

ASTRONOMICAL PHENOMENA, 1890.

ECLIPSES OF THE SUN AND MOON.

There will be two Eclipses of the SUN and two of the MOON this year; one of each being visible in this Island.

I.—*An annular Eclipse of the SUN, January 22nd, Invisible in Newfoundland, and visible only in the Southern Hemisphere. It will begin on the Earth generally at 24 minutes past six o'clock in the evening of the 22nd, in long. 99 deg. 58 min. E., and lat. 49 deg. 20 min. S.; and end twenty-nine minutes past eleven in long. 133 deg. 30 min. W., and lat. 15 deg. 8 min. S., mean time at St. John's.*

II.—*A partial Eclipse of the MOON, Feb. 6, Visible in Newfoundland. The first contact with the dark Shadow will take place at 31 minutes past 9 P.M., near the middle of the Moon's Eastern limb; greatest darkness at 58 minutes past 10; last contact with Shadow 25 minutes past 12 (midnight); duration 2 hours and 54 minutes; magnitude of the Eclipse eight-tenths of the Moon's disc; total continuance, including Penumbra, 4 hours and 57 minutes.*

N.B.—The foregoing is given in *mean time*; watches regulated by apparent, or dial, time, will therefore shew a disagreement of over 14 minutes. See the Equation for Feb. 6, in the succeeding pages.

More fully as follows:—

	h. m.	
First contact with Penumbra	8 30e.	}
First contact with Shadow	9 31e.	
Middle of Eclipse	10 58e.	
Last contact with Shadow (7th)	0 25m.	
Last contact with Penumbra (7th)	1 27m.	
Magnitude of Eclipse (Moon's diameter=1)	0. 809	Mean time, St. John's.

The first contact with the Shadow occurs at 79 deg. from the Northernmost point of the Moon's limb towards the East.

III.—*A total Eclipse of the SUN, July 18th, Visible (as a partial one) in Newfoundland; increasing in magnitude Northwards to Nain, on the coast of Labrador. At St. John's the obscuration will involve the greater portion of the Sun's disc, which will assume the form of a half-moon, or crescent, presenting one of the most striking phenomena observed here for many years. As the Eclipse will happen in the forenoon, and continue more or less till near mid-day, the ob-*

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