

## Our Astronomical Column.

**CONJUNCTION OF JUPITER AND NEPTUNE.**—On the morning of April 20 these planets will be within  $1^\circ$  of each other; the actual distance at 4 a.m. will be  $0^\circ 55'$ , Jupiter being on the north side of Neptune. Jupiter will set at 2.37 a.m. The motion of the two objects is so slow that in the earlier hours of the night of April 19 their relative positions will be but slightly different from that at the time of conjunction on April 20 at 4 a.m. Neptune will be situated in Cancer about  $2\frac{3}{4}^\circ$  east-south-east of the star cluster called Præsepe and  $1\frac{1}{2}^\circ$  east of the star  $\delta$  Cancrī. Neptune may be easily picked up in a good telescope, but is not brighter than about eighth magnitude. To identify this faint object if the small stars north of Jupiter are unknown requires that the observer should make a diagram of the objects in the field of the telescope and compare it with later observations in a few weeks' time. At the period of conjunction Neptune will be stationary.

**A NOVA IN A SPIRAL NEBULA.**—*Ast. Nach.*, 5038, contains a note by Prof. Wolf on the discovery of a nova in the faint spiral nebula N.G.C. 2608 (position for 1860, R.A. 8h. 26.7m., N. decl.  $28^\circ 56'$ ). The nebula is shaped like the letter S; the star is near the left-hand point of the upper curve. There are two nuclei, of which the north preceding is the brighter. The nova is  $18.6''$  from this nucleus, in P.A.  $280^\circ$ . It was discovered on a plate taken on February 8 last, and was afterwards found to be registered faintly on plates taken on January 25 (near edge of plate, bad image) and February 7. Plates taken in previous years were examined, and showed no trace of the star; a small nebular condensation was, however, visible in the neighbourhood. The latest available plate was taken on 1918 February 5.

Short exposures were secured of the nebula on February 11 and 12; the nova appeared brighter visually on the former date. On the latter its photographic magnitude was 10.7. A sketch-map of the field is given in *Ast. Nach.*, with magnitudes of comparison stars. It is important to obtain good light-curves of these novæ in spirals, as they sometimes give a clue to the absolute magnitude of the star, and hence of the distance of the spiral. The region will be observable for the next two months.

Observations on March 10 gave the magnitude of the nova as 11.5.

**THE MADRID OBSERVATORY.**—The "Anuario del Observatorio de Madrid para 1920," in addition to the usual almanac information, particulars of the sun-spots and prominences in 1918, and meteorological observations, contains a useful article by Señor C. Puente on methods of determining time and latitude by means of portable instruments in the field. Special attention is directed to the circumzenithal telescope designed by Nušl and Frič, of Prague, which consists of a small horizontal telescope which can be rotated in azimuth. A silvered prism with vertical angle  $\alpha$  is mounted outside the object-glass; the upper face reflects light from a star of altitude  $180^\circ - \alpha$ , the lower face light from the same star after reflection by a very small mercury trough. Coincidence of the two images is observed in the telescope, and gives the instant when the star's altitude is  $180^\circ - \alpha$ . There are some advantages in making this angle equal to the latitude, but this is not essential. Tables are given facilitating the construction of working catalogues. Observations of several known stars make it possible to deduce both time and latitude. The instrument is similar to the almucantar in theory, but far more portable and easier to work with. The absence of all webs and screws is a decided advantage.

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## National Education.

**T**HE fiftieth annual meeting of the National Union of Teachers, founded in 1870, at which some 2000 delegates were present, representing a membership of 113,000 as compared with 400 on its formation, was held during Easter week at Margate. The proceedings were opened by a well-timed and thoughtful address on the part of the new president, Miss J. F. Wood, of the Fielden School, Manchester (herself a pioneer in the endeavour to bring opportunities of advanced secondary education within the reach of children leaving school during their fourteenth or fifteenth year), in which she reviewed the history of popular education since the Act of 1870, recounting its onward progress and making clear the objects still to be achieved, to ensure which all the various classes of teachers should make a common effort and present a united front. The Act of 1918, with which the name of Mr. Fisher will be linked in honour for all time, provides for fuller opportunities of education for elder children in elementary schools, for their easier transfer to higher schools by means of maintenance grants, for closer attention to conditions of physical health and education, and especially for the continued part-time education up to eighteen years of age of adolescents entering industrial life at fourteen.

The president pleaded for a more unified conception of education if these objects are to be attained and the full value of education to the nation is to be realised. Every child capable of profiting by advanced courses of education and training, whether given in higher or special schools or in the universities, should be afforded the fullest facilities. Wherever possible the elementary school should be enlarged in scope, with freedom to develop its own "top," and so obviate the necessity for the establishment of the central school with its futile two-year course. The further education of adolescent workers should have careful consideration, and, having regard to the mechanical nature of much of their work, also have in view the claims of leisure. With the purpose of fitting the primary teacher for all branches of education service, including the administrative, he should in all cases, in addition to appropriate professional training, be also required to take a university degree. The claim of women to be afforded equal opportunities with men to aim at the highest in the career they enter and with the same reward was firmly stressed. The future progress of education depends not only upon more suitable buildings, adequate playgrounds and equipment, and smaller classes, but also upon the supply of able and well-educated teachers, who must be attracted first by the nature of the work, and then by adequate pay, status, and prospects. There should be ensured also the full co-operation of the Board of Education, the local education authorities, and the teachers with the view of securing full partnership in administration, and, above all, of winning for all children a free and liberal education.

Among the many important topics discussed during the conference, reference may be made to that dealing with a national system of education, which received the full assent of the conference, and embodied proposals for (1) free education for all to the fullest extent of their capacity to profit by it; (2) the provision of maintenance grants where necessary; (3) the due co-ordination of schools, so that graduation from one to another of higher type shall be easy; (4) uniform regulations for all schools in respect of size of classes, adequacy of staff, floor- and air-space, playing grounds and fields, and swimming baths; (5) medical examinations, and treatment where neces-