

MESSRS. JOHN J. GRIFFIN AND SONS, LTD., have issued an illustrated and descriptive catalogue of apparatus suitable for demonstration purposes in the teaching of physiography, physiology, and hygiene. The information included respecting globes and lantern-slides should be particularly useful to teachers of geography who follow modern methods of presenting their subject.

A SECOND edition of Prof. G. S. Boulger's "Wood: a Manual of the Natural History and Industrial Applications of the Timbers of Commerce," has been published by Mr. Edward Arnold. The first edition was reviewed in NATURE of January 15, 1903 (vol. lxxvii., p. 245), and it will be sufficient here to say the work has been revised and enlarged, and that its price is now 12s. 6d. net.

THE National Home-Reading Union, with the cooperation of the Library Association, has arranged to publish a penny monthly magazine for the guidance of readers in public libraries in the choice of books and other reading. The first issue, that for February, is now available, and among its principal contents may be noticed articles by Prof. H. H. Turner, F.R.S., on books about astronomy; books about Australia, by Sir John Cockburn, K.C.M.G.; and the literature of the sea, by Mr. Frank T. Bullen. The *Reader's Review*, as the guide is called, is intended primarily for localisation in the various libraries by means of the insertion of additional pages containing local literary notes, lists of recent additions, and so on. The idea of assisting readers in their choice of books is excellent, and it is to be hoped that the efforts of the editorial board will prove successful. The paper is published by Messrs. Sherratt and Hughes.

OUR ASTRONOMICAL COLUMN.

ASTRONOMICAL OCCURRENCES IN MARCH:—

- March 5. 1h. Venus in conjunction with Moon. Venus 5° 49' N.
- „ 8h. 59m. Minimum of Algol (β Persei).
- 6. 3h. Mars in conjunction with Moon. Mars 5° 26' N.
- 8. 10h. 10m. to 10h. 32m. Moon occults δ² Tauri (Mag. 4.2).
- 9. 11h. 42m. to 1h. 31m. Transit of Jupiter's Satellite IV. (Callisto).
- 10. Pallas (Mag. 8.04) in opposition to the Sun.
- 12. 6h. 12m. to 9h. 54m. Transit of Jupiter's Satellite III. (Ganymede).
- 13. 4h. Jupiter in conjunction with Moon. Jupiter 1° 7' S.
- 19. 9h. 47m. to 13h. 28m. Transit of Jupiter's Satellite III. (Ganymede).
- 20. 12h. Sun enters Aries, Spring commences.
- 21. Venus. Illuminated portion of disc = 0.677.
- 26. 22h. Mercury at maximum elongation West (27° 49').
- 28. 7h. 30m. Minimum of Algol (β Persei).
- 31. Ceres (Mag. 7° 36') in opposition to the Sun.

MICROMETER OBSERVATIONS OF PHOEBE.—During the period July 24 to October 16, 1906, Prof. Barnard made a number of observations of Phœbe, Saturn's tenth satellite, of which he now publishes the results in No. 4234 of the *Astronomische Nachrichten* (p. 145, February 22). A variation of brightness, amounting to half a magnitude or more, is indicated by the fact that while the object was usually a difficult one, of magnitude 16.0 or 16.5, it was found to be comparatively easy during October, and was perhaps brighter than the sixteenth magnitude. On several occasions the satellite presented a hazy appearance, and Prof. Barnard suggests that, should future observations

confirm this nebulous or cometary character, the solution of the question of Phœbe's origin in the Saturnian system will be simplified.

EPHEMERIS FOR DANIEL'S COMET, 1907d.—The following is an extract from Herr Kritzinger's ephemeris for comet 1907d, published in No. 4234 (p. 159, February 22) of the *Astronomische Nachrichten*:—

Ephemeris 12h. (Berlin M.T.).

1908	α (1908'o)	δ (1908'o)	1908	α (1908'o)	δ (1908'o)
	h. m.	°		h. m.	°
Mar. 5 ...	15 4'4	... -6 44'0	Mar. 21 ...	14 53'6	... -5 6'9
„ 13 ...	14 59'7	... -5 57'0	„ 29 ...	14 46'5	... -4 15'5

The computed magnitude of this object is 10.6, and the comet is now apparently travelling eastwards through the constellation Libra towards Virgo, rising a little south of east at about 10.30 p.m. On March 17 it will be about 2½° north of δ Libræ.

THE SPECTRUM OF THE AURORA BOREALIS.—An exhaustive summary and discussion of the results hitherto obtained from spectroscopic observations of the aurora appears in No. 9, vol. xxxv. (September, 1907), of the *Monthly Weather Review* (U.S. Weather Bureau), from the pen of Dr. W. Marshall Watts. All the recorded visual and photographic observations made since the time of Ångström's observations in 1867 are analysed and compared, and the most probable values for the wave-lengths of the principal lines are tabulated; for the chief green line this value is 5571.6, and for the red line 6303.4. Various observations suggest that the spectrum varies at different times, and Dr. Watts urges that far more numerous and continuous observations should be made. With the apparatus which he describes, such observations could be made at a very small cost by any qualified observer.

SUN-SPOT SPECTRA.—No. 1, vol. xxvii., of the *Astro-physical Journal* (January) contains two papers which should prove of interest to all workers in solar physics. The first of these is by Prof. W. S. Adams, and really consists of a preliminary catalogue of lines affected in sun-spots. The photographs on which these lines were detected were taken with a Littrow spectrograph, used in conjunction with the Snow telescope of the Mount Wilson Solar Observatory, and give a linear dispersion of 1 mm. = 1.5 Å. The present catalogue includes a list of the lines affected in sun-spots in the region λ 4000 to λ 4500, and is to be followed by other lists giving the results obtained in other parts of the spectrum. The lines, their behaviour, and their origins are not discussed now, the discussion being reserved until the catalogue is complete; the present list includes nearly 900 lines, for each of which the probable origin, the intensities in Rowland's table and in the spot, together with remarks on its behaviour in the spot, are given.

In the second paper Mr. Charles M. Olmsted, of the Mount Wilson Observatory, announces that he has succeeded in identifying certain bands in the sun-spot spectrum with similar bands in the spectrum of the calcium arc burning in an atmosphere of hydrogen. There are two main groups of these bands, the stronger one at λ 6385, the weaker running through the B group, and the comparison with the spot spectrum leaves no doubt as to their identity.

ASTRONOMY IN WALES.—The *Cambrian Natural Observer* (January) contains several papers on astronomical subjects read before the Astronomical Society of Wales last year. Among others may be mentioned a paper by Mr. T. E. Heath on star clouds and nebulae, another dealing with transits past and present, and an abstract of a paper by the Rev. John Griffith on the astronomy of the stones, delivered in November last before a crowded meeting of the Cardiff Archæological Society and the Astronomical Society in Wales. Sir Norman Lockyer's method of investigation of stone monuments was explained, and the audience was urged to aid in the accumulation of the orientation data which is apparently so abundant in Wales.

The periodical is again to be issued as a quarterly.