

T = March 29^d.25384 Berlin M.T.

$\pi = 115^{\circ} 48' 37''$
 $\Omega = 101^{\circ} 53' 7''$ } App. Eq. March 20.0

$i = 29^{\circ} 45' 0''$

$\phi = 53^{\circ} 17' 0''$

Log a = 0.494912

Ephemeris for Berlin Midnight.

1857.	R.A.	N.P.D.	1857.	R.A.	N.P.D.
	^h ^m ^s	^o [']		^h ^m ^s	^o [']
May 1	6 3 8	30 43.8	May 17	9 47 14	28 48.0
2	15 12	29 56.9	18	59 30	29 25.1
3	27 51	29 14.3	19	10 11 11	30 5.7
4	41 3	28 36.2	20	22 16	30 49.4
5	6 54 45	28 3.3	21	32 46	31 36.1
6	7 8 53	27 35.5	22	42 42	32 25.1
7	23 24	27 13.3	23	10 52 5	33 16.4
8	38 13	26 56.9	24	11 0 58	34 9.4
9	7 53 13	26 46.6	25	9 21	35 3.8
10	8 8 17	26 42.2	26	17 14	35 59.3
11	23 18	26 43.6	27	24 40	36 56.0
12	38 10	26 50.8	28	31 40	37 53.5
13	8 52 48	27 4.0	29	38 18	38 51.6
14	9 7 4	27 22.6	30	44 35	39 50.1
15	20 57	27 46.2	31	50 33	40 48.6
16	9 34 22	28 14.9	June 1	11 56 14	41 46.8

Relative brightness, that at the time of discovery being taken for unity:—

April 6 ...	1.70	May 12 ...	1.01
18 ...	1.72	24 ...	0.70
30 ...	1.45	June 1 ...	0.50

From Letters of Captain Jacob to Mr. Grant.

“Feb. 13.—I have got a very good epoch for α Centauri for the beginning of this year, namely—

Year.	\angle	δ
1857.039	316.96	3.977

being the mean result of 15 days' observations. This is as close an accordance as could be expected with the predicted place as

given in page 124 of the *Monthly Notice* for March 1856, and indicates a path even more *convex* toward the centre than is there indicated. I have had some very fine views of *Saturn* lately; and I have been pretty assiduously observing the satellites (especially elongations of *Titan*) to try if I can improve the value of *Saturn's* mass: and I have numerous observations of *all* the other satellites except *Hyperion*, which I have not yet picked up. I have even six undoubted observations of *Mimas*. It was picked up quite accidentally, for I never thought of looking for it after reading Herschel's Cape experience, and after the difficulty I had myself found with *Enceladus*; but I took it once in the first instance by mistake for *Enceladus*, and afterwards picked it up without difficulty; indeed on a first-rate night, such as we get but rarely even here, it appears rather the brighter of the two. Such a night was the 21st January, when I got measures of *Enceladus* close to *Saturn's* pole, and when I saw the whole of the shaded portion of *Saturn's* southern hemisphere divided into minute belts almost as distinct as those of *Jupiter*, but almost infinitely more numerous. I can fully confirm the opinion expressed by Mr. John Watson in the *Monthly Notice* for April last as to the nature of the mark on the outer ring, viz., that it is not a *division*, but a mere belt or streak: it is not at all difficult to see here, indeed I cannot look at *Saturn*, when the atmosphere is at all fit for observing, without seeing it, even with powers as low as 170; it appears as a pale streak, about one-third or rather more of the width of the principal division, and not quite so dark in hue as the obscure ring as seen on the planet's face. But further, it is *my* opinion that the principal *division*, so called, is of the same character, viz., a belt or mark, and not a clear space or division; for I not only see it of a brown hue, but *can distinctly make out the shadow of the planet across it*, as already mentioned at page 126 of the *M. Not.* for March 1856. On the 1st January, when the planet was almost exactly in opposition, the projecting *ears* alluded to in the same page were seen one on each side, crossing the division, though no other part of the planet's shadow on the ring was visible."

"Feb. 28.—I have nearly completed my measures of the satellites for this season, and they ought to give a good value of the planet's mass, as I have good distance-measures of *Titan* at 10 elongations (5 E and 5 W); and also a large number of pretty good measures, both in angle and distance, of all the five *old* satellites, on which it may perhaps be possible to build a *theory*, and to approximate at least to the mass of the ring. As I have not access to Bessel's Observations, I do not know how far he may have anticipated me in these respects; but there will be no harm done even if my results should merely come in as corroborative of his."

Observatory, Madras.
