

OUR ASTRONOMICAL COLUMN.

COMET 1906g (THIELE).—From observations made with the Lick Observatory 12-inch refractor, Messrs. Aitken and Fath have computed a set of parabolic elements for Thiele's comet. These elements, together with an ephemeris extending to January 19, appear in No. 103 of the Lick Observatory Bulletins, and give the time of perihelion passage as 1906 November 21. The comet is at present (January 3) about 5 m. east of δ Draconis, and is travelling nearly due east, its brightness being about one-half that at the time of discovery (mag. 8.5).

THE LUNAR CRATER LINNÉ.—In a recent number of the *Astronomische Nachrichten* Dr. Wirtz pointed out that an apparent enlargement of the white spot surrounding Linné could be produced by interposing a shade-glass between the telescope and the eye, and from this fact he argued that the enlargement of the spot observed during a lunar eclipse might be merely a subjective phenomenon due to the diminution of light.

In No. 4141 of the same journal Prof. W. H. Pickering points out that whilst this apparent enlargement, which Dr. Wirtz describes, undoubtedly exists, its magnitude is much less than that recorded by the eclipse observers. Furthermore, the majority of the eclipse observations indicate that the white spot was decidedly larger after the passing than at the same length of time before the encroachment of the earth's shadow, whereas if the enlargement were merely a subjective effect it should not survive the re-illumination. The fact that Dr. Wirtz has observed similar results in the case of the crater Linné B is not regarded by Prof. Pickering as an argument against their reality, for if the phenomenon is due to the deposition of hoar-frost it should, *ceteris paribus*, be general over the moon's visible surface, and he has himself obtained similar results for Sulpicius Gallus A (*Astronomische Nachrichten*, No. 4141).

EPHEMERIDES OF COMETS AND PLANETS.—With the commencement of the new year the editors of the *Astronomische Nachrichten* are issuing the ephemerides of comets and planets in a separate publication called the *Ephemeriden-Zirkular der Astronomischen Nachrichten*. The annual subscription is 10 marks, and orders should be addressed directly to the "Expedition in Kiel, Niemannsweg 103."

A RÉSUMÉ OF AÉROGRAPHY.—In No. 22 (1906) of the *Revue générale des Sciences*, L'Abbé Th. Moreux discusses the present state of our knowledge of Mars, especially in reference to the more recent observations of Prof. Lowell and other aërographers, although in the first part he details the work of the earlier observers, Herschel, Beer and Madler, Secchi, Lockyer, Kaiser, and others. Whilst agreeing with Lowell as to the bolder features, M. Moreux evidently entertains very grave doubts as to the objective reality of many of the fine rectilinear *canaux* of which the former observer has recorded 420, and further states that he has never seen the alleged *oases* which are said to mark their intersections.

M. Moreux also discusses the gemination of the canals at some length, and then gives in detail the results of his own observations during the opposition of 1905, giving a number of drawings and a chart to illustrate his points. From these observations he is convinced that the persistent transparency of the Martian atmosphere has been overrated in the past. To illustrate this conviction he gives instances of cloud formations blotting out the detail, locally, on the planet's surface.

JUPITER'S SATELLITES.—No. 4143 of the *Astronomische Nachrichten* contains an ephemeris for Jupiter's sixth satellite, computed by Mr. J. E. Martin, of Washington, from unpublished elements derived by Dr. Ross. The ephemeris extends to April 17, 1907, and gives the differences (Satellite-Jupiter) in α and δ , and the position angle and distance from the planet for every fifth day.

In the same journal Herr K. Graff records the observation, on September 24, 1906, of the occultation of an 8.5 magnitude star by Jupiter's third satellite.

THE CAUSES OF SOLAR PHENOMENA.—We have received from Don Horacio Bentabol y Ureta, of Madrid, a mono-

graph dealing with the causes which produce spots, prominences, faculæ, &c., on the sun. The discussion is too lengthy to give the author's points *in extenso*, but he favours the meteoritic origin of the spots, and shows how the other solar, and the correlated meteorological, phenomena may be accounted for on this hypothesis.

PRIZES AWARDED AND PROPOSED BY THE PARIS ACADEMY OF SCIENCES.

AT the anniversary meeting of the Paris Academy of Sciences held on December 17, 1906, the president, M. H. Poincaré, announced that the prize awards for the year 1906 were as follows:—

PRIZES AWARDED.

Mathematics.—Grand prize in the mathematical sciences, divided between H. Padé (1500 francs), R. de Montessus (1000 francs), and M. Auric (500 francs), for their work on the convergence of continued algebraical fractions. The Francoeur prize to Émile Lemoine, for his works on geometry. The Poncelet prize to M. Guichard, for the whole of his contributions to geometry.

Mechanics.—A Montyon prize to Georges Marié, for his study of the oscillations of railway carriages; the Boileau prize to Edmond Maillet, for his investigations on the yield of deep springs.

Navigation.—The extraordinary prize of 6000 francs, divided between MM. Daveluy, Rollet de l'Isle, J. Th. Sacconney, and G. B. Girard; the Plumey prize to Prof. Stodola, for his work on steam turbines.

Astronomy.—The Pierre Guzman prize was not awarded. The Lalande prize to R. G. Aitken and W. J. Hussey, for their work on double stars; the Valz prize to J. Palisa, for the whole of his astronomical researches; the Janssen medal to A. Riccò, for his observations on the sun.

Geography.—The Tchihatchef prize to Jean Baptiste Louis Pierre; the Binoux prize to MM. Larras and E. de Larminat; the Delalande prize to L. Seurat, for his exploration of the islands near Tahiti.

Physics.—The Hébert prize to G. Gouré de Villemontée, for his researches on the conditions governing differences of contact potential; the Hughes prize to Daniel Berthelot, for his application of interference methods to the measurement of high temperatures and his researches on the compressibility of gases.

Chemistry.—The Jecker prize to M. Grignard, for his researches on the organo-magnesium compounds; the Cahours prize to M. Martine, for his work on menthone and menthol and their derivatives; a Montyon prize (unhealthy trades) to Victor Georgel, for his researches on leadless glazes.

Botany.—The Desmazières prize to Jules Cardot, for his researches on mosses; the Montagne prize to Émile Boudier, for his work on mycology; the De Coigny prize to E. G. Camus and Mlle. A. Camus, for their work on the classification and monography of the willows of Europe.

Anatomy and Zoology.—The Savigny prize to Paul Pallary, for his work on northern Africa and the Red Sea; the Thore prize to C. Houlbert, for his entomological work; the Gama Machado prize to Antoine Henri Mandoul and Pierre Stéphan (in equal parts).

Medicine and Surgery.—Montyon prizes to Paul Poirier and A. Charpy, for their work on anatomy; J. Albarran, for his work on renal functions; and Ch. Porcher, for his studies on lactosuria. Mentions are also accorded to Robert Lœwy, for his memoir on fractures; to Adolphe Javal, for his memoir on the treatment of Bright's œdema; and to MM. Guillemard and Moog, for their work on the influence of high altitudes on the general nutrition. Citations are accorded to Lucien Graux, Louis and Paul Murat, and A. Gougenheim. The Barbier prize to Adrien Lucet, for his memoirs on the bacteriology of suppurations in animals of the bovine species and on pathogenic moulds, with a mention to J. V. Detroye, for his work on cancers and tumours in animals. The Bréant prize to M. Rémy, for his quantitative studies on serums; the Godard prize to L. H. Farabeuf, for his monograph on the blood-vessels of the genito-urinary organs; the Baron Larrey prize to Dr. Morel, for his memoir on epidemic and endemic diseases in the French colonies; the Bellion prize to Georges G.