

## OUR ASTRONOMICAL COLUMN.

A NEW COMET (1907).—A telegram from the Kiel Centralstelle announces the discovery of the second comet of the present year by Mr. Mellish, at Madison, on April 14. The magnitude of the object is given as 11.0, and its position at 10h. 20m. (Madison M.T.) on the day of discovery was R.A.=6h. 40m., dec.=+8° 0'.

A second telegram from Kiel states that the comet was observed by Bianchi at Rome on April 16. Its position at 8h. 22.1m. (Rome M.T.) was

R.A.=7h. om. 17.5s., dec.=+17° 19' 14".

This is about 2½° south of ζ Geminorum, and crosses the meridian at about 5 p.m.

A NEW NEBULA.—Whilst searching for new double stars on January 18, the Rev. T. E. Espin discovered a nebula in the constellation Perseus which he believes to have been previously unrecorded.

This object precedes B.D.+33°.746 by 7.80s., and is 2° 25" south of it, so that it lies somewhere about half-way between ζ and ξ Persei. It is about 6" in diameter, and is elongated towards the north, its brightness being about equal to that of a tenth-magnitude star. The later observations appear to suggest a planetary nebula with a small star on the northern edge (Monthly Notices R.A.S., vol. lxvii., No. 5, March).

COMET 1905 IV.—A further observation of comet 1905 IV. (1906b) is recorded in No. 4166 (April 5) of the *Astronomische Nachrichten* by Prof. E. Becker, who, with the large refractor of the Strassburg Observatory, saw it as a small round body, of about the tenth magnitude, on March 4. The observations of this comet now cover a period of about 2½ years.

In the same journal Prof. Weiss gives a continuation of his ephemeris, extending from April 2 to June 5, which shows that the comet is apparently travelling very slowly through Libra in a north-westerly direction towards Virgo.

THE TEMPERATURE OF MARS.—Hitherto the chief obstacle to the belief that Mars is habitable by any such beings as inhabit the earth has been the extremely low temperature probably obtaining on the Martian surface, but in No. 25, vol. xlii. (March), of the Proceedings of the American Academy of Arts and Sciences, Prof. Lowell shows that, by taking all the phenomena into consideration, this obstacle may be removed. Previous calculations of the temperature have been deduced solely from the relative distance of Mars from the sun, and a recent investigation gave -33° F. as the mean temperature of the planet.

Prof. Lowell points out, however, that other factors, such as the relative albedoes of the planets, the screening effect of clouds, the blanketing effect of the atmosphere, &c., should be taken into account, and, on this basis, he finds that the mean annual temperature of Mars, if the heat were retained as well there as here, would be about 72° F. As the retention is greater in the case of the earth, this value is considerably reduced in the final calculation, taking all the known factors into consideration, and a mean temperature of about 47° F. is obtained. Prof. Lowell also finds that the boiling point of water on Mars would be about 111° F. (44° C.), that the amount of air per unit surface is about two-ninths that found in the case of the earth, whilst the relative density of the air at the surface is only about one-twelfth.

GALILEO IN THE VAL D'ARNO.—The April number of the *Monthly Review* contains an interesting article by Miss Janet Ross giving some details of Galileo's life whilst he dwelt near Florence, first as court mathematician and philosopher, then as a prisoner at the hands of the Inquisition. It was at a villa known as "Le Selve," near Signa, that he discovered spots on the sun and wrote his treatise on the planets, his history of sun-spots, and other works; whilst in a second villa in the neighbourhood, now known as the "Villa dell' Ombrellino," he wrote the "Saggiatore" and commenced his "Dialogues on Motion." After the persecution at Rome in 1633 he lived at Il Gioello, Arcetri, and it was here that the Inquisition forbade him to converse with anyone, so that from that date until his death in 1642 he was an isolated prisoner, and for the last

four years was totally blind. Miss Ross also gives some interesting facts concerning the philosopher's family affairs.

ANOTHER NEW ASTRONOMICAL JOURNAL.—From the Società Astronomica Italiana we have received the first three numbers (January, February, and March) of its monthly bulletin, the *Revista di Astronomia e di Scienze affini*. The society was founded by Prof. Boccardi, of the Turin Observatory, in November, 1906, and has for its principal aim "the vulgarisation of astronomical conceptions." These bulletins contain original articles, astronomical notes, and reviews, together with ephemerides and notes concerning celestial phenomena for the succeeding month, and are published by the society at Turin.

THE STONYHURST COLLEGE OBSERVATORY.—Father Sidgreaves's report of the work done at the Stonyhurst Observatory during 1906 contains, in addition to some astronomical notes, the detailed results of the magnetic and meteorological observations made during the year. On the astronomical side, the sun was observed and drawings of the solar surface made on 212 days, and the large grating spectrometer was employed on the larger spots. For this work a new heliostat is being built which will carry a 12-inch mirror, and when the instrument is complete it will be possible to employ the full aperture of an 8-inch objective for use with the large Rowland grating in solar spectroscopy. Good spectrograms of Mira Ceti and some selected brighter stars were obtained during the year. The mean magnetic declination for 1906 was 17° 48'.3 W.

THE TWENTIETH YEAR AT BLUE HILL OBSERVATORY.<sup>1</sup>

BLUE HILL OBSERVATORY on January 30, 1905, completed its twentieth year's work, and it is noteworthy that three out of its staff of four have been there at least eighteen years. Owing to the crowds of people brought to the hill by the electric cars, it was found necessary in 1905 to enclose the observatory by wall and fence, some of the secondary instruments having previously been moved for the same reason. Blue Hill is one of the few American observatories where the standard instruments have remained in the same position and with unchanged environments for so long a time, so that, except for the fact that the times of observation were changed to agree with those made by the U.S. Weather Bureau, the records are all strictly comparable. Since 1901 the observations have all been published in the metric units, English units being only used in parallel in the summaries.

The exploration of the upper air by means of kites carrying instruments which recorded continuously was first originated at Blue Hill in 1894. In 1901 the first observations over the North Atlantic were made by the director, Mr. A. L. Rotch, and Mr. Sweetland, using kites flown from a steamer. Kite observations are now made whenever possible on the days fixed by the International Committee for Scientific Aéronautics. These are generally the first Thursday in each month. In 1903, fifteen flights were made, nine of these being on days fixed by the committee. The average height reached was 2214 metres. In 1904, eight out of fourteen flights made were on appointed days, and the average height was 2300 metres. In 1905, sixteen days were assigned by the International Committee, and at Blue Hill flights were made on twelve of these and on four other days; the average height reached was 2120 metres. During the three years the maximum height reached was 4468 metres, or 14,662 feet. Since 1894, 280 flights have been made at Blue Hill.

In September and December, 1904, and January, 1905, at the St. Louis Exhibition Assman balloons were liberated with instruments. During the summer of 1905 another series of ascents was executed by Mr. Ferguson. Out of the thirty-five balloons liberated at St. Louis, thirty-two have been returned, most of them with records of pressure and temperature. The records show that fifteen balloons

<sup>1</sup> Annals of the Astronomical Observatory of Harvard College. Vol. lvi., part ii. Observations and investigations made at the Blue Hill Meteorological Observatory, Massachusetts, U.S.A., in the years 1903 and 1904.