ASTRONOMICAL MEMORANDA.

THE CORDOBA OBSERVATORY.

In the fall of 1870, Dr. B. A. Gould, formerly director of the Dudley Observatory, Albany, arrived in Cordoba, for the purpose of establishing a National Argentine Observatory, and making the requisite observations for forming a complete catalogue of the principal fixed stars of the southern hemisphere. A long delay of about two years, in the receipt of the instrument necessary to make these observations, has been the cause of giving to the world the *Uranometria Argentina*, a work analagous to the Uranometry of Argelander, which rendered such signal service to astronomy more than forty years ago.

Cordoba is situated about five hundred miles northwest of Buenos Ayres, the Observatory occupying a height upon the outskirts of the town, in latitude 31° 25′ 15.″4 south ; longtitude 0h., 5im., 27s., east from Washington. The equipment of the Observatory consists of a 12.5 inch equatorial (object glass by Fitz) used mainly for observing comets, etc.; a smaller equatorial of about 8 inches aperture, devoted to observations of variable stars ; a Zöllner photometer ; and various accessory instruments. But the most important instrument is a Repsolds' Meridian Circle of about 8 inches aperture, which was mounted and ready for use in September, 1872. With this instrument observations of zones from 23° south, to 80° south declination—760 zones embracing 106,000 observations—have been completed, and the reductions have been well advanced. To determine absolute positions of all stars included in this catalogue, the instrumental constants were determined before and after each zone by a series of observations "consisting of transits of two standard time stars, as well as of one circumpolar star above, and one below the pole, together with measurements of nadir, collimation and level."

Dr. Gould has established, though necessarily on a limited scale, a Signal Service which will doubtless develop rapidly, when meteorology receives more attention in South America than it does at present. Meanwhile data of inestimable value are being collected at very slight expense, by interesting many of the intelligent land owners, in making such observations of the barometer, thermometer, etc., as may be made with little outlay of time and trouble. A Time Signal is sent at noon once a week, over the available telegraph lines of the country.

A force of four observers and several copyists, mostly Americans, is engaged upon the work in the various departments, and Dr. Gould has taken with him, within the past few months, a photographer, in order to obtain exact representations of several very interesting star clusters, which can be compared directly with the appearance of the cluster at any future time, and thus afford a means of detecting any changes which may occur in the relative positions of the component stars.

It is to be hoped that the political party now in power, —under whose auspices these institutions have originated and have been maintained—will retain its influence in the government, and thus be enabled to promote the interests of science in the country.

DISCOVERY OF A NEW ASTEROID.

The Smithsonian Institution has received from Professor Foerster, of Berlin, the announcement of the discovery, by Palisa, of a planet of the tenth magnitude, in eleven hours thirty-nine minutes Right Ascension, eight degrees twenty-five minutes north declination, with a daily motion of one minute, north. This discovery brings the total number of asteroids up to two hundred and twenty, making the eighth discovered since February 6, 1880. The date of discovery is omitted.

In a paper recently read before the Royal Astronomical Society, Mr. Stone has called attention to "some difficulties connected with the determination of the diameter of Mars." Upon examining the Greenwich observations of the diameter, since 1851, very marked personal equations have been noticed in the different observers, discrepancies which seem somewhat difficult to account for. Mr. Stone says, "it looks as if there were two different diameters of Mars observed,—one when Mars is comparatively near to us, and the other when it is at its greatest distance from us. The result is that as far as one can trace it, there is a distinct break of continuity between the smaller and the larger measures ; as if the observers had included the planet's atmosphere when Mars is distant."

Sweden has decided to take part in the international meteorological and magnetic observations in the Polar regions, and will establish two observatories, one at Masselbay in Spitzbergen, and one at Haparanda at the head of the Gulf of Boothia. Haparanda is to be well supplied with self-registering and printing meteorological apparatus, and with astronomical instruments to carry on a series of regular observations.

Professor Pickering has called attention to the peculiar resemblance between the spectrum of the star Oeltzen 17681 and that of the three stars discovered by Wolf and Rayet in 1867, (*Comptes Rendus*, vol. lxv., p. 292). The relative brightness is found to be different in these spectra, and the subject promises to repay further investigation. W.C.W.

Washington, D. C , March 3, 1881.

THE DAVIDSON ASTRONOMICAL OBSERVATORY AT SAN FRANCISCO, CALIFORNIA.

Prof. George Davidson, of the United States Coast and Geodetic Survey, has established a private observatory in San Francisco, and mounted the six-and-a-half inch Equatorial which was exhibited at the Centennial, but which has now a Villarcean governor, spectrescope, and other improvements.

The geographical position of this observatory is :

Latitude = 37° 47′ 22″.3 north.

Longitude = 122° 24′ 39″.0 west of Greenwich.

In time = 8h 09m 3s.60 west of Greenwich.

This fixes it as the most western observatory in America.

To observe the total solar eclipse of January 11, 1880, Prof. Davidson transported the instrument and the observatory to the summit of Santa Lucia Mountain, about thirty-five miles southward of Monterey, and six thousand feet elevation above the Pacific ocean. In this undertaking everything had to be carried up four thousand feet over a very steep and rugged trail by pack mules ; and the party encountered one of the fiercest snow storms of that coast, but successfully accomplished the object of the undertaking which was made under the directions of the Superintendent of the Coast Survey. Whenever opportunities offer for observing at not less than ten thousand feet elevation, he will transport it to these high stations. [It was intended to use it in 1879 at two of the coast survey stations occupied in the Sierra Nevada having elevations of 9800 to 10,600 feet, but unfortunately it was not received in season.]

Mr. Davidson has been engaged in regular coast survey duties upon the Pacific almost continuously since the Spring of 1850, and has had large experience in observing at great elevations.

An international exhibition connected with electricity will open in Paris, August 1, 1881, and will close on the 15th of November following.