

AN exceptionally fine series of plates, reproduced from photographs, accompanies Dr. Tempest Anderson's paper on the recent volcanic eruptions in the West Indies, contained in the March issue of the *Geographical Journal*. The plates, together with Dr. Anderson's descriptions, constitute a concise and graphic story of the characteristics of the eruptions of Mont Pelée and the Soufrière of St. Vincent.

SEVERAL of the monthly magazines for March contain articles upon scientific subjects. Under the title "What shall we be?" Mr. Gustave Michaud discusses in the *Century* the question as to what will be the distinguishing characteristics of the coming race in America, and Prof. F. H. Giddings comments on the conclusions arrived at. Major-General Sir C. W. Wilson, K.C.B., contributes to the *Monthly Review* an account of the excavation of a Levitical city—Gezer. Dr. A. R. Wallace, F.R.S., in the *Fortnightly Review*, considers man's place in the universe as indicated by astronomy; and the general nature of his article may be gathered from a sentence near the end:—"The three startling facts—that we are in the centre of a cluster of suns, and that that cluster is situated not only precisely in the plane of the Galaxy, but also centrally in that plane—can hardly now be looked upon as chance coincidences without any significance in relation to the culminating fact that the planet so situated has developed humanity." Mr. W. A. Shenstone, F.R.S., writes in the *Cornhill* on the new chemistry, and Mr. Charles Richardson attempts in the *Westminster Review* to answer the question: Is natural science self-contradictory?

THE additions to the Zoological Society's Gardens during the past week include a Moustache Monkey (*Cercopithecus cephus*) from West Africa, a Crested Porcupine (*Hystrix cristata*) from South Africa, two Mexican Eared Owls (*Asio mexicanus*) from Mexico, two Westermann's Cassowaries (*Casuarus westermanni*) from New Guinea, two King Crabs (*Limulus polyphemus*) from North America, deposited.

OUR ASTRONOMICAL COLUMN.

ELEMENTS AND SEARCH-EPHEMERIS FOR COMET 1896 V (GIACOBINI).—In No. 3848 of the *Astronomische Nachrichten* Herr M. Ebell gives the following set of elements and ephemeris for this comet:—

Epoch 1896 October 5.5, M.T. Berlin.

$$\begin{aligned} M &= 356 \ 39 \ 7.4 \\ \omega &= 140 \ 31 \ 51.1 \\ \Omega &= 193 \ 29 \ 4 \\ i &= 11 \ 21 \ 47.7 \end{aligned} \left. \vphantom{\begin{aligned} M \\ \omega \\ \Omega \\ i \end{aligned}} \right\} 1900.0.$$

$$\begin{aligned} \mu &= 533.805 \\ \log a &= 0.548416 \\ T &= 1896 \text{ October } 28.079 \\ P &= 6.647 \text{ years.} \end{aligned}$$

Taking the period of 6.647 years as correct, the next perihelion passage should take place on June 22 or 23, and for this time the ephemeris which accompanies the elements is calculated.

Ephemeris 12h. M.T. Berlin.

| 1903.    | h. | m. | s. | $\delta$ . | log r. | log $\Delta$ | Brightness. |
|----------|----|----|----|------------|--------|--------------|-------------|
| March 18 | 20 | 10 | 50 | - 10 32.9  | 0.2492 | 0.3313       | 0.63        |
| " 26     | 20 | 32 | 46 | - 8 59.0   | 0.2381 | 0.3118       | 0.72        |
| April 27 | 22 | 3  | 40 | - 1 7.0    | 0.1975 | 0.2363       | 1.23        |
| May 29   | 23 | 38 | 44 | + 7 53.7   | 0.1697 | 0.1733       | 1.88        |

The ephemeris is extended to November 29, and it indicates that the maximum brightness (2.7) will occur on August 25.

NO. 1741, VOL. 67]

TRANSPARENCY OF COMET 1902 b.—In order to test the accuracy of the assertion that comets are perfectly transparent, Prof. O. C. Wendell, of Harvard College Observatory, made a series of observations, with the polarising photometer attached to the 15-inch equatorial, of the magnitudes of two faint stars when the comet 1902 b was passing before one of them on October 14.

On tabulating the results of the measurements, it was found that the mean difference of the magnitude interval of the two stars under normal conditions, and when the comet was passing before one of them, was only  $\pm 0.02$ , thereby indicating that the absorption of light by the comet, if any, was insensible, and probably did not exceed one or two hundredths of a magnitude (*Astronomische Nachrichten*, No. 3848).

FEBRUARY METEORS.—In No. 329 of the *Observatory* Mr. Denning describes a bright meteor which he observed at 9h. 46m. on February 18, the apparent path being from  $35^{\circ}+44^{\circ}$  to  $19^{\circ}+42^{\circ}$ .

Mr. Denning further remarks that this meteor appeared to come from a position near to the radiant point of a shower, the Aurigids, of which he has observed seven members, and of which the mean radiant point is about  $75^{\circ}+41^{\circ}$ , and he suggests that this particular stream is worthy of further consideration by meteor observers in order to determine more accurately its radiant point and the time of its maximum.

The duration of the shower is at present doubtful, but it certainly extends over the period February 7-23, and there is reason to believe that it is sustained during March and April.

PROPER MOTIONS OF STARS.—Vol. xvii. No. 1 (January) of the *Astrophysical Journal* contains a discussion, by Mr. Gavin J. Burns, of the proper motions of the 2641 stars given in Bossert's catalogue, which was published in the *Annales de l'Observatoire de Paris* in 1896.

After analysing the data Mr. Burns comes to the following conclusions:—(1) The stars increase in number as they decrease in size; (2) the stars thin out as their distances from the solar system increase; and, lastly, it appears that double stars generally have large proper motions, as is shown by the following comparison:—The average proper motion of 778 stars (from the first to the fifth magnitudes) as given in Dunkin's list is  $0''.15$ , whilst the average proper motion of 54 double stars (from first to seventh magnitudes) as obtained from Struve's catalogue is  $0''.37$ .

OBSERVATIONS OF JUPITER'S MARKINGS.—In the February *Bulletin de la Société Astronomique de France*, Senor José Comas Sola publishes the observations of Jupiter's markings which he has made since a previous publication of results in the September *Bulletin*.

These later observations fully confirm Senor Sola's previous statement that the trails of dark spots are at a level below that of the Great Red Spot, and that they form a current which flows beneath, and independent of, that spot.

This is plainly shown in the drawings which accompany the communication, for whereas in the drawing made on September 15 the trail of dark spots is seen adjacent to, and apparently emerging from behind, the Great Red Spot, on the later drawings it is seen that the distance between the two sets of phenomena is gradually increasing. The observations also indicate that the grey markings, which have been observed in the zone between the two dark bands in the southern temperate region, are in reality trails of dark material joining together the black spots which appear on the separate bands.

SOLAR PHENOMENA AND METEOROLOGY.—M. l'Abbé Loisier, of Thoisy-la-Berchère (Gold Coast), has just completed a daily record of the solar and meteorological phenomena for the past eleven years. The record contains daily drawings of the spots and faculae on the sun's disc, and the ordinary daily meteorological data. Recognising the intimate relations which have been shown to exist between these two sets of phenomena, M. Loisier now proposes to investigate carefully this accumulation of material with a view of obtaining evidence for, or against, the suggested inter-relations (*Bulletin de la Société Astronomique de France*, February).