

These observations were made with the mural circle, and are corrected for refraction and instrumental errors, the former by Dr. Young's table.

IV. Observations of the Magnitude, Colour, and Brightness of Stars in the Southern Hemisphere. By James Dunlop, Esq., Astronomer at Paramatta.

This paper contains determinations by Mr. Dunlop of the size or apparent diameter of the disc of several stars, by means of the double-image eye-piece. A scale of magnitudes being thus obtained, he has viewed and carefully noted the appearance of about 400 southern stars, specifying the character of each under the heads of magnitude, lustre, and colour. Individual comparisons between neighbouring stars are frequently given, which will enable observers to discover any changes that may hereafter occur.

V. Observations of several Meridian Transits of the Moon. By the Rev. M. Ward.

These observations were made with a view of calling the attention of astronomers to the question whether meridian transits of the moon, in the present improved state of the *Nautical Almanac*, might not give the longitude in time with a precision not greatly inferior to other methods.

VI. Observations of Occultations and Eclipses made in the year 1832, at Biggleswade, with the Wollaston Telescope. By T. Maclear, Esq.

On the power of the telescope Mr. Maclear remarks, "power 130 seems to be the best for observing the eclipses of *Jupiter's* satellites. At immersion, even the first satellite is first seen as a very fine point, and sometimes with the second satellite 40 seconds elapse before it is visible to another observer with a 30-inch telescope."

VII. Description of a small Observatory erected at Biggleswade. By T. Maclear, Esq.

The Memoirs will contain the full description of Mr. Maclear's observatory. As the detailed explanation would be of little service, unaccompanied by the designs, we can here only state, that it consists of a transit-room, and of one with a revolving dome for the telescope. The clock in the former is supported, independently of the case, by stone brackets, projecting from a stone pillar. The telescope-room is built of wood, of an octagonal form, and the dome is hemispherical, the opening extending from the zenith to the horizon, with a sliding shutter easily opening in whole or in part, so that the dew can be kept off the object-glass. The telescope is supported on a solid oak plank, of 18 inches diameter, three feet in the ground and five out of it. This answers as well as brick-work; and Mr. Maclear has not found the slightest tremor