

reduced. The second Melbourne general catalogue, containing the meridian results from 1871 to 1884 inclusive, thus incorporating the whole of the results obtained with the old transit-circle up to the date of its disuse, is in process of formation. An alteration has been made in the photo-heliograph, so as to secure a picture of 8 inches diameter instead of 4 inches, as formerly. There have been several interruptions to the continuity of the sun-photographs during the year, owing to derangement of the instrument and dome, and only 130 pictures were obtained up to June 11, when the instrument was dismantled for repairs. The sixth volume of the results of astronomical observations for the years 1876 to 1880 inclusive, was published in February 1885, and has been distributed. The first part of the observations with the great Melbourne telescope (NATURE, vol. xxxiii. p. 538), from its erection in 1869 to the present date, has also been published during the year to which this Report refers.

ASTRONOMICAL PHENOMENA FOR THE WEEK 1886 JUNE 20-26

(FOR the reckoning of time the civil day, commencing at Greenwich mean midnight, counting the hours on to 24, is here employed.)

At Greenwich on June 20

Sun rises, 3h. 44m.; souths, 12h. 1m. 14' 5s.; sets, 20h. 18m.; decl. on meridian, 23° 27' N.: Sidereal Time at Sunset, 14h. 14m.

Moon (four days after Full) rises, 22h. 7m.*; souths, 2h. 49m.; sets, 7h. 36m.; decl. on meridian, 15° 34' S.

Planet	Rises h. m.	Souths h. m.	Sets h. m.	Decl. on meridian
Mercury ...	4 17	12 45	21 13	24 57 N.
Venus ...	1 50	9 14	16 38	15 14 N.
Mars ...	11 28	17 45	0 2*	2 41 N.
Jupiter...	11 40	17 56	0 12*	2 19 N.
Saturn...	4 40	12 50	21 0	22 37 N.

* Indicates that the rising is that of the preceding evening and the setting that of the following morning.

Occultations of Stars by the Moon (visible at Greenwich)

June	Star	Mag.	Disap.	Reap.	Corresponding angles from vertex to right for inverted image
			h. m.	h. m.	
21 ...	B.A.C. 7487	6½	0 36	1 55	89 25 8
24 ...	24 Piscium	6½	0 43	1 47	87 24 1

June 21 ... Sun at greatest declination north; longest day in northern latitudes.

Variable Stars

Star	R.A. h. m.	Decl.	June 24,	h. m.
U Cephei ...	0 52.2	81 16 N.	June 24,	1 14 m
R Virginis ...	12 32.7	7 37 N.	„	25, m
W Virginis ...	13 20.2	2 47 S.	„	26, 2 20 M
δ Libræ ...	14 54.9	8 4 S.	„	26, 23 32 m
U Coronæ ...	15 13.6	32 4 N.	„	20, 20 41 m
U Ophiuchi...	17 10.8	1 20 N.	„	21, 2 14 m
and at intervals of 20 8				
X Sagittarii...	17 40.4	27 47 S.	June 26,	2 0 M
U Sagittarii...	18 25.2	19 12 S.	„	22, 3 0 M
β Lyræ...	18 45.9	33 14 N.	„	26, 21 30 M
η Aquilæ ...	19 46.7	0 43 N.	„	23, 22 0 m
T Delphini ...	20 40.1	15 59 N.	„	23, M
δ Cephei ...	22 24.9	57 50 N.	„	22, 2 30 m
R Pegasi ...	23 0.9	9 56 N.	„	25, M

M signifies maximum; m minimum.

GEOGRAPHICAL NOTES

THE paper on the aborigines of Formosa, by Mr. G. Taylor, in the *China Review*, to which we have already adverted, is continued in the last number (vol. xiv. No. 4), and as it progresses it contains more and more information, especially with regard to the number of different tribes and their various customs, which is wholly new, either in European publications or in those of the Far East. The number last noticed concluded with the

Paiwans, the tribe with which the Dutch came in contact in the seventeenth century, during their temporary occupation of part of Formosa, and of which therefore we had the most information. The present instalment deals with several other tribes, including one very peculiar and hitherto unknown people, the Caviangans, who are comparatively few in number, inhabiting lofty mountains, and having many superstitions with regard to hills and the spirits which inhabit them. We have also an account of the Tipuns, the most powerful tribe in southern Formosa, inhabiting the great plain inland from the headland marked Double Peak on the charts of the east coast. These have a tradition that they came from some other country hundreds of years ago, but they appear now to differ little from their neighbours the Paiwans. But there is one very radical distinction, viz., that when a man marries he enters his wife's family, whereas amongst the Paiwans the reverse is the case. Amongst them tattooing is a mark of rank, and is strictly prohibited to the commonalty. Another tribe described is the Amias. The Chinese class these as aborigines, but the true aboriginal tribes look on them as foreigners. They have a curious tradition of their origin, but the aborigines have the more prosaic one of shipwreck, and it appears that the Amias do not consider themselves entitled to equal social rank with the other savages. In appearance and customs they differ much from their neighbours, and worship one Supreme Being, not a multitude of spirits. They believe in an after state, dependent on personal conduct in this life, and they have a sort of purgatory amongst their beliefs. They have a vague notion of lands and peoples where communication is carried on by means of other than oral speech. This, says Mr. Taylor, is the only trace in South Formosa of any original idea of writing. Their explanations of certain natural phenomena, such as thunder and lightning, sunset and sunrise, are curious. Earthquakes they believe to be caused by a pig scratching itself against an iron bar stuck into the earth. This paper leaves on the mind, even more strongly than its predecessor, the impression that in the future Formosa will offer ethnological problems as interesting and complicated as any equal area on the earth's surface. It is clear, too, that all the divisions of the inhabitants of the island hitherto given by writers, whether Chinese or Europeans, are wholly incorrect and unscientific. There are wider differences amongst the tribes, and a far greater number of different tribes, than has ever been supposed. Moreover, it is obvious that in the present state of our knowledge of the tribes, it would be idle to theorise about them. Mr. Taylor, dealing only with a very small section in the south of the island, has described six or seven tribes; amongst these we find some calling themselves aborigines, and looking down as strangers and new-comers on others who have been generally supposed to be aborigines. In view of the wild and inaccessible nature of a large part of the eastern half of Formosa, and of the danger of entering it on account of the chronic state of war which exists between the natives and their Chinese masters, it must be a long time before a clear or trustworthy ethnological account of Formosa can be written. It is quite possible that some of the largest ethnological problems of the Far East may be involved in Formosa; the knot may, perhaps, lie there. Meantime, Mr. Taylor deserves thanks for his careful and interesting collection of new facts which are vital to the discussion of Formosan ethnology.

A REPORT addressed by Col. Fontana, the Governor of Chubut, to the President of the Argentine Republic, gives details of the exploration of Chubut up to the Andes lately made by the Governor. The Expedition, consisting of thirty men, left Raiwon, the chief town of Chubut territory, on October 14, and returned on February 8, having traversed about 1000 leagues in four months. It first followed the tortuous course of the Rio Chubut to its source in the Cordilleras, about the 42nd degree south latitude, the northern limit of Chubut, and then, crossing well-watered and fertile prairies and enormous forests, reached the 46th parallel. It discovered three passages into Chili, and laid down accurately the courses of several rivers heretofore fixed by guess-work. Col. Fontana believes he was the first to quench his thirst in the spring from which the River Senger takes its rise: he has removed the doubts which existed respecting Lakes Colne and Musters, and verified their positions; and he has determined the geographical position of the spots at which the Senger and Chico debouch into the lake. He promises in a short time to have completed maps which will correct many errors concerning the hydrography and orography of this region.