TOTAL ECLIPSE OF THE MOON, 24TH MAY, 1891.

OBSERVED AT LAUNCESTON; LAT. S. 41DEG. 26MIN. 01SEC.; LONG. E. 9HRS. 48MIN. 31SEC.

BY A. B. BIGGS.

The computed times for this eclipse (disregarding the penumbra) were:—

	hrs.	min.	
First contact with shadow ...	2	29·8	A.M
Beginning of total phase ...	3	38·2	,,
End of ,, ,, ...	4	57·2	,,
Last contact with shadow ...	6	5·6	,,

(All local mean time.)

Unfortunately, although I had made arrangements for watching all through the duration of the eclipse, my hopes were doomed to disappointment in regard to a satisfactory view of the event. On turning out I found the whole sky overcast with clouds, the moon just peeping out now and then between the thick clouds, but always veiled more or less with haze. So transient were the views that it was some time before I could adjust the telescope to focus. Having missed the first contact with shadow, I hoped to get the beginning of total phase, but it was not until 4hrs. 0min., or $2\frac{1}{2}$min. after totality had commenced, that I could get a view. There was at this time, however, a bright rim on the eastern edge of the moon, apparently scarcely obscured, the moon appearing through the thin clouds like the young crescent. Again at 4hrs. 40min., or $17\frac{1}{2}$min. before the end of totality, the crescent showed itself through the haze, but shifted to the other or preceding edge. At no time during totality was the darkness at all comparable with that of a cloudy, moonless night. It was evident that even in the midst of the cone of the earth's shadow some considerable amount of the sun's light reached the moon's surface. This, of course, can only be accounted for by the refraction of the earth's atmosphere.

The moon sank out of view behind the hills with the penumbral shade conspicuous upon her western rim.

The principal points which I set out to observe, namely, the actual moments of contact, the progress of the edge of the shadow over known points of the moon's surface, the tint, the amount of darkening, etc., were almost wholly missed. No definite estimate could be made as to the tint,

veiled as the moon's face was more or less all through, but no trace of coppery tint was observable, only a dark, slaty gray.

(I have since learned that in other localities favoured with a clear sky the coppery tint was conspicuous. I can only account for my missing it by its being disguised by the persistent haze.)

The following extract from *Knowledge* of 5th June, 1885, may be of some interest by way of comparison with the foregoing notes. After referring to my report of the almost total eclipse of the moon on 30th March preceding, as given in the *Launceston Examiner*, which is quoted, the editor remarks :—

"The points of interest to be noted are the opacity and slaty tint of the earth's shadow, utterly obliterating all detail on that part of the moon's surface which it covered, and the entire absence of that copper-colour which had become so familiar to observers as to be regarded by them as almost the normal hue of the earth's shadow. Now it is noteworthy that this red tint was conspicuous by its absence on the occasion of the eclipse of the moon on October 4 last, whence it would seem that the terrestrial atmospheric conditions then existing must still persist."

I was favoured by a clear sky on that occasion.