

EARTHQUAKE-SHOCKS were felt on January 23 at Schattwald (Tyrol) at 10.45 a.m., direction west-east, and at Vils, Tannheim (Tyrol), and Oberdorf (Bavaria), at 8 p.m. A shock of earthquake occurred at Bucarest in the night of January 25-26, at 12.30, and at Tecucin and Marasesci (Roumania) on January 26 at 12.25 a.m. On February 5 a shock of earthquake was experienced at Nagy Igld and Dees (Hungary) at 3.45 p.m., direction north-east-south-west.

THE additions to the Zoological Society's Gardens during the past week include a Malbrouck Monkey (*Cercopithecus cynosurus* ♂) from East Africa, presented by Mr. R. A. St. Leger; a Chacma Baboon (*Cynocephalus porcaricus* ♂) from South Africa, presented by Mr. W. F. Battersby; an Amherst Pheasant (*Thaumalea amherstia* ♂) from Szechuen, China, presented by Mr. John Biehl; two Crocodiles (*Crocodilus*, sp. inc.) from South Africa, presented by Capt. D. King, R.N.; a Californian Quail (*Callipepla californica* ♀) from California, deposited; two Eagle Owls (*Bubo*, sp. inc.) from South Africa, on approval; a Red-fronted Lemur (*Lemur rufifrons* ♂) from Madagascar, a Common Otter (*Lutra vulgaris*) from Ireland, four Warty-faced Honey-eaters (*Meliphaga phrygia*), two Watted Ducks (*Biziura lobata* ♂ ♂) from Australia, a Pink-footed Goose (*Anser brachyrhynchus*), European, purchased; a Hybrid Tapir (between *Tapirus roulini* ♂ and *Tapirus americanus* ♀), born in the Gardens.

OUR ASTRONOMICAL COLUMN

THE ACADEMY OF SCIENCES, PARIS.—At the annual public sitting of this body on February 6, recommendations of a committee consisting of MM. Faye, Lcewy, Mouchez, Janssen, and Tisserand, with respect to the award of the astronomical prizes of 1881, were adopted by the Academy. The Lalande Prize was awarded to Mr. Lewis Swift, of Rochester, New York, who in the course of four years has discovered seven comets, one of them of short period. The committee remarked that we have now a family of seven periodical comets, of which the aphelion distances do not differ much from the mean distance of Jupiter, and this great planet appears to have drawn them into our system. There are doubtless interesting researches to make on this point of theoretical astronomy: "La première chose à faire est de recueillir de nombreux matériaux; aussi convient-il d'encourager les travailleurs qui consacrent leurs veilles à la recherche des comètes."

The Valz Prize was awarded to Mr. David Gill, H.M. astronomer at the Cape of Good Hope, for his researches on solar parallax, and more especially for the results of his expedition to Ascension, for the observation of Mars at the close opposition of 1877. Mr. Gill has twice applied what is known as the *diurnal method* (first employed by Cassini two centuries since) to observations of Mars with the heliometer. The Ascension expedition is pronounced to have been a great success, twenty-two series of observations of Mars having been obtained, each of which affords a value of the parallax. The discussion of the observations proves that they were made with a high degree of precision, and the committee conclude that "la valeur qui en résulte pour la parallax du Soleil paraît devoir être l'une des plus exactes."

The prizes offered for the year 1882 are those founded by Lalande (a gold medal of 540 francs), by Valz (460 francs), and that instituted in 1863 by the Baronne de Damoiseau. The latter is continued for the same subject as on several previous occasions, when no adequate response was received, and the terms are thus stated:—"Revoir la theorie des satellites de Jupiter; discuter les observations et en déduire les constantes qu'elle renferme, et particulièrement celle qui fournit une détermination directe de la vitesse de la lumière; enfin construire des Tables particulières pour chaque satellite." Competitors are desired to give particular attention to one of the conditions—that relating to the determination of the velocity of light. The value of the prize is 10,000 francs; memoirs received till June 1, 1882.

THE TOTAL SOLAR ECLIPSE OF MAY 17.—It appears that astronomy is to be once more indebted to the scientific spirit and

munificence of M. Bischoffsheim, the banker of Paris (a valued friend of the late M. Leverrier), who, according to the *Times*, has undertaken the expense of a mission to Upper Egypt, for the observation of this phenomenon. Upper Egypt is about the only accessible locality available on this occasion, and in that district the duration of the total phase will be less than 1½ minute. It will therefore be necessary for the observer to be situated close upon the central line of eclipse to secure a sufficient duration for any useful purpose. Hansen's Lunar Tables, as is well known, require correction at this time, but it happens that the Lunar Tables adopted in the "American Ephemeris" give the moon's place in pretty close agreement with that resulting from Hansen's, with Newcomb's corrections applied, and the track of total eclipse given in detail in that Ephemeris may be taken as almost as reliable a prediction as it will be possible to make. We extract as follows:—

	Greenwich		N. Limit		Central Line.		S. Limit.	
	Mean Time	Long. E.	Lat. N.	Long. E.	Lat. N.	Long. E.	Lat. N.	
May 16 ...	18 20	28 39'9	25 17'5	28 55'8	25 8'0	29 11'7	24 58'5	
18 25 ...	31 21 4	26 42 5	31 37 0	26 31 9	31 52 6	26 21 3	26 21 3	
18 30 ...	33 50 8	28 0 6	34 6 1	27 48 9	34 21 4	27 37 2	27 37 2	
18 35 ...	36 11 5	29 12 8	36 26 4	29 0 2	36 41 3	28 47 6	28 47 6	

The duration of totality upon the central line, assuming the sun's semi-diameter 15' 50" 8, and the moon's geocentric semi-diameter 15' 51" 9, will be at the above Greenwich times respectively, 1m. 6' 3s., 1m. 12' 0s., 1m. 17' 1s., 1m. 21' 8s.: an observer proceeding beyond the intersection of the central line with the Nile, say to Ras Mahomed at the extremity of the peninsula of Sinai, will not therefore secure an increase of ten seconds in the length of the total obscuration. We hear reports of an intention on the part of several American astronomers to visit Egypt for the observation of the eclipse, and hope this country may not be unrepresented.

THE TRANSIT OF MERCURY, NOVEMBER 7, 1881.—This phenomenon appears to have been well observed in Australia. If the times of internal contacts are founded upon Leverrier's tables of sun and planet, and the semi-diameters he deduced from a discussion of the transits of Mercury to 1845, the Melbourne observations indicate that the computed time of first internal contact is too early by 24' 5s., and that of last internal contact by 26' 0s. According to the observations of that able amateur, Mr. Tebbutt, at Windsor, N.S.W., these errors are respectively 20' 8s. and 27' 3s. The calculations of the American ephemeris, where Leverrier's old theory of the planet (*Connaissance des Temps*, 1848) is adopted, exhibit much larger errors, at least as regards the exterior contacts, for which alone the formulae of reduction for parallax are given. The experience is therefore the same as at the previous transit on May 6, 1878.

GEOGRAPHICAL NOTES

AT the meeting of the Geographical Society on Monday last, Sir Richard Temple delivered a lecture which nominally dealt with the geography of the birthplace and cradle of the Mahratta power in Western India, but practically became rather a disquisition on the history of the race, and much of the information furnished will, no doubt, have been familiar to readers of Meadows Taylor's work.

SOME further fragments of news have come from the rescued members of the *Jeannette* expedition. Every effort is being made to find Captain De Long and his companions, but at this season, and in such a region as the Lena mouth, the searchers have a hard task before them. Lieut. Danenhauer sends some interesting notes on the course taken by the *Jeannette*:—"We discovered Jeannette Island May 16, 1881 (?), in lat. 76° 47', long. 158° 56' E. It was small and rocky, and we did not land upon it. Henrietta Island was discovered May 24, in lat. 77° 8', long. 157° 43' E. We visited it, and found it to be an extensive island, animals scarce, many glaciers. A very large island, found in lat. 76° 38', long. 148° 20' E. was named Bennett Island. On it we found many birds, old horns, driftwood, and coal; no seal or walrus; strong tidal action; bold and rocky. The south cape we named Emma. The general health of the crew during twenty-one months was excellent, no scurvy. We used distilled water, bear and seal meat twice a week, but no rum. Divine service was held regularly. We took plenty of exercise, and everybody hunted. Game was scarce, but we got thirty bears, 250 seals, and six walrus; no fish or whales seen. All possible observations were made during the