

COPIES of two booklets, which have been published privately by Mr. F. W. Armstrong, of the Blue School, Wells, Somerset, have been received. They deal respectively with elementary inductive chemistry and inductive physics.

A NEW catalogue of physical and electrical instruments, balances, &c., has been issued by Messrs. W. G. Pye and Co., of the "Granta" Works, Cambridge. The excellent illustrations, drawn to a larger scale than is usual in similar publications, should greatly assist customers ordering instruments from a distance, since with the accompanying concise explanations little room is left for misapprehension.

OUR ASTRONOMICAL COLUMN.

THE VARIABLE ASTEROID 1905 Q.Y.—From a telegram from Dr. Palisa to the Kiel Centralstelle, it appears that the asteroid which, on the supposition that it was a newly discovered one, was designated 1905 Q.Y., is identical with that known previously as (167) Urda. The identity is confirmed by Prof. Berberich, who writes that on August 28 the magnitude of Urda was from 0.5m. to 1.0m. brighter than shown by the value given in the Jahrbuch (*Astronomische Nachrichten*, No. 4046).

NOVA AQUILÆ No. 2.—From a note in No. 4046 of the *Astronomische Nachrichten*, we learn that the position first given for Nova Aquilæ was 1m. wrong in R.A. It should have read R.A. = $284^{\circ} 17'$ (=18h. 57m. 8s.) instead of $284^{\circ} 2'$ as given, the mistake occurring in the first telegram received at Kiel.

Observing this object on September 5, Prof. Hartwig determined the position, referred to the equinox of 1905.0, as R.A. = $284^{\circ} 16' 16''$ (=18h. 57m. 5.06s.), dec. = $-4^{\circ} 34' 50''$, and found the magnitude to be 10.

FRENCH OBSERVATIONS OF THE TOTAL SOLAR ECLIPSE.—No. 10 (September 4) of the *Comptes rendus* contains the brief reports received from various French eclipse expeditions by the Académie des Sciences.

Prof. Janssen, M. Bigourdan, and MM. Stephan and Trépid, observing at Alcosebre, Sfax, and Guelma respectively, report satisfactory meteorological conditions and successful observations. At the last named place M. Bourget obtained fourteen negatives of the corona, using coloured screens. The parties at Cistierna, Burgos, and Tortosa were less fortunate, clouds interfering with, or totally preventing, observations. The measures of the ionisation of the electric field were, however, carried out throughout the eclipse by the observers at Tortosa. Similar observations were carried out, entirely according to programme and under perfect conditions, at Philippeville, and M. Nordmann, from a preliminary examination of the curves obtained, expects that some very interesting results will accrue when these are finally compared with those obtained on previous occasions. M. Salet, from the same station, reports that the polarisation of the corona was well observed, the deviation of the plane of feeble polarisation being 3° . Ten coronal radiations were photographed with a "Nicol" in front of the slit, and fifteen ultra-violet coronal radiations were photographed with the spectroscope.

From the eclipse station at Alcalá de Chisbert (Spain) M. M. Moye writes that the eclipse was observed under good conditions, and that the corona was very brilliant, the longest streamers occurring in the south and the north-east. The green line was very apparent. Shadow bands were well observed both before and after, but were invisible during totality.

Observations of the partial phase were made in Paris, where the times of the contacts and of the occultations of spots were recorded by several observers. Unfavourable meteorological conditions prevented the actinometric observations, which it was proposed to carry out at Trappes, Bordeaux, and the Pic du Midi, from being made, but a series of good observations was obtained at Bagnères.

EYE-ESTIMATES OF THE TRANSITS OF JUPITER'S SPOTS.—In order to determine whether his own eye-estimates of the transits of Jupiter's spots were subject to any error similar to that suspected by Schmidt, the Rev. T. E. R. Phillips has analysed his observations, which number about 140, and cover the period of seven apparitions. As a result he has arrived at the conclusion that at the beginning of each apparition, when the planet's hour-angle is east, he observes the transit a little too early. Similarly, at the end of each apparition, when the hour-angle is west, the transits are recorded a little too late. The explanation of this error is that it is due to the varying slant of the belts as the planet is removed from the meridian, and the consequent failure of the eye to determine correctly the position of the line which bisects the disc and is normal to the planet's equator. If this explanation is correct, the error should be of the opposite sense in the two hemispheres, but the evanescent character of the spots in the northern hemisphere has prevented Mr. Phillips from making this test. Again, if the cause suggested is the true one, this error should disappear if care be taken to keep the line joining the eyes parallel to the belts.

In No. 361 of the *Observatory* Mr. Phillips gives the details of his observations during each opposition since 1898, and a diagram which shows the effect of the error referred to above on the observed drift in longitude of the Great Red Spot "Hollow." The hope is expressed that this may lead other observers to elucidate the matter further from their own experiences.

THE SOLAR ACTIVITY, JANUARY-JUNE.—No. 7, vol. xxxiv., of the *Memorie della Società degli Spettroscopisti Italiani* contains Prof. Mascari's usual summary of the solar observations made at the Catania Observatory during the first six months of the current year. A comparison of the "frequencies" observed with those recorded for the latter semestre of 1904 shows that the solar activity was much greater during the later period, but the increase was much more marked during the first quarter of this year than during the second. The daily frequencies of spots, faculæ, and prominences during the six months under discussion were 7.18, 7.12, and 3.29 respectively.

Two plates which accompany this publication show, diagrammatically, the sizes and positions of the prominences observed on the sun's limb at the observatories of Catania, Kalocsa, Odessa, Rome, and Zurich during the last quarter of 1902 and the first two months of 1903.

INSTITUTION OF MINING ENGINEERS.

THE sixteenth annual general meeting of the Institution of Mining Engineers was held at Manchester on September 13, 14, 15, and 16 under the presidency of Sir Lees Knowles, M.P. The report of the council contained an expression of deep regret at the loss sustained by the death of the president, Sir Lowthian Bell. The Institution of Mining Engineers is a federation of seven local mining societies—the Manchester Geological and Mining Society; the Midland Counties Institution of Engineers; the Midland Institute of Mining, Civil and Mechanical Engineers; the Mining Institute of Scotland; the North of England Institute of Mining and Mechanical Engineers; the North Staffordshire Institute of Mining and Mechanical Engineers; and the South Staffordshire and East Worcestershire Institute of Mining Engineers. Since the formation of the institution in 1889, the membership has increased from 1239 to 2901 in 1905.

The first paper read was on the leading features of the Lancashire coalfield by Mr. Joseph Dickinson, formerly H.M. Chief Inspector of Mines. This paper gave a concise summary of the recent developments of the geological investigation of the coalfield. Electric power distribution was dealt with in a paper by Mr. R. L. Gamlen, in which he showed the advantages possessed by the power companies as providers of power. Mr. B. H. Thwaite submitted a paper on colliery explosions in which he suggested, as a method of dealing with explosions, the installation of a series of pipes conveying a supply of oxygen and a pneumatic method of coal-dust removal. The former proposal met with much adverse criticism in