

principle, the instrument used being a survey theodolite with 12-in.-diameter circles, with the telescope 19 in. in focal length and 1·8 in. aperture. With this instrument observations were obtained on eight evenings and one morning.

Radio time signals were received from Nauen, Malabar, Honolulu, Bordeaux, Annapolis, Saigon : and in most cases these signals were received by the method of automatic coincidences. The reduction of the work is in hand.

Auroras.

During the calendar year 1926 the following auroras were observed :—

- January 3—Aurora observed from Rotorua.
- January 30—Aurora australis observed from Hamilton.
- February 19—Aurora australis observed from Dunedin.
- February 25—Aurora australis observed from Christchurch.
- April 15—Aurora australis observed generally from Wellington, Staveley, Christchurch, Greymouth, Gore, Foxton, Bluff, Ashburton, Auckland.
- October 16—Aurora australis observed at Christchurch.
- October 25—Auroral display at Lyttelton.
- November 5—Aurora australis observed at Dannevirke.

Occultations.

In response to a request from Professor E. W. Brown, F.R.S., for more observations of occultations, the following New Zealand observatories have expressed their willingness to make the necessary observations: Christchurch, Dunedin, Hawera, Nelson, New Plymouth, Wanganui, Wellington. Accurate time signals are sent out from the Dominion Observatory on two evenings a week, and it will be necessary to supply additional time signals to obtain the required accuracy in these observations. In addition to the ordinary occultation observations, a photographic method is in use at the Wellington Observatory by means of which the moon and surrounding stars are photographed on the same plate and the time of the exposure on the moon is recorded on the chronograph. In this way six plates were obtained with the 9 in. telescope.

Mutual Eclipses of Jupiter's Satellites.

Through the courtesy of the British Astronomical Association, predictions of the mutual eclipses of Jupiter's satellites were forwarded to this Observatory, with the result that on two occasions—3rd July and 21st September—two of these eclipses were observed.

Precision Pendulum.

The precision pendulum made by Mr. E. C. Isaac, Wellington, was installed at the Observatory in November. The pendulum is supplied in a metal cylinder, and this will be exhausted to a fairly low vacuum. Electric impulse dials to be used with the pendulum are now on order.

Interferometer.

A research grant from the New Zealand Institute is available for the construction of an interferometer to be used on the 9 in. telescope. An officer of the Public Works Department has been engaged on the plans and specifications of an interferometer, and the four mirrors have been made at the Mount Wilson Observatory, California, and are now in Wellington.

SEISMOLOGY.

The Observatory has three seismographs in use—one Milne and two Milne-Shaws. These are all horizontal component machines, and with them very excellent records are obtained. The records from the twin-boom Milne seismograph at Suva, Fiji, are sent to this Observatory for working up, and are very valuable in supplementing the records obtained at Wellington.

The number of earthquakes recorded on the Milne machine (east-west component) was 116 ; on the Milne-Shaw (north-south component), 137 ; and on the Milne-Shaw (east-west component) 120 earthquakes were recorded. Particulars of the numbers of earthquakes registered on the three machines are given in the following table :—

1926.	Machine Milne.	Machine Milne-Shaw (N.-S.).	Machine Milne-Shaw (E.-W.).	Remarks.
January ..	8	10	9	One lost on E.-W. through excessive tilting. Excessive tilting accounts for eight losses on E.-W.
February ..	7	9	4	
March ..	12	15	12	
April ..	9	9	9	One very small shock not traceable on E.-W. Stopping of drum accounts for six losses on E.-W. One lost through defective shutter action.
May ..	2	5	4	
June ..	10	12	6	
July ..	8	8	7	
August ..	13	13	13	
September ..	10	13	13	
October ..	22	24	24	
November ..	6	8	8	
December ..	9	11	11	