

pages, so that the whole paper would make a considerable volume dealing with temperatures in the Alpine regions of Austria.

M. D'ABBADIE begs us to state that the earth-tremors observed in his apparatus (NATURE, vol. xxxii. p. 568) about two miles north of the Spanish frontier coincided with the many earthquakes in the south of Spain. There were no such phenomena in Egypt.

THE additions to the Zoological Society's Gardens during the past week include a Bonnet Monkey (*Macacus sinicus* ♂) from India, presented by Mr. L. C. Phillips; a Ring-tailed Coati (*Nasua rufa* ♂) from South America, presented by Lieut. W. F. Tunnard, R.N.; a Black Wallaby (*Halmaturus ualabatus* ♂) from South Australia, presented by Mr. R. E. Wootton Isaacson; a Javan Cat (*Felis javanensis*) from Java, presented by Capt. T. H. Franks; a Puma (*Felis concolor* ♂) from South America, presented by M. Rodolfo Aranz; two West Indian Rails (*Aramides cayennensis*) from Brazil, presented by Mr. J. C. Fraser; a Levaillant's Amazon (*Chrysotis levaillanti*) from Mexico, presented by Mr. H. D. Astley, F.Z.S.; a Silver Pheasant (*Euplocamus nycthemerus*) from China, presented by Mrs. James; three Robben Island Snakes (*Coronella phocarum*), a Hoary Snake (*Coronella cana*), a — Elaps (*Elaps hygie*), a Reddish Pentonyx (*Pelomedusa subrufa*) from South Africa, seven Geometrical Tortoises (*Testudo geometrica*) from the Orange River, South Africa, presented by the Rev. G. H. R. Fisk, C.M.Z.S.; a Rose-crested Cockatoo (*Cacatua moluccensis*) from Moluccas, deposited; a Blue and Yellow Macaw (*Ara ararauna*) from Trinidad, received in exchange; eight Summer Ducks (*Ex sponsa*, 4 ♂ 4 ♀) from North America, purchased; a Bennett's Wallaby (*Halmaturus bennetti* ♀), born in the Gardens.

ASTRONOMICAL PHENOMENA FOR THE WEEK, 1885, OCTOBER 18-24

(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 October 18

Sun rises, 6h. 31m.; souths, 11h. 45m. 9'9s.; sets, 16h. 59m.; decl. on meridian, 9° 47' S.; Sidereal Time at Sunset, 18h. 48m.

Moon (two days after First Quarter) rises, 14h. 51m.; souths, 20h. 0m.; sets, 1h. 17m.*; decl. on meridian, 10° 27' S.

| Planet | Rises | | Souths | | Sets | | Decl. on meridian |
|-------------|-------|-----|--------|----|------|----|-------------------|
| | h. | m. | h. | m. | h. | m. | |
| Mercury ... | 6 | 37 | 11 | 51 | 17 | 5 | 9 43 S. |
| Venus ... | 10 | 37 | 14 | 30 | 18 | 23 | 23 26 S. |
| Mars ... | 0 | 6 | 7 | 38 | 15 | 10 | 16 38 N. |
| Jupiter ... | 3 | 35 | 9 | 54 | 16 | 13 | 3 5 N. |
| Saturn ... | 20 | 41* | 4 | 49 | 12 | 57 | 22 17 N. |

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

Phenomena of Jupiter's Satellites

| Oct. | h. m. | I. tr. ing. | Oct. | h. m. | I. occ. reap. |
|------|----------|-------------|------|----------|---------------|
| 21 | ... 4 32 | | 22 | ... 4 10 | |

The Phenomena of Jupiter's Satellites are such as are visible at Greenwich.

| Oct. | h. | |
|------|--------|--|
| 20 | ... 0 | Saturn at least distance from the Sun. |
| 20 | ... 13 | Saturn stationary. |

GEOGRAPHICAL NOTES

THE work done by Lieut. Wissmann in his exploration of the Kassai River, the great southern tributary of the Congo, is second in importance only to the discovery of the Congo itself. It will seriously modify the conjectural geography of that part of Africa. He found the river to be of immense volume, and navigable from its junction with the Lulua. He found the Sankuru and the Lubilash to be one river, which, instead of flowing northwards to the Congo, turns westwards, and joins

the Kassai. As it approaches the Congo Kassai receives the great Koango, and enters the main river by the Kwamouth, after receiving the water of Lake Leopold. Thus the river which on Stanley's last map joins the Congo west of Stanley Falls cannot be the Lubilash, and, moreover, must be of no great length. This discovery of Lieut. Wissmann, along with that of the Mobangi by Mr. Grenfell, greatly increases the navigable waterway of the Congo system.

THE September number of *Petermann's Mittheilungen* has for its principal article the first part of an account of Paulitschke and Hardegger's journey to Harar, by Dr. Paulitschke. It is accompanied by a map of the districts traversed. The present instalment describes the circumstances under which the journey was undertaken, the preparations at Zeila, where the English consul was able to put the travellers in friendly communication with Abu Bakr, the Governor of Zeila, who gave them the most important help, and the details of the journey as far as Bussa, on the frontier of the Northern Gallas country. Dr. Schinz asks the question whether Namaqua-Land or Nama-Land is correct, and decides in favour of the latter. "Namaqua" is a Dutch corruption; the term "Nama" is applied to Hottentots in general, without any distinction of sex; "namaqua" is properly "namagu" or "namaga," the nominative and dative plural of "nama"; "qua" is therefore doubly wrong as a suffix, and Namaland is the proper term. M. Rabot writes on the Stor Borgefeld in Nordland in Norway, and the usual literary and geographical news brings the number to a conclusion.

THE last number (Band xxviii. No. 29) of the *Mittheilungen* of the Geographical Society of Vienna contains a paper on the ethnic members of the western Somali and north-eastern Galla tribes, by Dr. Paulitschke, accompanied by a map; six letters from Dr. Lenz on his Congo expedition, and the first part of a paper by Herr Jülg on the erosive action of the sea on coasts; the bibliography of Africa for the last half year, and the usual notices of geographical works conclude the number.

M. BRAN DE SAINT POL-LIAS, who was sent on a scientific mission to Tonquin and Java, returned to France towards the close of September. He brought back with him numerous specimens of the flora and fauna of the districts through which he travelled.

THE chief geographical societies in Germany have resolved to erect a monument to the late Dr. Nachtigal on Cape Palmas, where he lies buried. It is intended to have it so large that it will serve as a landmark to seamen.

THE Godeffroy Museum at Hamburg, illustrative of the natural history of the South Sea Islands, has been sold to the Ethnographical Museum of Leipsic.

THE GREAT OCEAN BASINS¹

I.

THE ancients, down to the time of Aristotle—and most of them for a long time afterwards—regarded the earth as a great plain surrounded on all sides by the mighty, deep, gently-flowing stream of the ocean.

In the geography of the Homeric age there was not supposed to be any communication between the Mediterranean and this all-encircling ocean river. When, in consequence of the excursions of the Phœnicians, the communication through the Pillars of Hercules became known, ideas respecting the outer sea gradually changed. At first, curiously enough, the Atlantic Ocean was regarded as muddy, shallow, and little agitated by the winds—a belief apparently associated with the supposed subsidence of the legendary island of Atlantis. The world, as known to the ancients down to about 300 years before Christ, is represented in this map of Hecateus.

There seems to be no doubt that the spherical form of the earth was known to some philosophers even before the time of Aristotle—the proof that the earth is a sphere being indeed easy to minds that had received a mathematical training—but these have been few in all ages, and an idea so directly opposed to the apparent evidence of the senses could only be expected to win its way with difficulty. Indeed, at the present day the majority of even educated people are unable to give any reason for their belief that the earth is a sphere, other than that navigators are now in the habit of sailing around it.

¹ Lecture delivered at the Aberdeen meeting of the British Association by Mr. John Murray, Director of the *Challenger* Reports.