
29.3	1.46687
39.32	= 1.59464
26.25	1.41905



No 4

Power (401)

Breadth of ~~outer~~ ring

	Zero
50.20	50.03
25	02
27	03
20	04
25	
.234	

Outer Diameter of rings
54.53
52
54.51
50.03
4.48
90
43.90

Inner diameter of old inner ring
53.02
02
53.02
50.03
29.96
29.38

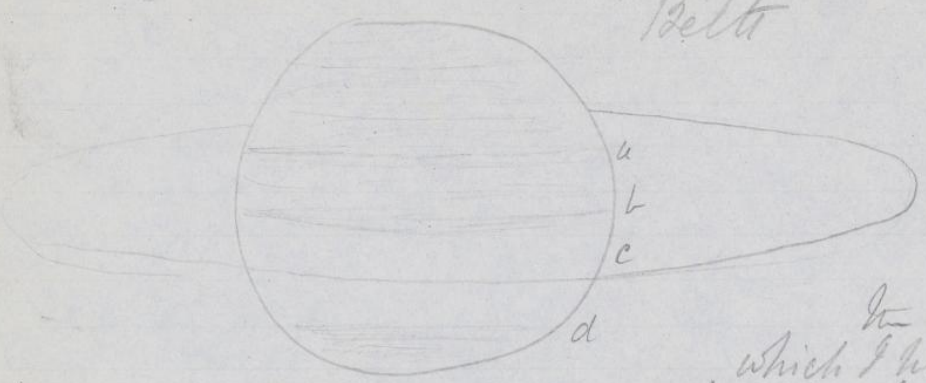
Eq. Diameter of Saturn
52.04
52.00

By obs	Nov 15th	♄ mean Dist. log 0.97965
Outer diameter of outer ring = ~~29.3~~	= 43.9	39.32
Inner " old inner ring =	= 29.3	26.25
Breadth of ring outer =	2.3	
~~Breadth of new ring~~ =		
Inner diameter of inner ring	26.3	23.3
Dist of its inner edge from old ring	1.5	

According to Encke's measures in Astr Nach No 338
The inner diameter of the inner ring should be at the above date about 29.8 - Whereas by the above measures we make the inner diameter of the new inner ring to be only ~~24~~ 26.3 By his measures our new ring's inner edge is within what he took for the inner edge of the inner ring ~~by more than 1/3 of the whole breadth of the two old rings~~

Polar Diam of Saturn

51.77

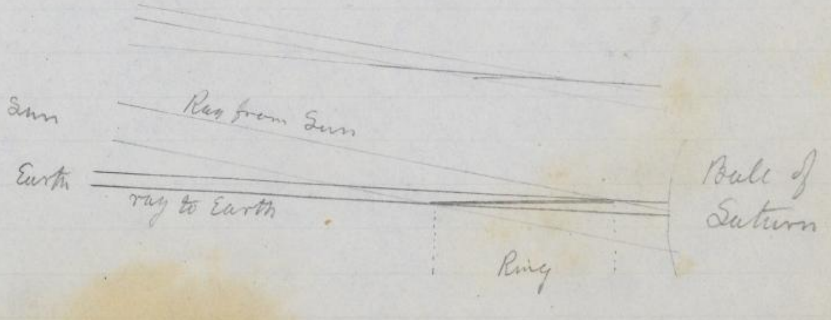


The upper or S region of Saturn is striped with several belts near the ring at c is a bright zone a & b are belts Near the poles the light has a bluish tint which I have often noticed At d is a belt below which the pole is shaded.

The evening of the 15th of Nov. was one of the finest for good definition which we have had since the Telescope was mounted. The wind ½ was S.E. and the sky partially obscured by cirrus gathering apparently for a storm.

Saturn was only about 8° or 10° East of the Moon but neither its light nor the thin clouds appeared to affect the vision. We had before seen an appearance on the inner edge of the ring which we could not account for. And besides this a very narrow dark line above the line where the ring crossed Saturn which was at first Oct. 10th mistaken for the shadow of the ring. This line above was seen at the same time with a much broader strip below which we also attributed to the shadow of the ring but on reflection it was manifest that it would not be possible in the positions occupied by the earth & Sun for us to see a shadow on each side of the ring where it crosses the ball, the angle of elevation of the earth above the plane of the ring is 10° - while that of the Sun is 12° - as will be evident from the lines drawn below

Besides which the Earth is now nearer Saturn than the Sun

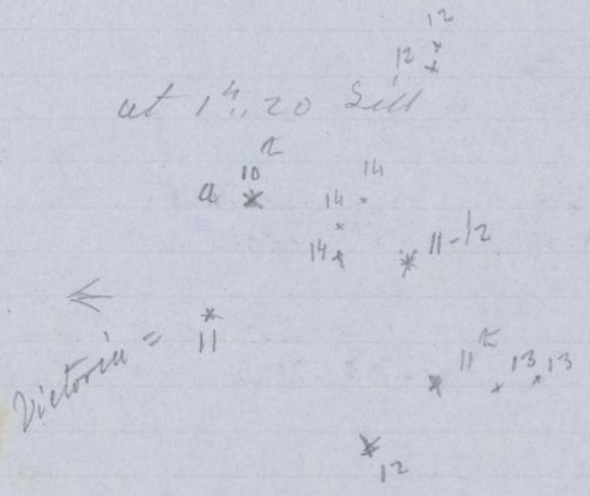


23h..57m a = 10½ b = 11.12 a n p b 15 beats

2 Piscium 23.32..14 +4°..49' - 1..10..30

Stars for Victoria

at 1h..20 Sid



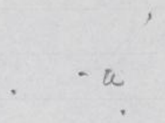
s 1' s of a

a 1..23..47
s 1..24..43.8
0.56.8

Star Dir
21.5–6 .39
1..19 .39:–6
..20 ..47–6
1..21 ..03.4–

2/52.4
26.2

* 15th prec ♈ by 0m..26s.2 at 0h..10m..



a star of obs.

obs. by J. Gibson

Nov. 25th * & Vict

Star	Vic	Star	Victoria	
24 . 16.8 6	26 24.2 07.4	14.5	1 53 23.	8.5
1..24..34.0 6	1..26..41.0 07.0	1..51..31.2	1..53..39.7	8.5
7..56	30 3.5 07.5	28.3	1 56 37.2	08.9
1..28..12.3	1..30..20.0 07.7	1..54..45.0	1..56..54.5	09.5 x
23.3	33 30.1 06.8	12.2	2 00 21.1	08.9
1..31..40.0	1..33..47.2 07.2	1..58..29.0	2..00..38.0	9.0
38.0	36 40.9 07.9	31.0	08 40.1	9.1
1..34..54.8	1..37..2.7 07.9	2..06..47.9	2..08..57.0	9.1
46.1	39 54 07.9	53.2	13 2.5	9.3
1..38..02.5	1..40..10.4 07.9	2..11..10.0	2..13..19.2	9.2
4.0	43 11.4 07.4	2.0	16 11.0	09.0
1..41..20.4	1..43..28.9 8.5	2..14..18.5	2..16..27.3	9.2
14.4	46 22.5 8.1		52 37.0 6	2..09.02
1..44..31.2	1 46..39.3 8.1			
23.7	49 32.5 8.8			
1..47..40.7	49..49.1 18.4			
	6 457			0

16)40(2 40 737 (2.015
32
16)32 23 (37 585

Mean 1..37.58.5 2..07.98
2..04..25.1 2..09.02
3..42..236 2..08.40

4..22 31
4..25 1

Mean 1..51..12

cor to 2..31..42

Diff Dec * North of Planet

2..24..32 — 17..92
2..28..25 — 17.77
2..31..45 — 17..62
2..34..50 — 17..82
2..39..00 — 17..86
4 32 5
2h 31m 42
399

Zero 50.05
.03
.06

17.80
50.05
3225
64
3161
5'..16.1
cor mv -1.8
5..14.3

Dif. Dec at 1h..51m

Monday Nov 25th

Star of Comp. for Victoria
* n s f i Piscium

Dec Eph +4°.. 43'.. 15"
R " 23.. 39.. 38

r
9.92
50.04

dR

Hly mo in Dec − 2".7

i Piscium   * of Comp

JG 2h .. 59 23.4   3.. 02.. 55.5   3.. 32.1 }
59.. 49.7   03.. 21.2   3.. 31.5 }

*of Comp v. faint

3 04 .. 35.3   08.. 07.3   3.. 32.0 }
05.. 01.3   33.0   3.. 31.7 }
3.. 31.82

3.. 15   9.95 about
50.00

Clouds prevented
good observations

9.92
50.04
4012
80
3932 = 6'.. 33".2

i Piscium, from Naut. Almanac

Ap. R	23.. 32.. 16.48	+4°.. 49'.. 06".9
dR	3.. 31.82	6.. 33.2
Ap. R *	23.. 35.. 48.30	Dec 4°. 42'.. 33".7
dR	2.. 08.40	5.. 14.3
Victoria R	23.. 37.. 56.70	Dec +4°.. 37'.. 19.4

J.G 1h.. 51m.. 12s   2m.. 08s.40   Victoria follows *   d Dec − 5.. 14
J.G fast 40   5'.. 14".3 −   " S of *
1.. 50.. 32
16.. 17.. 04
9.. 33.. 28
1.34
M.S.T. 9.. 31.. 54

Nov. 25th 9h.. 31m.. 54s
Victoria's Apparent R 23h.. 37m.. 56s.70
" Dec +4°.. 37'.. 19".4
By 28 comp. in R and 5 in Dec with a star of the 11th mag. which was compared with i Piscium

Orion trapezium below

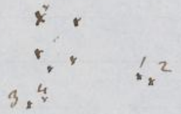
Dec 27th P.M.

Have looked at Saturn on almost every clear evg since Nov. 15th Almost without exception the air has been very unfit for observing - very often cloudy & when clear in great commotion - as is usual in Dec-

This evg - vision just not bad - see the new ring but not perfectly - both crossing the globe & at the ansae - A little less broad than the outer ring

11 P.M. The variable star in orion not visible It can not be so bright as either of the stars 1,2, 3 or 4

Vision hardly more than tolerably good



We never look at Saturn when the seeing is not worse than usual without recognizing the new ring - Though it would not be so much as suspected sometimes without a previous intimation of its existence

456

Jan 1st 1851 Times

Return $\frac{579}{19}$ of Faye's Comet

δ

333 – 1.. 32.. 44 H ☄ 2.. 58.. 40 – –4.. 36.. South

333 1.. 44.. 19.7 ☄ 3.. 10.. 16 4 36
1.. 49.. 23.8 3.. 15.. 19 4.. 36.04

1.. 57.. 32 3.. 23.. 26 4.. 35.40

* 10 Star enters .05 * ..44 50
15.4 Comet enters 14 07.. 52.5 09.. 59
37.5 Comet enters 34 ☄ 28.7 19 ☄
* 51 Star leaves of field 49.7 08.. 38.0 ☄ 34
2.. 04 01 comet 2.. 06.. 57 44.7

09.5 37 59.7 22
11 19.0 47 09.0 31
37.8 14.. 06.4 29.0 51.4
54. 21.8 44.2 06.3
12.. 04 31.7 16 54.7 17 17.

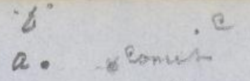
*	☄	*	☄		
10	15.4	05	14	50	59
51	01.0	49.7	57	34	44.7
2.. 03.. 30.5	764	547	71	84	1037
	2.. 03.. 38.4	2.. 06.. 27.35	06.. 35.5	42.0	21.85
	2.. 03.. 30.5	35.50		2.. 10.. 12.0	4200
	7.9	8.15		21.85	9.85
				9.85	

09.5	19.0
5410	640
63.5	830
31.75	41.50
4150	
9.75	
2h.. 11m.. 30s	

at 2h.. 07m Comet follows Star 8th
dR = 0m.. 08s.4 by mean of 4 comps.

Chro. N^{o} 333

333 $2^{m}..51^{s},5$ fast of 2557
2..17,5
40.0 333 fast



a 8th mag.
b 10-11
c - 15th

Star in the centre of the field.

* Enters Centre * leaves
2..18..42,4 2..19..04 2 19 29

40
2..18..24
3..45..04
22..33..20

* Readings of Circles

H $3^{h}..45^{m}..04^{s}$ D-

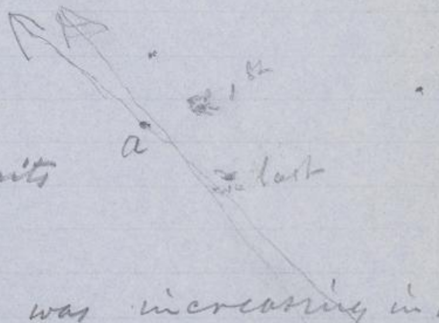
δ $4^{\circ}..31..44$

$1^{h}..32^{m}..44^{s}$ 1..57..32
333 fast 40 40
1..32..04 1..56..50
2..58..40 3..23..26
R 22..33..24 22..33..24
later -34
Dec $-4^{\circ}..36'..00$ 22..32..50
later -2 30
-4..38

1853 3.11
50 yrs prec in NPD $-15'..26''$ = $-926''$ 155 = $2^{m}..35^{s}$
25 " $-7..43$ $-463''$ 78 1..18

22..33..20 -4..40
2..35 15
1..18 7
1800 22..30..45 -4..55 for H.C.
1825 22..32..02 -4..47 for Weisse

Comet is a very faint object scarcely allowing of illumination even in the G. Ref. & not visible with finder or Seeker. Found by W.C.B. after about 20m search within the limits in the Nov. No of the Astr. Soc. Notices.
About as faint as Encke's Comet in Aug. 1848



Motion was increasing in R
" North in Dec
most in R about twice as fast in R as in Dec.

G.P.B. did not make his appearance till a late hour.

Thu 1st Return of Faye's Comet

Comet E E faint

Chro 333 beats $\frac{5}{12}$ seconds

Comet is S. f a star of the 8th 9th mag.

Chro 333 $2^h..38^m..50^s$ $58^s.44$
$2..41..15$ 57.69

31
5
$12)155(12.92$
12
35
24
11

29
5
$12)145(12$
12
25

$12)150(12.50$
12
30
24

comet S of * 9th

2,, 43 00.8 −5 beats
12,3

43,, 36.6 −5 beats
50.6 −10 = $43^m 48^s.52$ −5

0..14.0
2 09
11.91

2,, 44.. 31 beats Comet follows
45 31
46..15 29
47.00 30

There is a star of the 6th 7th mag. 20' North of the star of Comp. & nearly in its R.

Comet fol *
at $2^h..07^m$ diR $0^m..08^s.4$
2,, 45 12, 3
38 3, 9

2.. 50..30 42.73
51..30 42.52
54..45 42.21 } good
56..00 42.00 }

hly motion in R + $6^s.0$ increasing
" Dec + 45" to North

Lamont Z 29 No 1301 will be a good star to determine a from
Lamont R $22^h..30^m..52^s$
Dec −4..37..20

26 42
4..12.40

1850phae.prod..166

12) 50 (4.17
48
20
12
80

Dif. Dec

2.. 38.. 50
41.. 15
50.. 30
51.. 30
54.. 45
56.. 00
292.. 50
2.. 48.. 48

41.. 56 = 58.. 44
42.. 31
42.73
52
21
00
133
42.22
50.00
778
160
76.24

Comet S of ✱ 1′.. 16″.2

Bz 333

2.. 43.. 12
43.. 49
44.. 00
45.. 00
46 45
47 00
29.. 16
at 2.. 44.. 53
mo in 3.. 55
2.. 48.. 48
333 fast 0 40
2.. 48.. 08
18.. 42.. 56
8.. 05.. 12
1 19
M.S.T. 8.. 03.. 53

follows ✱

$0^{m}\,..\,11^{s}.50$
11.91
12.92
12.92
12.09
12.50
184
$0^{m}\,..\,12.31$
.39
0.. 12.70 d.R

Comet S of ✱a 1′.. 16″.2 6 obs
" fol. " $0^{m}\,..\,12^{s}.70$ 6 "

Star of comp. R $22^{h}\,..\,32^{m}\,..\,43^{s}$
Dec −4° 37′

Star for Jan 2nd 1851 P.h
8h 9h

Weisse H22 731 7th–8th mag

1825.0	22..33..02.90	−4..23..08.0	
prec	1..17.73	+7..46.3	
1850 AR	22..34..20.63	Dec −4..15..21.7	
	h m s	° ′ ″	
1800	22..31..45.36	−4..30..46.8	
	2..35.35	15..31.5	
1850 AR	22..34..20.71	−4..15..15.3	Hist. Cel 3 obs
	22..34..20.63	−4..15..21.7	Weisse 1 ..
* AR	22..34..20.66	−4..15..17.4	$= \frac{1}{3}(2H + 1B)$
prec 1 yr	3.11	18.7	
1851 AR	22..34..23.77	−4..14..58.7	= * 8h for Jan 2nd

.3109
77.73

18591
39
18630
prec 431.5
15′..31″.5

−18″.63
sec var −2
18.65
46.6.3
7′..46″.3

3.109
sec var −002
3107
155.35
2m..35s.35

44383–425

Also in Lamonts Zone
Z 29 No 1303

Clouded up.

Lam

~~Jan 3rd 1851~~

Comet ~~22..38..12~~ 4..00

Jan 4th

Star of comp = a for Jan 1st compared with
* 9th mag in Lamonts zone 29 No 1301

α s of a

L 2..48..46 x 2..51..14 2 * 9th same R n of α 1' & 4'

a 2..53..12 Star of Jan 1st

Do not recognise
Lamont

Dec -6..47..30 * 3rd mag, φ Aquarii

2557 2..57..28
W A 3..52..38

2..20

2..59..48

Int 23..07..10

Note added Jan 6th

The Lamont star must have been x which is the S most of the two bright stars which preceded a by 1m..58s about

φ Aq Int Dec -6..47..30 - ref R 23..07..10 - Ref
From Dec 6..51..00 R 23..06..36
cor -3..30 -34

The inst place of α will be
R 22h..31m..26s
Dec - 4°..34'

The Star of Comp is in the same Dec within 1'
& follows in R by 1m..58s

2..25..00
22..31..26
3 53..34

26..31..26
2..26..32
4 02..26

2..30..0
2 28
26..32..28
22..31..26
4 1

462

Very cold

1851 Jan 4th Pill Comet of Faye 1843 E. E. Faint.

Comet S of ✱ 8'

There is a ✱ of 9th mag
192" n of ✱ of comp
5s prec. it

2557 ~~2~~ 1 .. 53 .. 24
1 .. 55 .. 20 78.76

C ~~2~~ 1 .. 57 .. 08 78.58
✱ 1 59 .. 18
1 .. 55 .. 16

Comp ✱ Dec → 4° .. 07' Inter -3 .. 30

2557 2 .. 22 .. 42
Fr H 3 .. 43 .. 14
2557 + 2 20
2 .. 25 .. 02
3 .. 43 .. 14
Inst ~~22 .. 39 .. 48~~
2 .. 22 .. 42
2 20
2 . 25 02
3 .. 43 14
~~✱ R~~ 22 .. 41 .. 48
Inter -34
✱ R 22 .. 41 .. 14
Dec - 4 .. 10

Comet Star

P . 2 .. 01 .. 50.4 03 .. 54.5 2 .. 04.1
02 .. 09.5 04 .. 13.2 2 03.7

2 .. 05 .. 07.0 07 .. 11.0 2 .. 04.0
5 25.5 29.0 2 .. 03 .5
~~2 .. 03~~ 32 4
dR = 2 .. 03 .82
Comet prec ✱
Mean 2 .. 03 .. 38

P S of ✱

C 2 .. 09 .. 54 78.52
✱ 2 .. 11 , 59

C 2 .. 13 .. 40 77.81
✱ 15 .. 44 - 16 7
2 .. 11 47
1 .. 55 16
Mean for C 2 .. 03 .. 32 Mean 78.42
2 .. 20 50 00
2 .. 05 .. 52 28 42
16 .. 54 .. 47 57
= 278.5
7 .. 11 .. 05 dδ 4' .. 38".5
1 10 Comet S of ✱
M.S.T. 7 .. 09 .. 54

light of Comet granulated & not occupying but a very small space - elongated in direction of Sun when best seen.

3.104
7760
310
80.70

18.85
sec var 2
18.87
471.8
18.9
490.7 = 8'..10.7

1851 22..41..14 -4..10
1825 prec 1 18 8
1825 22 39..56 -4..18

Star is Weisse H 22 No 870

$22^h..39^m..57^s.24$ $-4^\circ..18'..33''.9$
1..20.70 8..10.7
1851 22 41..17.94 -4..10..23.2 Star of Comp 1851.0
dAR 2..03.82 dδ 4..38.5
AR 22..39..14.12 -4..15..01.7 = Dec

Faye's periodical Comet of 1843-

1851 Jan. $4^d..7^h..09^m..54^s$ Camb. m.s.t.
Comets AR $22^h..39^m..14^s.12$ } Mean Eq
Dec $-4^\circ..15'..01''.7$ } Jan 1 1851
From 4 comps in AR & 4 in Dec with a ✱ 8th 9th mag.

Tues Jan 7th night? 1851

o = outer or old

Ring of Saturn

Power 140

Diam Inn old ring 47.30
outer " 45.86

New ring beautifully seen almost if not quite up to the ball I am confident that there is a division a spot of the on the inner edge of the old inner ring

Zero
50.003
009
022
015
021
014
84
50.014

Power 500?

o d o r
45.92
45.89
45.905
50.014
4 109
82
40.27 = 1.60498
9.98992
39".35 = 1.59490

i d o r
46.44 −
46.31 +

inner edge inner old ring
i e i o r
47.22
47.24
47.28
47.30
47.23
47.254
50.014
2 760
55
27.05

Clouds ~~&~~ seeing has very much deteriorated

0.96960
0.97968
9.98992
27.05 1.43217
1.42209 = 26".43

Jan

Lamont *	S.p	Star of Comp	Jan.st
2.. 31..	41.8	2.. 33 .. 37.0	1.. 55.2
	53.8	49.6	55.8
34..	24.0	36 19.5	1 55.5
	36.1	31.6	55.5
			1.. 55.50

Moon close to the Comet

Star follows Lamont

2 S of *

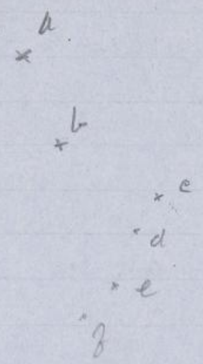
2.. 38.. 48 63.51

2.. 41.. 45 63.68

166

8^h 9^m * Weisse 0^h 635
0..36..34
Dec 6°..57'..02"

2..16..00
3
2..19
0..37
1 42



2..15..40
2 40
2.. 18 20
0.. 41 . 18
0 37..02

24

3
3
6

at 2^h..27^m

f from e 3^s.34 = 6.8 beats
e from d 1.9 = 3.5 "
d from c 2.7 = 5.3 "

6	7	7
3½	3	
3	3	4
5	6	5

Neik

7
4
5.5

24.5
24.0

2..42..57.

x from A

17.5

12.8
12.8

x is victoria

happening to be near a bright star I took it with scarcely a suspicion that it would prove to be the planet

Victoria follows Weisse $0^h\!.638$ = b

15.7 beats
15.6
2^h.. 57^m 16.0
16.0
15.8

~~58.. 15.5~~
Victoria — Weisse H 0 657 = A
2^h.. 58 54.0 — 3.. 00.. 00.0
59.. 06.5 — 00 11.8?

2.. 00.. 38.5 — 01.. 44.5
00.. 51.0 — 01.. 57.0

3^h.. 05^m.. 00 Victoria N of b

3.. 06.. 18 77.. 18 * b — * A −57.. 10 = 3.. 06.. 18 + 77.. 18 = — Vict N of A
08.. 48 ~~56.. 10 * A~~ 57.. 25 = 3.. 10.. 40 77.. 19 =
77.. 16 × b 57.. 41 3.. 14.. 20 77.. 42 =

10.. 10 77.. 19

Not the planet

See next page

Jan, 13^d Pole 1851

Victoria prec α is n of ✱ A Weisse 657

557 12.8 beats
12.8
$3^h 22^m 00^s$ 12.5
12.2
12.~~2~~
25
12.50
6.25

Moved 17.½ beats to 11.5

= $3^s.0$ during $\frac{3}{4}^h$

3.. 22.. 00
3.. 29.. 05
11 05
3.. 25.. 32
Motion in 1 12
3 26.. 44

6.25
5.79
04
$6^s.02$ d Æ
07
$0^m 05^s.95$

Vict n of ✱ a
3.. 26.. 05
26.. 45
27.. 22
1~~3~~2
3 26 44

$61^r.24$
61.25
61.31
61 27
50 60
11 27
22
$110''.5$

11.8 beats
11.5
3 29.05 11.5
11.4
11.7
29
11.58
5.79

1851
✱ Æ 0.. 37.. 5~~7~~.~~8~~0 Dec. $7^\circ 01' 42''.9$
0.. 05 95 1.. 50.5
Vict Æ 0.. 37.. 51.~~8~~5 7.. 03.. 33.4

3.. 26.. 44
2 40
3.. 29.. 24
19.. 30.. 1~~5~~
7 59.. 09
1 18
7 57.. 51

By Ephemeris

Æ $0^h 37^m 58^s$ dec $7^\circ 03' 42''$

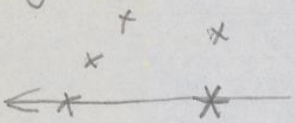
Victoria Jan $13^d 7^h 57^m 51^s$

Æ $0^h 37^m 51^s.85$ } dur Eq
Dec $7^\circ 03' 33''.5$ } 1851

Must be corrected for zero error
as it was ascertained subsequently
that some Visitors had been moving
the zero screw

1857
Jan, 23

Orion.



Jan 23rd PM 10^h
Looked at Orion fine seeing
Herschel star *not* visible

1833 Jan. 21st. First transmission of time to Boston by the Electric Telegraph

470

Jany. 23. Faye Dec. Star precedes comet.

Star 8 mag. Comet North of *

2557 - 3..20.15 — 93r..21 3,,46,,45 94r.90
3..24.30 — 93..10 48..30 95.04
3..26..25 — 93..00 50.10 95.00
52.10 94.64
4,,04.05 95.36
07 45 95.47

* Dif AR AR
31.8 59.0
49. 33 59.8

25.2 42.8 55
37.0 34,, 52.4

00.6 18.2
12.2 36,, 29.3

54.6 12.5
06.4 37,, 23.4

49.0 06.4
01.0 38 18.5

50. 07.0
02 39,, 20.2

52.4 10.5
04. 40,, 22.4

40 57
52 41 09.4

28 45.6
39.8 3,, 41.. 57.

Jany. 23° — Comet fainter than on 4th

Computed place of Comet
AR $23^h..19^m..30^s$
Dec − 1°..37'..24"

Star on fixed wire mid. field
$3^h..5^m..3..03$ AR 4..36..31
1°..35'..08" South

17.5

D of AR

*	☄
22.4	44
39.4	4..19..54.8
14.5	35.5
26.	14..47.9

Star of Comparison
Star mid of field

2557 - 4..16..22.4

AR 4..57..44
Dec 1°..34..28 S

Gwh. 12 year Cat. 21,22 - (18 Piscium), λ
Star of 4th mag. mid field. Weisse No
2557 — 4..27..06.8 AR 4..55..13 Dec 1°..01..28" North

Jan 23 23h 19 30 -1° 37' 24"
4 22 39 14 -4 15 01
40 16 2 37 37
2400
19) 2416 (127 19) 157.6 (7.13
19 133
51 24
38 19
136 56

26 55
23 21
3 34

Daily mo in R 127s = 2m 07s

" in Dec 7' 08" North

Jan 23 23 19 30 -1 37 24
2 07 7 08
23 21 37 -1 30 16

Place of Fayes Comet for Jan 24th 7 PM

R 23h 21m 37s
Dec -1° 30'

Could not be found

AR 23..23..44
Dec -1..23

3..09
27..09
23..23
3..46

R 23..37..57 − 0°..19′

23..47..06 − 0..43..36

27..26
23..38
..48
3..40

27..46
8
27..40
27..47
3..53

27..53
23..38
4..15

27..57
8
27 49
23..38
4 11

Jan ~~30~~ & 31st

Swift for Faye's Comet

Very Clear & cold Th +1°

We certainly set on its computed place as above—having corrected for the ref. & instrument by readings of a BAC star. It could not be distinguished from numbers of smaller

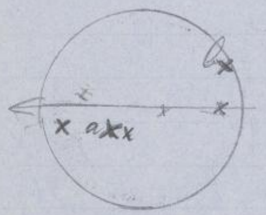
Feb 3 R ~~0 23..27~~ 23..45..07 +0°..12′

Weiss 61 - 7.9
23..41..47 +0°..14′.6

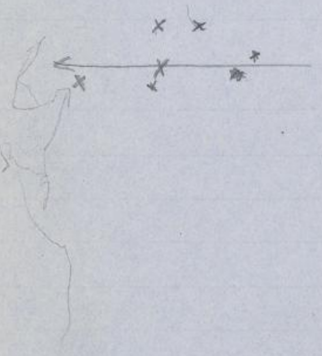
3.. 42
27.. 42
8
27 .. 34
23 41.. 47
3.. 52.. 13

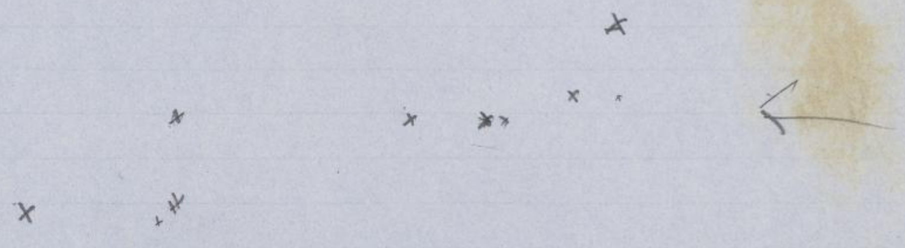
3.. 45
27 37
23 45 07
3. 51 53

Feb. 3 Pm.
H $2^{h}.5\overset{m}{0}..00$ $\delta + 9^{\circ}..19$
J. G. $4^{h}..02^{m}$



b is the brightest. a the next





Feb 3 Pm.
micro dist $35^{r}00$

10.2 21.4
29.7 40.2 32.0 43.4
51.6

55^m Dist 42..92 16. 26.6
38. 49.

55.4 06.3 15.8 26.2

36.0

17.2 28.5
39.8

08. 20
54. 05.2 31.
17. 27.2

Obs in AR

50.2 6..05..54. 06^m 06.2 1..10.8 1..10.8 –4 beats

7 04.8 7..17.0

~~47~~ 49
26.2 37.3 6..07..42.2 07^m..53 2..11.0 1..10.8
47.. 58.0 08..53.2 09..05.8
~~39.2~~

20.3 31.2
40. 51.0
~~45.2~~
10 16.5 10..29 1..10.7 1..11.0
27. 38.2 11..27.2 f.p. 40
47.2 00.2

12..45. 12..59.0 2..11.2 1..09.8
13..56.2 14..08.8

14 46.3 14..59.9 1..10.6 1..09.3
15 56.9 16..09.2

17..26. 17..37.6 1..09.4 1..11.4
35.4 18..49.0

19..35. 14..47.0 1..09.6 1..09.9
20..44.6 20..56.9

h
6..35 D of Decl
planet north of star * 9 mag
17r 11

6..37..20 16r.93
2)3404
17.02
49.97
32.95
9.8
263.60
2965.5
h m .60)3229.10
6..36..10 5' 22".9 = dif in Decl

1..10.8	6..07..04.8
1..10.8	7..17.0
1..11.0	08..53.2
1..10.8	09..05.8
1..10.7	11..27.2
1..11.0	11..40.0
1..11.2	13..58.2
1..09.8	14..08.8
1..10.6	15..56.9
1..09.3	16..09.2
1..09.4	18..35.4
1..11.4	18..49.0
1..09.6	20..44.6
1..09.9	20..56.9
1..10.45	194..44.0
	6..13..57.4

Feby 4th

EC — 3..55..0
IG — 3..55..10.1

Looked for Victoria — after searching for some considerable time found it — Had just found a comparison star, when it clouded up preventing any further observation

4„ 44„ 28.2 , 38.9

27.2 38.4
58.

25.. 35.
55.6

52.4

56 08.2
50 28. 50 37.9

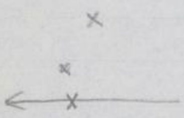
26.2 37.
58. 52„ 08

38.9 2 29.8
09

39. 4.9.8
10.2 54 21

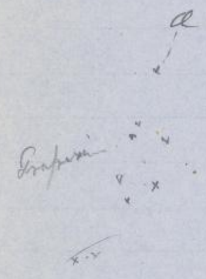
26.5 36.9
58.

50
249



Feb. 3rd

Looked at Orion very fine seeing
and the H star (variable) certainly not to be seen—
Though we easily see the Lassell stars α



Feb 6 Sm

Search for Victoria

00 10.4
4 55 45.2 55.7

4,,56,,32.2 43.0
57,,17.5 28.2

58,,01.5 11.8
58,,46.2 57.4

59,,32.5 44
5,,00 17.5 28.5

5,,03 05.2 15.4
50.2 01.0

06,,27.2 37.3
07,,12.2 23.2

5,,08,,06.2 17
51.2 02.2

09,,31.2 42.3
16.4 27.0

~~12,,26.5 37.4~~
13,,35.2 46.2
14,,20. 31.0

15,,35. 46.
16,,19.6 30.3

23.8 24.7
49.8 01.2
5,,24,,34.8 45.7

32.0 43.2
58. 09.0
43.2 26,,54.

5,,26,,39.0 50
27 05.0 16.2
,,50 ~~01.0~~

21.0 32.1
5,,31,,47.0 58.0
32.0 43.0

33.4 ~~0~~
34,,59.0 08.7
34,,43.9 55.0

13.4 24.5
5,,36,,39.0 50.
24.0 36,,34.8

30.8 —
57.0 39,,08
41.2 39,,52.4

13.4 25.0
39.0 43,,50.2
24.0 44,,35.2

31. 42.2
56.8 46,,08.
42.0 46,,53.0

~~42.3~~
27.0 38.
53.0 51,,03.7
5,,51,,38.0 51,,49.0

~~53~~
22. 32.3
6,,10 15.2 26.0

10,,54.8 05.0
37.9 12 00.0

46.8 56.7
39.0 13,,50.

6,,14,,16.9 27.2
15,,09. 20.7

06.2 17.2
59. 11.0

17,,35. 45.2
28.5 18 39.5

6,,19,,24 35.
17.4 20,,28

~~54.6~~
6,,21 12.4 23.2
05.0 22 16.3

Cannot find Victoria, — moon within four or five degrees of it — small stars faint

Feb. 17 Sm.

Dif. in Dec h m s

Vict 59 52 6,, 00,, 38.2
6,, 00 04.5 00 51.

6,, 36,, 17

97.r 07

21,3

6,, 10 54.7

6,, 39,, 27
96r 50

17.2 13,, 17
30.

6,, 42,, 12
97r 13

~~13.2~~ ~~59.~~
~~14,, 25.7~~ ~~15,, 12~~

Zero 49.r81
81
81

16,, 51.2 35.7
03.0 17,, 48.0

09 52.4
20,, 21 21, 05.2

---

x89 11.2 40
23.4 23,, 59.

39.2 02
25.3 25,, 14.7

15.1 27.2
27 26.2 27,, 49.2

19.7 42.0
32.0 54.0

482

Feb 18th 1851

Victoria —

* 4 57 55.3 4 54 27.8
52 7.1 4 54 14.6

* 57 33.0 59 40.4
4 57 44.7 4 59 52.1
wt

0 16.1 2 23.3
5 0 27.6 5 2 35.1

7.9: 15.1
5 3 19.2 5 5 26.8 *

21.5 28.7
5 6 33.2 5 8 40.5

~~41.9~~
5 25 ~~53.4~~

54.7 1.8
29 6.0 18.2

Dif in Dec. h
30.75 5, 45
30, 58 5, 55. 30

* 47.1 27.5 ?
33 59.9 34 39.0

7.2 47.5
35 18.8 35 59.2

25.0 5.7 40.7
36 36.4: 37 17.6 ?

47.2
00, 53 41, 3

13, 2 ~~13.1~~ 54 40.8
26, 9 55 03, 2 40.9

36, 18
5.0 56,, 30.2

01 41, 4
13, 3 55

14, 7 55, 2 40.5
28, 0 08, 2 402

44, 25
57, 6 13,, 39

04, 8 45 402
18, 14 58, 2 40, 2

14, 8
16,, ~~28, 2~~
20 00, 4
35, 4

Feb. 18 Sun.

* north of planet * precedes planet

Zero 57^r05 Dif in Dec

49	29,7	40,7
19,,02,4	19 49,0	406
41,4	22,3	409
20,,55,2	21,,35,3	40,1
* 23 42,3	Plan 36	53,7
* 23 56	24 50	1,,54
25 09,7	26 04,7	55.0
25,,23,0	26,17,0	1,,54,0
26 50,2	28 44,7	54 5
27 04,0	28 59,0	55
29 39,7	30 34	54.3
29 53,2	30,,48	54.8
31 12	32,,07,	55
31,,25,6	32,,21,	55.4
11.	34 05,2	54.2
33,,24,4	34,,19,7	1,,45.3
45,2	35,,40,2	55.0
34,,59,0	35,,54,0	1,,55,0
42 43,0	43,,39,	55.8
42,,57,0	43,,52,4	43,,55,4
43,		
6,,~~44,,56,~~		
44 49,	46,,44	55.0
6,,45,,02,1	46,,57,9	1,,55.2

h m
6,,52,,50
24^r23

6,,55,,00
25^r19

7,,00 30
24^r35

7,,00 30
7 03 40
3 70

7,03,,40
7,,02,05
− 2
7,,00 05

gird 24^r19

24^r52
57,05
26,53
9,8
21 2 24
23877
25 9.994

dif in δ = 4',,19".99

h m 49
H = 7,,06 56

A.C. 5,,32 48

Dec+11° 15'

s	24.36
	24,50
	26,04
1,,53.7	26,17
54.0	28,44
55.0	28,59
54.0	30,34
54.5	30,48
55,	32,07
54.3	32,21
54.8	34,05
55	34,19
55.4	35,40
54.2	35,54
55.3	43,39
55,	43,52
55.	46,44
55.8	46,57
55.4	
55.0	
55.2	6,,33 21
1,,54.8 = dif. in	

184

Feb. 18/19 Am
E.C. 17..42..00
f.G. 17..49..37.5

Reduction of observation of Victoria Feb. 18 Pm

Not the star of comp ☞ Weisse Hora I No 569

h m s
7..06..05
1..22.2
6..58..42.8 dif in δ = 4' 19".44

6..33..14
1..22.00
6..31 52.00
1.7
6..31..51.30 dif in R

m s
1..54.8
00.0
1..54.8
motion 27m in R = +2.1
R 6..58..42.80 = 56.9

ann prec. = 3.171
sec ras. = 1001
3.172
26
19022
6344
82462
1..22.46

prec. = 18.50
sec. vm = 1023
18.523
26
111.138
37046
481.598
8..01.59

* R 1..31..03.37
1..22.46
1..32..25.83 * R

* Dec + 10..59..23.1
8..01.59
* Dec 11..07..24.69

Sid. Time
At 6h..31m..51s dR = Planet follows *

Planet South of *

At 6..58..43
h 5h..00m
Dec +11..05

dR = 56s.59
cor ref -0.02
dR 56s.57

d Dec 4'..20".0
cor ref +0.5
dδ 4'..20".5

h 5h..27m
Dec + 11°..05'

h m s
R 1..32..25.83
00..56.57
⚘ R 1..33..22.30

Dec + 11..07..24.69
4..20.5
⚘ δ + 11..03..04.19

6..58..42.8
24..
30..58..42.8
21..52 11.23
9..06..31.57
1..29.53
M.S.T. of ob. 9h..05m..02s.04

Feb. 19 Pom.

E. C. 4„35„00
J. G. 4„35„40.4

4„48
1„32
3„16

~~58„35~~,2
00„01.4
58
30
32

Dif in R between comp star
compar * north

Dec 27°04
48,25 34
48.59 = Dif in R
57„51 33°
6„52„24

Dif in R

~~5„17„56.2~~ 18„07
~~07.~~

*	5„21 11	21„21.7	2„30.2
p	23„41.2	23„52.3	2„30,6
	24„15.0	24„26,1	2„31,1
	26„26.1	26„57.	2„30.9
	27„42	27„53	2„31.2
	30„13.2	30 24	2„31.0
	5„31„03.2	31„14.1	2„31,9
	33„34.32	33„45.3	2„31.2
	5„34„35.2	34„46.3	2„31,8
	37„07.	37„17.5	2„31.2
	5„38„04,8	38„15.2	2„31 6
	40 36.2	40„47.3	2„32,1
	5„41„15.2	41„26.1	2„32.2
	43„47,4	43 58.3	2„32 2

18,6
2„31.33 = Mean

h m s
6„52„50
H 5„16

Zero 49.r95

planet follows *
and is north of star

Dif Dec

~~5„49.30~~
~~33.r23~~
6„01.30
33.r53
~~6„06 00~~
~~33.19~~
6„10„10
33.49
6„13.50
33.r63
6„44„00
32-39
132.95
33.r37

6„01.30
6„10.10
6„13.50
6„41.00
68.90
6„17.45

6„21„30.2	22„012	2„34.8
24„25.	24„35.3	2„34.8
27„30.2	27„40.3	2„35.0
29„05.2	29„16 2	2„35.9

Reduction of observation of Victoria Feb. 19 Pm.

for observation see preceding page

5 23.. 41.2
23.. 32.3 — 33.47 rate f.G.
26.. 46.1 — 49.55 Zero
26.. 57 — 16.48
30.. 19.2 — 9.8
30.. 24. — 131.84
33.. 34.5 — 14832
33.. 45.3 — 161.504
37.. 07. — 2′.. 41″.50
37.. 17.5 motion ind 43 — 13. 10
40.. 36.2 — 2′.. 28″.. 40
40.. 47.3
43.. 47.4
5.. 43.. 58.3
5.. 34.. 29.8 Mean
−1.7
5.. 34.. 28.1
1.. 27.6 clock fast
5.. 33.. 00.5 diff in R 2.m 31.s 33
" " δ 2.. 28.40

dR 2.. 31.. 33
cor. for ref. 0 .00
2.. 31.33

dδ 2.. 28.40
cor for ref. 0.00
2.. 28.40

5.. 33.. 00.5
24
29.. 33.. 00.5
21.. 56.. 07.78
8.. 36.. 52.72
1.. 24.68
8.. 35.. 28. 04 M. S. T.

21.. 55.. 21.04
46.74
21.. 56 07 78

Wiesse Hora I No. 569
R 1.. 31.. 03.37
1.. 22.46 reduction
* R 1.. 32.. 25 83

Dec + 10.. 59.. 23.1
8.. 01.59 reduction
* δ = + 11.. 07.. 24.69
dδ + 2.. 28.40
Dec. + 11.. 09.. 53. 09

1.. 32.. 25.83
dR 2.. 31. 33
R 1.. 34.. 57 16

Stars R = 1.h 34.m 04.s } By the
Dec +11°. 12′ } Ephem.

Wiesse No. 569 is found not to be the star of comp. The place of star of comp. has been determined from B.A.C. — 490 (See following Equatorial Book)

Feb. 22

Zero 50.01 5.17
2
5..15
1..32
3..43

EC 4..42..00
J.Cy. 4..43..58.3

Diff in AR of comparison ✱s

32.2 28 06
5..27..43. 28..16.1

371 104
29..47.4 30 21.1

03. 361
5..31..12.3 31..46.1

30.5 04.2
5..32..40.2 5..33..14.0

h m 17.5
6.. 30.. 32.0 comp ✱

H $4^h..54^m$
Dec $11^\circ..14'$

Diff in Dec
26r70
27.r00
26r85
26r99
4)107.34
26.83
50.01
23.18
9.8
18544
20862
227.164
3'..47".16

✱ 53.5 48..09. 1..11.7
6..49..05.2 6..49..20.2 1..11.2

~~59.5~~

16.2 50..32.1 1..11.5
27.8 51..434 1..11.3

27.3 52..43.0 1..12.7
6..53..40. 53..54.8 1..11.8

29.2 56..44.8
39.9

6..58..31.4 58..45.8 1..0.9
42.3 56.8 1..1.0

19.0 01..33.5 1..11.0
6..02..30. 02..45.7 1..11.8

6..03..16.1 6..03..29.8 1..09.7
04 25.8 04..41.2 1..11.4

~~08..54.7~~ 6..~~09..08.7~~
~~09.3~~ ~~21.~~
01.2 6..11..14.0 59.8
55. 12..10. 56.0

1
33.8
33.1
33.3
33.7
33.1
33.8
33.7
33.8
8)268.3
33.54

13..35.4 6..13..50.2 56.0
31.4 6..14..46.2 50.0

15..36. 15..50
30.6 6..16..46.0

Hora I No. 509
AR $1^h..29^m..49^s$
Dec + $11^\circ..13'..14''$
to be compared with comp. ✱

h m 5.2
7.. 27.. 06.4
H 5..44..30 + $11^\circ..35'$

6..23..25.2 6..23..40 55.8
21.0 24..36 56

Feb. 25

Dif in dec of Stars of comp

$72^{r}.97$
72.70

	06.2	03..40
	03..21.2	03 55
	38.8	05..01.3
	6..04..44.	05..19.2

Feb. 26th

c is star of comparison with Victoria on Feb. 18 and 19

c $\mathcal{R} = 1^{h}..34^{m}..04^{s}.96$

364 Santini 1 0 32 +9° 6'.3 6
71 Santini 1 7 55 +8° 59.3 7
Lal 2222.2223 1. ~~7 80~~ +8 56.9 8. = Weisse I-108

Weisse I-129 1h 9m 56s +9° 30'.8 obs 1 mag 9. = Lal 2329
172 1 11 35 +9 15.7 2 9

Hosal-904 1h..18m..24s.10 +9°..45'..44",5

454 BAC 1h 23m 47s +10° 6'.7 = Madras 489
490 29 43 +11 18.7
Weisse I. 382 1 22 27 +10 19.2 = Lal 2738 ?
440 25 32 +10 12.9
33 1 10 32.1
1..36..4 +10..58.1
38 42 11 40.1
740 41 14 11 38.8
744 41 21 11 51.0
Lal 764 42 34 11 16.5

Weisse I 884 1 49 46 +12 42.5 = Feb 26.27.28
943 52 46 39.3 Mar 2.3
973

Weiss 817

Ephemeris of Victoria

Greenwich mean midnight

			H.M H.M		lg. Δ
Jan 30	R 1h 4m 0s	8° 52'.4			
Feb 1	1h 7m 9s	9° 6'.0	R 3s.9	Dec 17"	0.4017
3	1h 10m 20s	9° 19'.8			
5	1h 13m 33s	9° 33'.8	4s.0	18"	0.4112
7	1h 16m 47s	9° 47'.9			
9	1h 20m 2s	10° 2'.1	4s.1	18"	0.4204
11	1h 23m 18s	10° 16'.4			
13	1h 26m 35s	10° 30'.7	4s.1	18"	0.4292
15	1h 29m 53s	10° 45'.1			
17	1h 33m 11s	10° 59'.6	4s.1	18"	0.4377
19	1h 36m 30s	11° 14'.1			
21	1h 39m 50s	11° 28'.7	4s.2	18"	0.4459
23	1h 43m 12s	11° 43'.2			
25	1h 46m 34s	11° 57'.7	4s.2	18"	0.45[illegible]
27	1h 49m 58s	12° 12'.2			
Mar 1	1h 53m 23s	12° [illegible]	4s.3	18"	0.4613
May 3	1h 56m 58s	12 [illegible]			
5					
7					
9					
11					

$\frac{21'.8}{48}$ 60

Ephemeris of Tayes Comet. Greenwich midnight.

		R	H.M	Decl.	H.M	Δ
Jan	31	R $23^h\ 37^m\ 57^s$		Decl. $-0°\ 19'.4$		
Feb.	1	$40^m\ 19^s$	$5^s.5$	$9'.1$	27"	2.383
	2	$42^m\ 43^s$		$+0°\ 1'.4$		
	3	$45^m\ 7^s$		$11'.9$	26"	
	4	$47^m\ 31^s$	$6^s.0$	$22'.5$	26"	2.396
	5	$49^m\ 55^s$		$33'.4$		
	6	$52^m\ 20^s$		$43'.9$		
	7	$54^m\ 47^s$	$6^s.2$	$54'.9$	27".	2.406

Weisse XXIII 861 – 7.8 mg
$23^h\ 41^m\ 47^s$ +0 14.6

Victoria at Greenwich mean midnight

	R.A. h	m	s	H.M	Declin. °	′		H.M	lg. Δ
Jan 1	0	20	39		5°	59.0	N		
2		22	03	3s.5	6°	03′.8		+12″	
3		23	27			08′.8			
4		24	57			13′.9			
5		26	16	3s.6		19′.1		+13″	
6		27	42			24′.4			
7		29	7			29′.9			
8		30	33	3s.6		35′.3		+14″	
9		32	00			40′.8			
10		33	28			46′.4			
11		34	57	3s.7		52′.0		+14″	
12		36	26			57′.7			
13		37	55		7°	03′.5			
14		39	23	3s.7		09′.4		+15″	
15		40	52			15′.4			

From my Elements in ——
From obs Sept 13 Oct 15 Nov 25
J. H. S.