

the perturbations are not likely to have been material, and should the comet arrive at its least distance from the sun early in May the chances of reobservation will be very small indeed, the longitude of perihelion being in  $43^\circ$ , and the inclination of the orbit to the ecliptic less than  $5\frac{1}{2}^\circ$ .

ASTRONOMICAL PHENOMENA FOR THE WEEK, 1885, JUNE 7-13

(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 June 7

Sun rises, 3h. 47m.; souths, 11h. 58m. 35's.; sets, 2oh. 10m.; decl. on meridian,  $22^\circ 48' N.$ ; Sidereal Time at Sunset, 13h. 15m.

Moon (New on June 12, 23h.) rises, oh. 56m.; souths, 7h. 3m.; sets, 13h. 22m.; decl. on meridian,  $0^\circ 41' N.$

| Planet      | Rises<br>h. m. | Souths<br>h. m. | Sets<br>h. m. | Decl. on meridian |
|-------------|----------------|-----------------|---------------|-------------------|
| Mercury ... | 2 59 ...       | 10 34 ...       | 18 9 ...      | 17 10 N.          |
| Venus ...   | 4 17 ...       | 12 38 ...       | 20 59 ...     | 23 57 N.          |
| Mars ...    | 2 34 ...       | 10 14 ...       | 17 54 ...     | 17 58 N.          |
| Jupiter ... | 9 51 ...       | 17 1 ...        | 0 11*         | 12 52 N.          |
| Saturn ...  | 4 31 ...       | 12 40 ...       | 20 49 ...     | 22 26 N.          |

\* Indicates that the setting is that of the following day.

Phenomena of Jupiter's Satellites

| June | h. m.     |               | June | h. m.     |                 |
|------|-----------|---------------|------|-----------|-----------------|
| 7    | ... 20 42 | I. ecl. reap. | 11   | ... 20 36 | II. occ. disap. |
| 8    | ... 0 2   | IV. tr. ing.  | 13   | ... 22 0  | I. tr. ing.     |

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

| June | h.     |                             |                                      |
|------|--------|-----------------------------|--------------------------------------|
| 11   | ... 1  | Mars in conjunction with    | and $3^\circ 51'$ north of the Moon. |
| 11   | ... 16 | Mercury in conjunction with | and $2^\circ 47'$ north of the Moon. |
| 13   | ... 6  | Saturn in conjunction with  | and $4^\circ 3'$ north of the Moon.  |
| 13   | ... 17 | Venus in conjunction with   | and $5^\circ 48'$ north of the Moon. |

GEOGRAPHICAL NOTES

THE Pamir is the subject of another contribution, by M. Ivanoff, to the last issue of the *Ivestia* of the Russian Geographical Society. Several objections having been made to his views on the Pamir, already mentioned in NATURE, and especially to his tendency of limiting the name of Pamir to the eastern part of the great Central Asian mountain mass. M. Ivanoff answers by a paper accompanied by a map of the Pamir, on which the whole of the region is represented; the chains of mountains being drawn, however, merely schematically, which circumstance is a great obstacle to catching on the map their real characters. He insists on the fact that the denominations "Great" and "Little Pamir," introduced by Messrs. Gordon and Trotter, are not known to those natives who are best acquainted with the region, and they lay altogether too much stress upon the names in use among Kirghizes. He thus limits the discussion as to what must be considered as the Pamir, which discussion had been so very well put by his former orographical papers on its proper ground—that of physical geography—where it obviously must remain. We notice in the same issue a paper by M. Wolter on the Prussian Lithuanians; and a preliminary report, by M. Sorokin, on his journey in Russian Tian-Shan.

THE new and promising route to Central Asia from the Mortvyi Kultuk Gulf of the Caspian via the Ust-Urt to Kungrad is the subject of an interesting paper read by M. Belavskiy before the Russian Geographical Society, and analysed in the last issue of the *Ivestia* (xxi. 2). Until lately the Mortvyi Kultuk was considered too shallow for navigation, east winds being said to reduce its depth to 3.5 feet. Recent soundings proved, however, that the usual depth being about 9 feet, no winds reduce it more than to  $4\frac{1}{2}$  feet; in fact, flat steamers freely navigate the gulf. Those which do not take more than  $4\frac{1}{2}$  feet of water approach the shores for 60 to 230 yards at Ayrakly. From that port, which has sweet-water wells, the route goes on to the Ust-Urt plateau. The Ust-Urt was formerly considered as quite dry, and as having

a very severe climate. But this belief was exaggerated. Water is found at each 10 to 13 miles; there are also pasture-grounds, and neither the cold in winter nor the heat in summer is excessive. This last is moderated by winds. The *saksaoul*, brushes, and the excrement of camels give the necessary fuel. On the whole stretch, 270 miles long, from the Mortvyi Kultuk to Kungrad, there is no difficulty in crossing the Ust-Urt in carriages, and want of water is felt only near Kungrad. From this town steamers may ply on the Amu-daria; a steamer has already gone up the river to Khodja-Sala. Moreover, a route, available for carriages, runs along the left bank of the river. On the whole this new route has already proved to be more advantageous for the transport of merchandise from Bokhara to Russia than the old one via Orenburg.

FROM a communication to the Russian Geographical Society, made by Dr. Dybovskiy, it appears that the Commodore Islands—Behring, Copper, and two smaller ones—situated 300 miles east of Kamtschatka, ought to be regarded in a better light than they have been hitherto. Behring Island is covered with excellent prairies, and Dr. Dybovskiy is sure that agriculture could be carried on it. The southern part of this island is hilly, and reminds one of the alpine regions of Kamtschatka. No forests, but only shrubs of the *Rhododendron Sorbus*, and so on, grow on the islands; but the explorer's experiments of planting forest-trees proved quite successful. The higher tracts offering excellent grazing grounds for reindeer, a number of these last were imported in 1882, and the experiment of acclimatising them on the island proved also quite successful. The narrow valleys of Copper Island are also considered quite suitable for agriculture. The islands are formed of crystalline rocks covered with Tertiary deposits; they contain copper ore and brown coal, of course unworked. Fuel is brought from Kamtschatka. The climate is far milder than on the peninsula, and while in May snow a yard thick lay at Petropavlovsk, vegetables are freely grown on the islands. Snow is altogether so scanty that horses brought on to Behring Island were feeding throughout the winter on the prairies. The fauna of the islands has been well explored by M. Dybovskiy. The flora is much like that of the alpine regions of Kamtschatka. The inhabitants, all Aleutes, 514 in number, live in wooden houses. They are all Christians, and can read.

THE attention of geographers and men of science ought to be called to several numbers of the *Archiv für die naturwissenschaftliche Landesdurchforschung von Böhmen*, which have recently been issued (Prague: Franz Rzonatz). The numbers of most interest to geographers pure and simple are those forming the first division of the third volume, and containing a list of the heights in Bohemia trigonometrically determined by the Imperial Institute of Military Geography in the years 1877-79. Numbers 2 to 6 of the fourth volume deal with the geology and botany of Bohemia, and numbers 1 to 3 of the fifth volume are also devoted to geology. The monographs composing this work are said to constitute a real treasury of information concerning the physical conditions and natural resources of the Austrian Crownland of which it treats.

AT the last meeting of the Paris Geographical Society a communication was read from Capt. Sorensen respecting his visit last year to Spitzbergen. It contained numerous observations on climatology and the configuration of the coasts (especially in correction of the English charts). His remarks with regard to the state of the ice during the spring are of special interest. He found the ice around Spitzbergen very different from what he had observed in previous years. Usually the western side is accessible at the commencement of the season, viz., May and June. Drifts are to be met with, but they disappear about the middle of June, or, at the latest, in the beginning of July. Last year, on the other hand, the west coast was blocked by ice the whole summer through. No captain can recollect having ever encountered such a mass of ice on this coast. The Norwegians have observed that for three years past the melting of the ice has grown later year by year. On the east coast the sea is generally full of icebergs, but it was wholly free from them last year. Off Barentz Island also the sea was free from ice, and one of the captains who penetrated farther to the east discovered two islands. Capt. Sorensen suggests, therefore, that Spitzbergen and Franz-Josef Land form parts of a vast archipelago, and not two wholly distinct territories, as has hitherto been believed. He promises during coming years to continue his meteorological observations in his annual visits to these regions.