

OUR ASTRONOMICAL COLUMN.

ASTRONOMICAL OCCURRENCES FOR JANUARY:—

- Jan. 4. 15h. 20m. Neptune in conjunction with the Moon (Neptune 5° 39' S.).
- „ 16h. 0m. Mercury stationary.
- 9. 9h. 0m. Venus in conjunction with Jupiter (Venus 1° 38' N.).
- 13. 10h. 0m. Neptune at opposition to the Sun.
- 14. 17h. 57m. Jupiter in conjunction with the Moon (Jupiter 4° 6' N.).
- 15. 5h. 26m. Venus in conjunction with the Moon (Venus 5° 51' N.).
- „ 10h. 0m. Mercury at greatest elongation W. of the Sun.
- 16. 4h. 0m. Saturn stationary.
- „ 18h. 23m. Mercury in conjunction with the Moon (Mercury 5° 48' N.).
- 18. 23h. 51m. Uranus in conjunction with the Moon (Uranus 4° 33' N.).
- 20. 7h. 0m. Uranus in conjunction with the Sun.
- 27. 12h. 10m. Saturn in conjunction with the Moon (Saturn 4° 9' S.).
- 28. 13h. 58m. Mars in conjunction with the Moon (Mars 0° 37' S.).

MARS.—A telegram from Prof. Lowell, published in No. 4543 of the *Astronomische Nachrichten*, states that, on December 17, 1911, the old south snowcap on Mars had practically disappeared, and new spots were forming outside.

M. Jarry Desloges, telegraphing from the Sétif Observatory on December 16, 1911, states that on December 15 the south polar cap was veiled, and that Libya, which was grey at the beginning of the Martian afternoon, was white towards sunset; Deucalionis Regio, clear during the morning, became grey in the afternoon.

Four splendid photographs of Mars taken by Prof. Barnard with the Yerkes 40-inch refractor in September, 1909, are published on the frontispiece of the September-October (1911) Journal of the Royal Astronomical Society of Canada.

EPHEMERIDES FOR COMETS 1911a, 1911f, AND 1911g.—As the position of Wolf's comet (1911a) during the summer will be unfavourable for observation, it is important that observations should be made during the next few months, and for this reason M. Kamensky publishes an ephemeris, extending to April 7, in No. 4543 of the *Astronomische Nachrichten*; observations already made show that his fourth (K_4) system of elements needs but small corrections. It is hoped that observations will be secured, as they may clear up the question of the possible enfeeblement of the comet. The present position (January 4) is 21h. 41m., $-1^{\circ} 55' 5''$, and the path lies nearly directly eastwards through Aquarius and Pisces; the magnitude is about 14.0.

Quénisset's comet (1911f) is still moving nearly directly southwards through Scorpio, and will soon enter Lupus: R.A. = 15h. 49.6m., dec. = $-31^{\circ} 54' 7''$. In the ephemeris published by Dr. Ebell the magnitude is 8.3.

Beljowsky's comet (1911g) is also too far south for observation in these latitudes. Dr. Ebell's ephemeris shows it to be in Corolla, and its magnitude is estimated as 8.6.

A PECULIAR VARIABLE STAR.—The measures and light-curve of the variable star 232848 Z Andromedæ, published in Circular 168 of the Harvard College Observatory, show the light-changes to be unique among stars yet observed. For the last six years the magnitude has been nearly constant at 11.0, but in 1901 there was a great outburst, the magnitude becoming 9.2. Prior to that, since 1889 there had been considerable oscillations of magnitude between 11.5 and 9.7.

This star is $+48^{\circ} 40' 93''$, mag. 9.5, and its variability was discovered by Mrs. Fleming in 1901, who, examining its spectrum of October 17, 1900, recorded it as "Bright lines. Nova or Var?" An examination of the spectrum plates by Miss Cannon shows that the spectrum is unlike that of variable stars, and resembles that of several new stars. On the best photographs it is seen to be like those of

Nova Persei, No. 2, on April 12, 1901; Nova Geminorum on March 29, 1903; and Nova Sagittarii, No. 1, on April 21, 1898; it also resembles that of RS Ophiuchi on July 15, 1898, at or near the time of the remarkable outburst of light in that object.

In addition to the bright lines H β , H γ , H δ , and H ϵ , there is one at about λ 4688 which, Prof. Pickering suggests, probably corresponds with the bright band in the spectra of fifth-type stars.

THE PARALLAX OF THE DOUBLE STAR KRUEGER 60.—During the period August 29, 1907 to April 10, 1910, Dr. L \ddot{u} employed the 10-inch refractor of the Urania Observatory, on fourteen nights, to measure the interesting double star Krueger 60. From these measures he derived a value for the parallax, which he now publishes in No. 4542 of the *Astronomische Nachrichten*. His result is $+0.22'' \pm 0.038''$, with a probable error from one equation of $\pm 0.129''$; earlier measures by Barnard, Schlesinger, and Russell gave, in the mean, the value $+0.25''$.

THE HEIGHT OF PERSEID METEORS.—Employing the parallax method, Dr. Philipp Broch has calculated the heights of the beginnings and ends of 102 meteor paths observed during the period 1823-58, and now publishes the results in No. 4541 of the *Astronomische Nachrichten*. For all the meteors he finds the values 130.0 km. and 96.0 km. for the mean heights at the beginning and the end of the flights respectively, the mean length of the paths being 72.5 km. Of this number fifty-eight were certainly Perseids, and for these he finds the mean values 133.1 km. and 95.5 km., respectively, for the heights, the mean length of path being 72.0 km.

THE LILLE OBSERVATORY.—In No. 4543 of the *Astronomische Nachrichten* M. Jonckheere gives notice that his observatory, L'Observatoire d'Hem, taking the name of the prefecture under whose patronage it is, is to be known officially as the Lille Observatory.

PRIZE AWARDS OF THE PARIS ACADEMY OF SCIENCES.

AT the annual meeting of the Academy of Sciences, held on December 18, 1911, the prize awards for the year were announced as follows:—

Geometry.—The Franccour prize to Emile Lemoine, for the whole of his work in mathematics; the Bordin prize to A. Demoulin, for his researches on triple orthogonal systems.

Mechanics.—The Montyon prize to M. Jouguet, for his contributions to thermodynamics and chemical mechanics, Captain Duchêne receiving a recompense (500 francs) for his mathematical study of the aeroplane; the Poncelet prize to M. Rateau, for his work as a whole; the Vaillant prize (in equal parts) between Charles Doyère and Henry Willotte, for memoirs on the application of the principles of the dynamics of fluids to the theory of helices; the Vaillant prize to M. Liénard, for his memoir on the movement of an ellipsoid in a viscous liquid.

Navigation.—The extraordinary Navy prize between M. Doyère (1500 francs), for his study of the bending of a thin sheet or thin ring submitted to any forces whatever, H. Roussilhe (1000 francs), for his hydrographic work on the coast of Madagascar, M. Leparmentier (1000 francs), for his book on the calculations relating to inclined hulls, G. Simonot (1000 francs), for his memoir on the resistance of a cylindrical tube of infinite length submerged in water, Pierre Lemaire (750 francs), for his memoir on the theory of the gyroscopic compass, and E. Perret (750 francs), for his work relating to nautical astronomy; the Plumey prize to Robert Lelong (1000 francs), for his work on marine motors.

Astronomy.—The Lalande prize to Lewis Boss, for his star catalogue; the Valz prize to C. Rambaud, for the whole of his astronomical researches; the G. de Pontécoulant prize (increased to 1700 francs) to L. Schulof, for his researches on the theory of comets and on lunar tables; the Damoiseau prize (in equal parts) between M. Millosevich, M. Witt, and M. Lagarde.

Geography.—The Tchihatchef prize between M. de Schokalsky (one half) and M. Deprat and M. Mausery (one