

# PROGRESS

With which is Incorporated

## THE SCIENTIFIC NEW ZEALANDER.

Devoted to the Interests of Industry, Architecture, Science, Engineering, Inventions, and Aerial Matters.  
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## Progress

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## EDITORIAL COMMENT.

### Eclipse of the Sun.

In the present year there will be two eclipses of the sun and two penumbral eclipses of the moon. Of these the only one in which New Zealand can take a practical interest is the total eclipse of the sun on April 28 next. It will not be total in the Dominion, however, though totality will take place in New Zealand territory, as we shall presently take occasion to discuss. The magnitude of the partiality in Wellington will be .611. To those living within the area of totality the occasion is always regarded as offering the rare opportunity of witnessing what is generally admitted to be the most imposing of all celestial phenomena. The sight will not be so grand in New Zealand, it stands to reason. Still there will be enough of interest to repay the observer with camera or telescope or even with naked eye if he sets about his work properly.

The scientific reference to the coming phenomenon is: "Invisible at Greenwich. The line of central eclipse begins its course in South-east Australia, where a partial eclipse will be visible soon after sunrise. It traverses the Pacific ocean in a north-easterly direction, crossing the Equator at 154° longitude west of Greenwich, and ends its course in the ocean in latitude about 11° north and west of Central America. In its course across the ocean the path of totality passes through groups of islands from some of which it will be

possible to see the eclipse. The most suitable of these is Vavau, in the Tonga and Friendly Islands; long. 174° west, latitude 18° S., where an observing station will be found fairly close to the central line. Other accessible spots are Nassau Island and Danger Island, Log 166° West, lat. 11° S., approximately. Central eclipse begins generally April 28d. 8h. 46min. in long. 148° 33 east of Greenwich, lat. 36° 48 S., and ends April 28d., 12h. 9m. in long. 90° West, lat. 11° 5 N."

None of the other phenomena mentioned above will be visible in any part of New Zealand or the annexed islands.

The last total eclipse visible in the Dominion was seen in the year 1885, and was very completely and successfully observed locally, as the records attest. For the present occasion the Philosophical Society projected an expedition to Nassau or Danger Island. They were to get a ship of the Royal Navy to take them, Greenwich Observatory was to lend them instruments, and the New Zealand Government was expected to do the rest. But when the matter was brought to the notice of Cabinet it was decided not to be worth while, as others were doing the work quite well.

Now this is a hasty conclusion. It is the custom of all civilised communities to take part in these observations. For the simple reason that it is only during the precious moments of a total eclipse of the sun that certain phenomena of the highest importance for the advancement of our knowledge of the sun can be seen and recorded. For this purpose many great expeditions went out from Europe and America to observe the eclipses of the last sixty years, which involved extensive preparations, long journeys to distant lands, great expenditure of time, energy, money, and often hardship, as well as risk of life. Vavau, of the Friendly Islands, is the place selected for the observation by the Australian expedition, which is now ready to start. Nassau and Danger Islands are some nine hundred miles away to the north, and within the territory of the Dominion, as it was enlarged by the proclamation read by Lord Ranfurly at Auckland before the Duke of York on his landing at Auckland from the Ophir. In case of cloudy weather at Vavau the observations at these islands would be invaluable. The status, moreover, of the Dominion requires an independent course to prevent the world from criticising us as given over entirely to the meaner aspect of affairs. The Dominion has, however, come to the time of national life when it is expected to do its

share of the work of the international comity. We trust, therefore, that the decision of the Government may be reconsidered in this matter.

For the private observer, of course, there is not so much that he can do that will be of use by observing here, for he will have only a partial eclipse to observe. Last year, when there was a total eclipse of the sun visible from Hobart and Brunni Island, the tourist association of Tasmania undertook to look after the amateurs, giving them practical instructions for observing, and very useful their work proved, even though the observers with camera, telescope and naked eye were for the most part but poorly equipped with astronomical training. We have no tourist association here, but we have the Tourist Department, which could do the same office for the amateurs of the Dominion who are quite likely to take interest in the partial eclipse of April if properly encouraged. We commend the matter to the Government and to the Astronomical Society, which ought to supply the initiative.

## ASTRONOMY.

### A New Star.

(From "Times" Astronomical Correspondent.)

The close of the year 1910 has been marked by the apparition of a "Nova," or new star, in Right Ascension 22<sup>h</sup> 32<sup>m</sup>, North Declination 52° 15', a position which lies on the boundary line between Lacerta and Cepheus, and in the middle of the Milky Way.

The discoverer of the new body is the Rev. T. H. Espin, of Wolsingham Observatory, Tow Law, Durham; he is a Fellow of the Royal Astronomical Society, well known for the diligent watch that he keeps on the stellar heavens.

It is generally agreed that the outbreak of Novae, of which this discovery furnishes an example, denotes a collision of some kind in the heavens, but there is a difference of opinion as to what objects collide. It may be one nebula or meteor swarm coming into collision with another, or a star with either of these, or lastly one star with another. It is a curious reflection that the actual outburst, of which the news is now reaching us, occurred not less than three centuries ago, and quite possibly three thousand years ago; at least this is the estimate of the distance of the Milky Way given by Professor Newcomb and other authorities.