regularity in observing the stars of the 'American ephemeris,' the sun, moon, and planets, and lists of miscellaneous objects chiefly used by exploration parties and expeditions in determining latitudes. In the choice of dates when observations of the bodies of the solar system, particularly the outer great planets, were made, no systematized plan of operation appears to have been followed. It would be well if the adaptation of the observations to the problems of the future investigator were kept in mind equally prominently with the fact that these bodies, a month or two preceding the opposition-time, transit the meridian at inconvenient hours beyond midnight. The days of observation should be so chosen that it will be possible to derive a series of normal places for each planet symmetrically placed with reference to the epoch of least distance from the earth.

The great equatorial, with Professors Hall and Holden as observers, was mainly occupied with work upon double stars; but the satellites of the outer planets were fully observed, as also the great nebula of Orion, the observations on which were published by Professor Holden several years ago, in his well-known monograph.

There is no record of observations with either the prime vertical transit, the mural circle, or the east transit instrument; and there is very little to show for the lesser equatorial of the observatory. The meteorological observations have been conducted on about the same plan for a long series of years, having been begun long before the Army signal-service was in successful operation as a meteorological bureau. If they are continued on the supposition that they form a valuable addition to meteorology, this would appear to be an insufficient reason; while, for any known practical bearing on astronomy, they are barely worth the making and printing.

The volume of observations for the year 1879 concludes with two appendixes, the latter of which is a determination of the semi-diameter of the moon from occultations of the Pleiades, by Mr. H. M. Paul; and the former, by Professor Hall, on the parallax of α Lyrae and 61 Cygni. In the appendix to the volume for 1880, Mr. Winlock has so collected all the observations and drawings of the great comet of 1882, made at the naval observatory, as to make them available, in considerable part, for definitive discussion of the comet's orbit.

While, on looking casually through these volumes, one is impressed with the necessity of bestowing greater care on the details of proof-reading, it is a pleasure to note the sudden influx of new types in the printer's fonts from which the latter part of the volume for 1880 was set, replacing the old types, which had become so much worn as to make scores of figures on many pages quite indecipherable.

With the commencement of the present year, the observatory, under the superintendency of Rear-Admiral Franklin, has begun the execution of a pre-organized plan of astronomical work. This has already been printed and distributed, and the advantages to be expected from this arrangement will be watched for with much interest.

BRAIN-EXHAUSTION.

THIS book belongs to a class which finds circulation only in this country, and is not calculated to establish a foreign reputation for the author. If the time spent upon its preparation had been given to accurate observation or careful experiment, and the results condensed into an article of twenty pages, the author might have secured some attention. The work consists of a mass of theoretical statements regarding normal and abnormal brain-action, few of which have any basis in ascertained facts. We know that brain-exhaustion is possible, and we know under what conditions it occurs. The chapter on causation contains a fair summary of these conditions. We do not know the mechanism of its occurrence, and we cannot affirm, in a given case, that a definite line of treatment will succeed.

The author has a favorite method which it is the object of the book to urge. The method does not commend itself to those who are familiar with recent German investigations by experiment, which, as far as animals go, are directly opposed in their results to the conclusions reached by Dr. Corning. Electrical treatment of brain-disease must be conducted with caution, and only with the aid of an accurate galvanometer which measures the intensity of the current, and enables the physician to know at any moment what strength he is using. Of this, as well as of other necessary precautions, Dr. Corning seems unaware, for he recommends the use of from 'five to fifteen cells,' a wholly unknown quantity.

Science demands facts, not theories; and the sooner this is understood by those who seek a place in its ranks, the better.

Brain-exhaustion, with some preliminary considerations on cerebral dynamics. By J. L. CORNING, M.D. New York, *Appleton*, 1884. 234 p. 16°.