

the old conditions to deliver the water in an unfiltered state from the open service reservoirs to the town. The raw water is normally excellent, owing doubtless to the underground chalk through which it passes, but discoloration occasionally occurs during wet weather following a period of drought. Ferro-concrete on the Hennebique system has been employed largely on the new constructional work.

In this month's *Aeronautics* appears an announcement to the effect that, recognising the importance of flying from a military point of view, that journal offers to present a complete aeroplane to the first suitable officer of the army who applies for it and is willing to try his best to become proficient with it.

In the article on "Mathematics in Austria," in *NATURE* of September 29, mention was made of arithmetic papers set by the Civil Service Commissioners and other examining bodies. The writer asks us to say that his allusion to the Civil Service Commissioners was due to his belief that they regulated the Army Qualifying as well as the Army Competitive examination. He has since found that the former is conducted by the "Army Qualifying Board." His reference, therefore, to the Civil Service Commissioners was incorrect.

A TRANSLATION into German by Prof. Julius Ruska of Prof. W. H. Hobbs's book on "Earthquakes" has been published by Messrs. Quelle and Meyer, of Leipzig. A review of the original volume was published in the issue of *NATURE* for March 26, 1908 (vol. lxxvii., p. 481). The price of the German work is 6.60 marks.

OUR ASTRONOMICAL COLUMN.

ANNOUNCEMENT OF A NOVA.—A circular received from the Kiel Centralstelle states that in a telegram from Cambridge, Mass., received on October 5, it is announced that a new star in Sagittarius has been discovered by Mrs. Fleming on a plate taken on May 31-831 (G.M.T.). This object, Nova Sagittarii No. 2, was then bright enough to be visible in a small telescope, and its position is $\alpha=17^{\text{h}}.52^{\text{m}}.15^{\text{s}}$, $\delta=27^{\circ}32.2'$ south, about 7m. west and 3° north of the third-magnitude star γ Sagittarii; like most other objects of its class, this nova lies in, or very near to, the Milky Way.

It is interesting to recall that Nova Sagittarii No. 1 was also discovered by Mrs. Fleming on a photograph taken at Arequipa on March 8, 1898, but was not detected until March, 1899.

TIME OF THE SOLAR TRANSIT OF HALLEY'S COMET.—The examination of various solar photographs for traces of Halley's comet during its transit of the solar disc on May 18 has hitherto been somewhat indefinite, because the exact times of ingress and egress were not certainly known. Figures which should permit of more definitive examinations are now given in No. 616 of the *Astronomical Journal*; they are as follows:—

	G.M.T.		
	h.	m.	
Ingress	15	40	Angle 279°
Least distance between centres..	16	9	Comet $3^{\circ}15' \text{ N.}$
Egress	16	39	Angle 76°

OBSERVATIONS OF COMET 1910a.—In a Bulletin of the Catania Academy of Natural Science, just received, Prof. Riccò discusses the observations of comet 1910a, visual, photographic, and spectroscopic, made at the Catania Observatory during January and February. After describing the visual and spectroscopic results, Prof. Riccò directs special attention to the greater similarity of the visual and photographic images in this comet than in several which immediately preceded it, due to the greater proportion of yellow radiations. He also suggests that the appearance of the three "hydrocarbon" and one yellow band, when the comet was near perihelion, is in accord-

ance with Hassellberg's experiment with a Geissler tube containing hydrocarbon and sodium vapours. With the tube cool, only the hydrocarbon bands showed in the spectrum, but when it was heated the sodium band was seen to be relatively strong.

It is stated in the *Observatory* (No. 427) that whilst the object observed by M. Sykora (*NATURE*, September 8, p. 322) was in the right position-angle, it was considerably too far from the centre of the disc.

ARABIAN ASTRONOMICAL INSTRUMENTS.—Vol. xli. (1909) of the *Sitzungsberichte der Physikalisch-Medizinischen Societät in Erlangen* contains No. 18 of Prof. E. Wiedemann's contributions to the history of science, which deals with some of the astronomical instruments of the Arabs (53 pp.). Chapter i. gives descriptions of the astrolabe and the quadrant, founded on two writings by Al Birûni in the Royal Library of Berlin. Chapter ii. gives a review of the trigonometry of the Arabs and its application to problems arising from the use of the gnomon ("determination of the shadow"). Chapter iii. contains an account (chiefly from Al Birûni) of the use of the astrolabe in surveying. The paper is of special interest on account of the many extracts it gives from unpublished manuscripts, and makes us hope that some further details may yet be brought to light about the instruments used in the great observatories at Cairo, Merâgha and elsewhere, as to which our knowledge is very imperfect.

NEW EPHIMERIDES FOR SATURN, URANUS, AND NEPTUNE.—For some time it has been a known fact that the observed positions of the three outermost planets showed considerable discordance with Leverrier's tables. In No. 427 of the *Observatory* Dr. Downing directs attention to the advance made by the compilers of the *Connaissance des Temps* in publishing, for 1912, ephemerides based on Gaillot's "Tables Rectifiées" instead of Leverrier's tables. A comparison of the respective corrections shows that an important step in advance, in the calculation of accurate ephemerides of the major planets, has been made.

IRREGULARITIES IN THE MOTION OF ALGOL'S SATELLITE.—In the October number of the *Bulletin de la Société astronomique de France* M. Enzo Mora shows that, according to observations made in 1908, 1909, and 1910, the relative motion of the satellite of Algol has been subject to an extraordinary perturbation. Comparisons made between the brightness of Algol and that of ϵ Persei, within about 40 minutes of the minimum of the former, indicate departures from the normal of the time of minimum ranging from 0 to 26 minutes. The latter figure is somewhat uncertain and unique, but the difference cannot be traced to observational error; prior to 1909 the departure from normal had never exceeded 6 minutes. The perturbative action of other satellites is suggested as a possible cause of these irregularities.

THE CAMBRIDGE OBSERVATORY.—The annual report of the work done at the Cambridge Observatory during the year ended May 18 is divided into two sections, in the former of which Sir Robert Ball gives an account of the general observations. From this we learn that the results of the investigations into the constant of aberration and the variation of latitude, made by Mr. Cookson during 1905-7, are being prepared for press by Mr. Stratton, while the manuscript photographic catalogue of 6000 stars, observed at eleven observatories during the Eros campaign, has now been completed by Mr. Hinks.

In the second part Prof. Newall describes the work done in the astrophysical department. The radial velocities of certain red stars, of which many show fluctuations of brightness with long periods of variation, are being investigated by Mr. Stratton. It is with regret that we note that some difficulty is being experienced in obtaining a perfect 12-inch objective, of 60 feet focal length, for use in the solar observations.

OBSERVATIONS OF NEPTUNE'S SATELLITE.—The observations of Neptune's satellite, made by Prof. Barnard with the 40-inch refractor during 1900-10, are published in No. 617 of the *Astronomical Journal*. A magnifying power of 700 was usually employed, but the satellite was frequently found to be an extremely difficult object; the recorded magnitudes range from 13.0 to 14.5.