

EXHIBITS AT THE INDIAN AND COLONIAL EXHIBITION OF LONDON, 1886.

With the view of disseminating information regarding the geography of New Zealand, the settlement and occupation of its lands, the location of its population, its commerce and resources, the following maps and diagrams were prepared and shipped early in January last by s.s. "Ruapehu" for London, in charge of the Exhibition Commissioner, Dr. (now Sir Julius) von Haast: Large physical map of New Zealand, mounted on rollers, 14ft. by 10ft., on the polyconic projection, to a scale of eight miles to an inch, showing clearly the river-systems, plains, mountains, coast-lines, and other natural features; map of same dimensions as physical map, showing land-tenure, also, by diagrams, the increase and changes from year to year in population and social statistics, in pastoral and agricultural products, in yield of gold, coal, and minerals, in trade and commerce; map of district around Auckland, showing the number and position of the old volcanic cones; two maps, one of each Island, showing density of population; two maps, sheets Nos. 2 and 3, Provincial District of Auckland; map of Provincial Districts of Hawke's Bay, Taranaki, and Wellington; map of Provincial Districts of Nelson, Marlborough, and parts of Canterbury and Westland; map of Otago, and map of Southland; plan of West Coast and Waimate Plains settlement, Taranaki; set of photo-lithographed plans, showing survey-districts, blocks, runs, and Crown lands sales plans; set of prints of New Zealand flora (twenty-two different varieties); nine views of New Zealand settlement-landscapes, mounted and framed; one volume of New Zealand Survey Reports, 1880 to 1885, with preface.

ECLIPSE OF THE SUN.

This phenomenon, which, although by no means infrequent, yet happens so very rarely to be visible at any one place on the earth's surface except at very long intervals, was seen from a narrow belt of New Zealand on the morning of 9th September, 1885. Apart from the rarity and weird splendour of the spectacle of the bright luminary of day going out, and darkness sweeping over the face of the earth, the interest which attaches to the phenomenon is the brief opportunity it gives for the study of the corona or aureole of light which is seen to encompass the sun when the moon has fairly hid his face from us. There have been many theories as to the cause of this appearance, such as that it has no more connection with the sun than has the halo round the lamp on a dark night in a foggy atmosphere. The more generally-accepted theory, however, according to Professor C. A. Young, is that the corona is an emanation or part of the sun—an atmosphere of incandescent gases—and, therefore, that in finding out its nature a step is made towards the elucidation of the nature of the sun itself. Unfortunately, there were no observations by the spectroscope, for want of suitable instruments. There were, however, numerous observers of the form and appearance of the corona. In order to be in a position to observe it as long as possible—not quite two minutes—a station was selected on Otahoua Hill, near Masterton, about sixty miles north-east of Wellington, and very near the central line of eclipse. The latitude of the trigonometrical station on Otahoua Hill is $40^{\circ} 58' 33.6''$ S.; longitude, $175^{\circ} 46' 10.6''$ E. of Greenwich; altitude of summit, 1,155ft. above sea-level. From this point of observation, well raised above the surrounding country, there was the hope of observing through a clear atmosphere; but, unfortunately, the weather was very bad—dense masses of cloud, driven before a cold southerly gale, obscured the sun to within a few minutes of totality. Just then, a clear patch of sky enabled the near approach of totality, its completion, and duration for rather more than a minute to be distinctly seen, when clouds again intervened. The instant of totality, in New Zealand mean time, was, according to Mr. C. W. Adams, 7h. 34m. 50.8s. New Zealand mean time is to the meridian $172^{\circ} 30'$ East, or 11h. 30m. in advance of Greenwich. The corona was of a vivid, soft-white brightness, very similar to the appearance of the electric light, easy and pleasant to the eye; in shape an annular ring; in breadth about one-fourth of the diameter of the sun, perceptibly broader on the line of motion of the moon over the sun. The observers at Otahoua were Mr. Arthur Beverly, of Dunedin, Mr. Thomas Humphries, Mr. C. W. Adams, and myself. On account of our cloudy sky, none of us saw the greater extension of the corona which was visible at Wellington in the clear sky prevailing there at the time. Several officers of the Survey Department sketched the corona from various positions in and around the city, and wrote down descriptions on the spot and before consultation with others. Mr. Barron has made an abstract of these reports, which is in the appendix along with the reports of Messrs. Beverly, Humphries, and Captain Hewitt. There are also the photographs by Messrs. Barron, Humphries, and Gell, and the sketches by