

others. A collection of photographs showing the structural damage will be exhibited. The attendance of those interested in the subjected is invited.

THE last earthquakes in Southern Spain (February 15) were incident with slight subterranean motions in Algiers and in Savoy. The valley of Isère and Chambéry principally felt them.

AN exceptionally severe shock of earthquake was felt at Geraldton in Western Australia on January 5. It was preceded by a subterranean rumbling lasting ten seconds. Houses were violently shaken, and the walls rocked, causing much consternation. The sea subsided three feet in a quarter of an hour, returning gradually to its ordinary level. The weather at the time was clear and the temperature cold.

MESSRS. SONNENSCHNEIN AND Co. have published a third edition of Dr. Copping's "Cruise of the *Alert*."

WE have received from the Royal Museum of Anthropology of Leyden No. 1 of its "Anthropological Notices," by Drs. Serrurier and Jenkate. It deals with the Kroomen of Liberia, arranges the observations in them after the Broca-Topinard method. Only two individuals of the tribe, who had arrived as sailors on board a vessel at Rotterdam, were examined. They came from the region situated between Monrovia and the River Sesters. A plate containing an outline of the feet of each, and of the hand of one, is also added.

THE writer of the letter on "Human Hibernation" in NATURE of February 5 (p. 316) was Col. C. K. Bushe.

THE additions to the Zoological Society's Gardens during the past week include a Serval (*Felis serval* ♂), a Civet Cat (*Viverra civetta* ♀) from West Africa, presented by Mr. T. J. Alldridge, F.Z.S.; a Common Badger (*Meles taxus* ♀), British, presented by Mr. Cuthbert Johnson; two Common Foxes (*Canis vulpes* ♂ & ♀), British, presented by Lady Brassey, F.Z.S.; two Pileated Jays (*Cyanocorax pileatus*) from Buenos Ayres, presented by Mr. Theo. Walsh; a Roseate Cockatoo (*Cacatua roseicapilla*) from Australia, deposited; two Malayan Squirrels (*Sciurus nigrovittatus*) from Malacca, a Four-horned Antelope (*Tetracerus quadricornis* ♀) from India, a Golden-winged Woodpecker (*Colaptes auratus*) from North America, a Pine Grosbeak (*Pinicola enucleator*), European, a Brazilian Teal (*Querquedula brasiliensis* ♀) from Brazil, purchased; four Long-fronted Gerbills (*Gerbillus longifrons*), born in the Gardens.

OUR ASTRONOMICAL COLUMN

THE DOUBLE-STAR PIAZZI XIV. 212.—Piazzì first remarked from his own observations between 1800 and 1809, the large proper motion of this star, which was determined by Argelander in vol. vii. of the Bonn Observations to be 2".015 annually, in the direction 151°.2. "Der Begleiter 8'.4m.," he adds, "theilt die Bewegung des Hauptstern; beide bilden also ein System, dass eine ziemlich rasche Aenderung der Distanz und des Positionswinkels zeigt. . . ." The following measures suffice to show the nature of the change in the relative position of the components:—

Herschel and South	1823.3	...	270°.2	...	10".82
Burnham	1881.4	...	291°.3	...	15".38

The most reliable measures may be closely represented by the formulæ—

$$D. \sin P = -12''.502 - [8.78020]. (t - 1850.0)$$

$$D. \cos P = + 2''.613 + [8.96275]. (t - 1850.0)$$

But there is one point of interest connected with this star to which attention seems hardly to have been directed—viz. the strange discordances in the estimates of the magnitudes of the components. To illustrate this we may quote the following from a much larger number of estimates recorded:—

At 6h. Greenwich Mean Time				
			Star A	Star B
Herschel...	1835.45	...	5½	7
"	1837.46	...	6	9
Jacob	1856.24	...	6	7½
Argelander	1862.89	...	4.9	8.4
O. Stone	1877.37	...	7.0	8.5
Flammarion	1877.51	...	5.5	6.5
O. Stone	1879.47	...	5.0	8.0
Burnham	1880.32	...	6.0	8.0
O. Stone	1880.35	...	8.0	9.5
Burnham	1881.36	...	6.5	8.0

Gould has 6.3 and 7½. The star is not in Argelander's *Uranometria*, nor has Heis got it. Argelander made a difference of 3½ magnitudes in 1862-63, Flammarion in 1877 rated the fainter star only one magnitude below the other. The difference between Burnham and O. Stone at nearly the same time in 1880 may have been due to atmospheric conditions at Cincinnati, but the star appears to be worth watching for variability; compare Argelander in 1862 with Burnham in 1881 or with Gould.

WOLF'S COMET.—The following ephemeris for 6h. G.M.T. is founded upon one for Berlin midnight, calculated from Prof. Krueger's last orbit, by Dr. Lamp, of Kiel:—

	R.A.	Decl.	Log. distance from Earth	Log. distance from Sun
	h. m. s.	° ' "		
March 2	3 7 13	0 97	0.3243	0.2752
3	9 31	0 26		
4	11 49	+0 44	0.3296	0.2776
5	14 7	0 11.3		
6	16 24	0 18.2	0.3348	0.2800
7	18 42	0 25.0		
8	20 59	0 31.8	0.3400	0.2825
9	23 16	0 38.5		
10	25 33	0 45.3	0.3451	0.2849
11	27 50	0 52.0		
12	30 6	0 58.6	0.3502	0.2873
13	32 22	1 5.1		
14	34 38	+1 11.6	0.3553	0.2897

Mr. J. I. Plummer observed the comet for position on February 18, notwithstanding the presence of a 3½ days' moon.

ASTRONOMICAL PHENOMENA FOR THE WEEK, 1885, MARCH 1-7

(FOR the reckoning of time the civil day, commencing at Greenwich mean midnight, counting the hours on to 24, is here employed.)

At Greenwich on March 1

Sun rises, 6h. 47m.; souths, 12h. 12m. 27.8s.; sets, 17h. 39m.; decl. on meridian, 7° 24' S.: Sidereal Time at Sunset, 4h. 18m.

Moon (Full at 4h.) rises, 17h. 12m.*; souths, oh. 1m.; sets, 6h. 38m.; decl. on meridian, 6° 15' N.

Planet	Rises	Souths	Sets	Decl. on Meridian
	h. m.	h. m.	h. m.	
Mercury	6 42	11 36	16 31	13 16 S.
Venus	6 23	11 12	16 2	14 19 S.
Mars	6 45	11 59	17 13	9 50 S.
Jupiter	16 19	23 29	6 39*	12 50 N.
Saturn	10 23	18 27	2 31*	21 38 N.

* Indicates that the rising is that of the preceding, and the setting that of the following nominal day.

Occultation of Star by the Moon

March	Star	Mag.	Disap.	Reap.	Corresponding angles from vertex to right for inverted image
			h. m.	h. m.	
7	θ Libræ	4½	0 52	2 2	30 24°

Phenomena of Jupiter's Satellites

March	h. m.	March	h. m.
1	0 10	II. ecl. reap.	6 ... I 20
2	17 53	II. tr. egr.	4 5
3	2 6	III. occ. disap.	19 19
4	4 16	I. occ. disap.	20 0
5	1 34	I. tr. ing.	22 20
	3 54	I. tr. egr.	7 ... 19 49
	22 42	I. occ. disap.	23 4

The occultations of stars and phenomena of Jupiter's satellites are such as are visible at Greenwich.