

Evans. The chapter on spectrum analysis might with advantage have been revised by some one familiar with recent work. The statement that "450 of the Fraunhofer lines have been observed to coincide with the lines of the iron spectrum," is, like several others, far behind the times, for more than 2000 coincidences have been photographed. A new edition (the tenth) of Skertchly's "Geology" has been prepared by Dr. James Monckman. A new section on petrology has been added to make the book suitable for the present requirements of the examiners of the Board of Education (South Kensington). A few alterations have been made, but the revision is not entirely satisfactory. For instance, a page is devoted to observations made by Mr. W. J. Henwood in 1871 on the temperatures of mines, although an excellent summary of such observations, containing far more instructive information, was given by Mr. Bennett Brough before the Society of Arts four or five years ago, and might have been used. A table of determinations of the earth's density is given, but it does not contain any of the observations made during the last ten years. Lord Kelvin remains Sir William Thomson; and only his early conclusions, and Helmholtz's, are given concerning the age of the earth. The figures, as well as many of the facts, are old-fashioned, and Dr. Monckman would have done better to have rewritten the book from the point of view of the geologist of to-day instead of attempting to adapt past ideas to present positions. Mr. Frank Rutley's little book on "Mineralogy" has deservedly had a successful career, and the twelfth edition, which Mr. Murby has just published, is a veritable *multum in parvo* as regards information of service to elementary students of mineralogy. Among the changes are the addition of a brief outline of the recently adopted treatment of crystal symmetry, a few figures of crystals, and the revision of the chemical formulæ.

THE additions to the Zoological Society's Gardens during the past week include two Patas Monkeys (*Cercopithecus patas*, ♂ ♀) from West Africa, presented by Mr. E. Jones; a Syrian Bear (*Ursus syriacus*) from Western Asia, presented by Mr. Robert de Rustafjaell; a Peregrine Falcon (*Falco peregrinus*) from Canada, presented by Mr. T. H. Small; an Osprey (*Pandion haliaetus*), captured in the Red Sea, presented by Captain T. Yendell; a Bush Dog (*Icticyon venaticus*, ♀) from Colombia, a Tayra (*Galictis barbara*) from South America, a Vervet Monkey (*Cercopithecus lalandii*) from South Africa, three Wattleed Honey-eaters (*Anthochoera carunculata*) from Australia, deposited; a Bosman's Potto (*Perodicticus potto*) from West Africa, a Bouquet's Amazon (*Chrysotis bouqueti*) from Dominica, two Ruddy Sheldrakes (*Tadorna casarca*, ♂ ♀), two Knots (*Tringa canutus*), European, purchased.

OUR ASTRONOMICAL COLUMN.

THE PLANET EROS.—A good opportunity will be offered for detecting this little object on the early evenings of November 10 and 11 before moonrise. The planet will pass near the 5th magnitude star, 4 Persei, the positions of the objects being as follows:—

	R.A.	Decl.
	h. m. s.	
4 Persei ...	1 55 38 ...	+ 54 0
Eros, November 10 ...	1 56 53 ...	+ 54 21
November 11 ...	1 54 51 ...	+ 54 19

The position for 4 Persei is for 1900. The places of Eros are for Berlin mean midnight, corresponding to G.M.T., 11h. 7m.

On November 10 Eros will be about  $\frac{1}{2}^{\circ}$  N.E. of the star, and on November 11 about  $\frac{1}{2}^{\circ}$  N.N.W. of the star. The magnitude of the planet will be  $9\frac{1}{2}$ . If the small stars in the region indicated are carefully watched, Eros may soon be identified by his motion.

EPHEMERIS OF COMET 1900b.—The following is an abridgment from a complete ephemeris communicated by Herr A. Wedemeyer to the *Astronomische Nachrichten* (Bd. 153, No. 3670).

Ephemeris for 12h. Berlin Mean Time.

1900.	R.A.	Decl.
	h. m. s.	
Nov. 8 ...	15 26 1'69 ...	+ 66 7 1"6
10 ...	29 5'06 ...	66 17 18'7
12 ...	32 10'10 ...	66 29 12'3
14 ...	35 16'92 ...	66 42 41'4
16 ...	38 25'58 ...	66 57 45'0
18 ...	41 36'22 ...	67 14 22'2
20 ...	44 48'90 ...	67 32 31'9
22 ...	48 3'70 ...	67 52 12'5
24 ...	51 20'75 ...	68 13 22'8
26 ...	54 40'11 ...	68 36 1'5
28 ...	15 58 1'85 ...	69 0 6'5
30 ...	16 1 26'23 ...	+ 69 25 35'9

NEW VARIABLE STARS.—In the *Astronomische Nachrichten* (Bd. 153, No. 3669), Herr Jos. Hisgen, of the Valkenburg Observatory, announces that he has detected variability in a star in Cygnus having the following provisional position:—

$$\left. \begin{aligned} \text{R.A.} &= 19^{\text{h}} 43^{\text{m}} 19^{\text{s}}. \\ \text{Decl.} &= + 48^{\circ} 49' 3 \end{aligned} \right\} (1900 0)$$

The star reaches the 9th magnitude, and the light changes comprises at least four magnitudes: an approximation to the period is given as about 250 days.

In the *Astronomische Nachrichten* (Bd. 153, No. 3670), Dr. T. D. Anderson announces the variability of a star in Pegasus, the change of which has hitherto escaped notice. The position is as follows:—

$$\left. \begin{aligned} \text{R.A.} &= 22^{\text{h}} 4' 6^{\text{m}}. \\ \text{Decl.} &= + 13^{\circ} 38' \end{aligned} \right\} (1855 0).$$

The variation in magnitude is not completely stated, but at its maximum brightness the star is about 9.9 magnitude, while at minimum it was invisible in a 3-inch telescope.

In the same issue of the above journal, Mr. A. Stanley Williams calls attention to a new variable star in Lyra with the following co-ordinates:—

$$\left. \begin{aligned} \text{R.A.} &= 18^{\text{h}} 32^{\text{m}} 51^{\text{s}}. \\ \text{Decl.} &= + 43^{\circ} 49' 6 \end{aligned} \right\} (1855 0).$$

The variation of magnitude was determined photographically from plates taken with a portrait lens of 4.4 inches aperture. When at its greatest brightness the star is of about 10.5 magnitude, diminishing to a minimum of below 12 magnitude. A table of successive observations indicates maxima to have occurred about December 31, 1899, and September 3, 1900.

ASTRONOMICAL WORK AT DUNSINK OBSERVATORY.—The ninth volume of astronomical observations and researches at Dunsink, the observatory belonging to Trinity College, Dublin, consists chiefly of a catalogue giving the mean places of 321 stars, furnished by observations made with the meridian circle during 1898-9, under the direction of Prof. C. J. Joly, the Astronomer Royal of Ireland. The instrument has been provided with a new reticle having three sets of five vertical wires instead of five sets as formerly. The actual observations and preparation of the catalogue were done by Mr. C. Martin.

THE LEONID METEORIC SHOWER.

WITH the return of the Leonid epoch we are naturally led to inquire as to the prospect immediately before us. The expectation of preceding years having been grievously disappointed, observers cannot help feeling very dubious as to the return of the meteors. This is accentuated by the fact that computations made under Dr. Downing's directions show that since their return in 1866 the denser part of the stream has been subject to considerable perturbation. At the middle of November 1899 the meteors probably passed about  $1\frac{1}{2}$  millions of miles inside the earth's orbit, and therefore escaped a rencontre with the earth. At the ensuing approach the conditions appear even less favourable, for the calculations indicate that the swarm will pass us by at a point about  $1\frac{1}{2}$  millions of miles nearer to