

of the places which will be visited : Leatherhead and Boxhill, to examine the gorge of the Mole in chalk ; Maidstone and the vicinity, for gravels ; Woolwich and Reading beds, chalk gault, and lower greensand ; Erith and Crayford, for river gravels ; Grays (in Essex), Northfleet, and Oxsted, for studies in chalk ; and other places besides. Intending students should apply for tickets at once, as only a limited number are issued. Application forms may be had from Mr. W. P. Collins, 157 Great Portland Street.

The additions to the Zoological Society's Gardens during the past week include a Blue and Yellow Macaw (*Ara ararauna*), from South America, presented by Mrs. Warrand ; two White Ibis (*Eudocimus albus*), from South America, deposited ; two Black-backed Geese (*Sarcidiornis melanonota* ♂ ♀), from India, purchased ; a Puma (*Felis concolor*), two Long-fronted Gerbilles (*Gerbillus longifrons*), a Hog Deer (*Cervus porcinus*), a Sambur Deer (*Cervus aristotelis* ♂), born in the Gardens.

ASTRONOMICAL PHENOMENA FOR THE WEEK 1888 MAY 20-26.

(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 May 20

Sun rises, 4h. 2m. ; souths, 11h. 55m. 21' Os. ; sets, 19h. 50m. : right asc. on meridian, 3h. 50'6m. ; decl. 20° 8' N
Sidereal Time at Sunset, 11h. 45m.
Moon (Full on May 25, 14h.) rises, 13h. 0m. ; souths, 19h. 49m. ; sets, 2h. 23m.* : right asc. on meridian, 11h. 44'2m. ; decl. 6° 3' N.

Planet.	Rises.		Souths.		Sets.		Right asc. and declination on meridian.	
	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	
Mercury..	4 25	...	12 43	...	21 1	...	4 37'3	... 23 42 N.
Venus ...	3 35	...	11 0	...	18 25	...	2 54'0	... 15 26 N.
Mars ...	15 7	...	20 49	...	2 31*	...	12 44'8	... 4 12 S.
Jupiter ...	19 49	...	0 7	...	4 25	...	15 59'5	... 19 33 S.
Saturn ...	8 27	...	16 22	...	0 17*	...	8 16'7	... 20 22 N.
Uranus... 15 16	...	20 55	...	2 34*	...	12 50'8	... 4 43 S.	
Neptune. 4 13	...	11 57	...	19 41	...	3 51'8	... 18 31 N.	

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

Occultations of Stars by the Moon (visible at Greenwich).

May.	Star.	Mag.	Disap.	Reap.		Corresponding angles from vertex to right for inverted image.
				h. m.	h. m.	
20	B.A.C. 3996	6	19 0	near approach	142	0
21	β Virginis...	6	0 57	...	139	254
24	η Libræ ...	6	22 52	...	128	184
25	θ Libræ ...	4½	3 45	...	4 39†	85 322
26	B.A.C. 5700	6½	4 14	...	4 44	175 236

† Below horizon at Greenwich.

May.	h.	Event
21	2	Jupiter in conjunction with and 0° 2' north of β Scorpii.
21	23	Mars in conjunction with and 4° 32' south of the Moon.
22	5	Jupiter in opposition to the Sun.
23	11	Mars stationary.
25	7	Jupiter in conjunction with and 3° 34' south of the Moon.

Variable Stars.

Star.	R.A.		Decl.	h. m.
	h. m.	h. m.		
U Cephei ...	0 52'4	81 16 N.	May 22,	1 17 m
S Persei ...	2 14'8	58 4 N.	" 22,	m
W Virginis ...	13 20'3	2 48 S.	" 26,	3 0 m
U Coronæ ...	15 13'6	32 3 N.	" 25,	2 55 m
U Ophiuchi...	17 10'9	1 20 N.	" 23,	1 22 m
S Sagittæ ...	19 50'9	16 20 N.	" 25,	3 0 m
R Sagittæ ...	20 9'0	16 23 N.	" 23,	m
T Vulpeculæ	20 46'7	27 50 N.	" 23,	2 0 m
δ Cephei ...	22 25'0	57 51 N.	" 25,	2 0 m

M signifies maximum ; m minimum.

GEOGRAPHICAL NOTES.

AT Monday's meeting of the Royal Geographical Society Lieut. F. E. Younghusband gave an account of his journey across Central Asia, from Manchuria and Peking to Kashmir and the Mustagh Pass. This is the most important paper which has been read at the Society during the present session, and the journey one of the most remarkable ever made, considering its length, the time taken—April to November, 1887—and the novelty and value of the results. We have only space to refer briefly to Lieut. Younghusband's observations on the Mustagh Pass, which he has been the first European to cross. He crossed the Gobi Desert to Hami by a route lying between those of Marco Polo and Mr. Ney Elias. His observations in the Gobi are of much interest. The clearness and dryness of the atmosphere were remarkable. Everything became parched up, and so charged with electricity that a sheepskin coat or blanket, on being opened out, would give out a loud crackling noise, accompanied by a sheet of fire. At the western end of the Hurku Hills, beyond the Galpin Gobi—the most sterile part of the whole Gobi—is a most remarkable range of sand-hills. It is about 40 miles in length, and is composed of bare sand, without a vestige of vegetation of any sort on it, and in places it is as much as 900 feet in height, rising abruptly out of a gravel plain. With the dark outline of the southern hills as a background, this white, fantastically-shaped sand-range presents a very striking appearance. It must have been formed by the action of the wind, for to the westward of this range is an immense sandy tract, and it is evident that the wind has driven the sand from this up into the hollow between the Hurku Hills and the range to the south, thus forming these remarkable sand-hills. It was near this region that traces of the wild camel were met with, and both wild asses and wild horses seen. As far as Hami the country continues to be mainly desert. From Hami, Lieut. Younghusband went on to Yarkand, and by the Yarkand River to the Karakorum Range, which he meant to cross by the Mustagh Pass. The difficulties, owing to the enormous glaciers, the rugged nature of the mountains, and great height of the pass, were very great for Lieut. Younghusband, his men, and his ponies. The glaciers here are of enormous size, and Lieut. Younghusband has added considerably to the information obtained by Colonel Godwin-Austen, who surveyed the region to the south of the pass twenty-six years ago. "The appearance of these mountains," Lieut. Younghusband stated, "is extremely bold and rugged as they rise in a succession of needle peaks like hundreds of Matterhorns collected together ; but the Matterhorn, Mont Blanc, and all the Swiss mountains would have been two or three thousand feet below me, while these mountains rose up in solemn grandeur thousands of feet above me. Not a living thing was seen, and not a sound was heard ; all was snow and ice and rocky precipices ; while these mountains are far too grand to support anything so insignificant as trees or vegetation of any sort. They stand bold and solitary in their glory, and only permit man to come amongst them for a few months in the year, that he may admire their magnificence and go and tell it to his comrades in the world beneath." After some extremely difficult prospecting, Lieut. Younghusband made up his mind to cross the old and long-abandoned Mustagh Pass, instead of the new one. "Next morning," he stated, "while it was yet dark, we started for the pass, leaving everything behind, except a roll of bedding for myself, a sheepskin coat for each man, a few dry provisions, and a large tea-kettle. The ascent to the pass was quite gentle, but led over deep snow in which we sank knee-deep at every step. We were now about 19,000 feet above the sea-level, and quickly became exhausted. In fact, as we got near the summit, we could only advance a dozen or twenty steps at a time, and we would then lean over on our alpenstocks, and gasp and pant away as if we had been running up a steep hill at a great pace. But it was not till midday that we reached the summit, and then on looking about for a way down we could see none. Huge blocks of ice had fallen from the mountains which overhang the pass, and had blocked up the path by which travellers used formerly to descend from it, and the only possible way now of getting to the bottom was by crossing an icy slope to a cliff, which was too steep for a particle of snow to lodge on it, even in that region of ice and snow. From this we should have to descend on to some more icy slopes which could be seen below. . . . We had first to cross the icy slope ; it was of smooth ice and very steep, and about thirty yards below us it ended abruptly, and we could see

nothing over the edge for many hundreds of feet. As Wali hewed the steps we advanced step by step after him, leaning back against the slope, all the time facing the precipice, and knowing that if we slipped (and the ice was very slippery, for the sun was just powerful enough to melt the surface of it), we should roll down the icy slope and over the precipice into eternity. After a time we reached *terra firma* in the shape of a projecting piece of rock, and from here began the descent of the cliff. We had to let ourselves down from any little ledge, taking every step with the greatest possible care, as the rock was not always sound; and once a shout came from above, and a huge rock, which had been dislodged, came crashing past me and as nearly as possible hit two of the men who had already got some way down. At the bottom of the cliff we came to another steep ice-slope." After eighteen hours of this task the party were glad to lie down for a few hours' rest. At daybreak next morning they were on their legs again, and after a few hours' travelling emerged on to the great Baltoro Glacier, which was explored by Colonel Godwin-Austen in 1852, when making the Kashmir survey. They travelled all that day, and for two days more, till they reached Askoli, a little village on the Braldo River, surrounded by trees and cultivated lands.

LIEUT. YOUNGHUSBAND remarked as follows on the Altai Mountains:—"These mountains are perfectly barren, the upper portion composed of bare rock and the lower of long gravel slopes formed of the debris of the rocks above. In such an extremely dry climate, exposed to the icy cold winds of winter and the fierce rays of the summer sun, and unprotected by one atom of soil, the rocks here, as also in every other part of the Gobi, crumble away to a remarkable extent, and there being no rainfall sufficient to wash away the debris, the lower features of the range gradually get covered with a mass of debris falling from the upper portions, and in the course of time a uniform slope is created, often 30 or 40 miles in length, and it is only for a few hundred feet at the top that the original jagged rocky outline is seen." Again, with regard to Chinese Turkistan:—"If you could get a bird's-eye view of Chinese Turkistan, you would see a great bare desert surrounded on three sides by barren mountains, and at their bases you would see some vivid green spots, showing out sharp and distinct like blots of green paint dropped on to a sepia picture. In the western end round Kashgar and Yarkand the cultivation is of greater extent and more continuous than in the eastern half, where the oases are small and separated from each other by 15 or 20 miles of desert. These oases are, however, extraordinarily fertile, every scrap of land that can be cultivated is used up, and every drop of water is drained off from the stream and used for irrigation." At the conclusion of Monday's meeting of the Royal Geographical Society, General J. T. Walker proposed, and Sir Henry Rawlinson seconded, that the peak in the Karakorum known as K2, 28,500 feet high, be baptized Mount Godwin-Austen—a proposal heartily approved by the meeting.

THE Paris Geographical Society has awarded gold medals to the Rev. P. Roblet, for his map of Madagascar; to MM. Bonvalot, Capus, and Pépin, for their journeys in Kafiristan and the Pamir; to M. Chaffanjon, for his exploration of the sources of the Orinoco.

GENERAL PRJEVALSKY will start in August next on his fourth journey in Central Asia. His ultimate destination will be Lhassa, the capital of Tibet, and he will be equipped for two years' travel. He will be accompanied by an escort of twenty-eight persons, including twelve Cossacks, and two scientific companions, Lieut. Robrowsky and Sub-Lieut. Koslow.

THE PYGMY RACES OF MEN.¹

II.

LIKE all other human beings existing at present in the world, however low in the scale of civilization, the social life of the Andamanese is enveloped in a complex maze of unwritten law or custom, the intricacies of which are most difficult for any stranger to unravel. The relations they may or may not marry, the food they are obliged or forbidden to partake of at particular epochs of life or seasons of the year, the words and names they may or may not pronounce: all those, as well as their traditions, supersti-

¹ A Lecture delivered at the Royal Institution on Friday evening, April 13, 1888, by Prof. Flower, C.B., LL.D., F.R.S., Director of the Natural History Departments of the British Museum. Continued from p. 45.

tions, and beliefs, their occupations, games, and amusements of which they seem to have had no lack, would take far too long to describe here; but, before leaving these interesting people, I may quote an observation of Mr. Man's, which, unless he has seen them with too *coul-ur-de-rose* eyesight, throws a very favourable light upon the primitive unsophisticated life of these poor little savages, now so ruthlessly broken into and destroyed by the exigencies of our ever-extending Empire.

"It has been asserted," Mr. Man says, "that the 'communal marriage' system prevails among them, and that 'marriage is nothing more than taking a female slave'; but, so far from the contract being regarded as a merely temporary arrangement, to be set aside at the will of either party, no incompatibility of temper or other cause is allowed to dissolve the union; and while bigamy, polygamy, polyandry, and divorce are unknown, conjugal fidelity till death is not the exception but the rule, and matrimonial differences, which, however, occur but rarely, are easily settled with or without the intervention of friends." In fact, Mr. Man goes on to say, "One of the most striking features of their social relations is the marked equality and affection which subsists between husband and wife," and "the consideration and respect with which women are treated might with advantage be emulated by certain classes in our own land."

It should also be mentioned that cannibalism and infanticide, two such common incidents of savage life, were never practised by them.

We must now pass to the important scientific question, Who are the natives of the Andaman Islands, and where, among the other races of the human species, shall we look for their nearest relations?

It is due mainly to the assiduous researches into all the documentary evidence relating to the inhabitants of Southern Asia and the Indian Archipelago, conducted through many years by M. de Quatrefages, in some cases with the assistance of his colleague M. Hamy, that the facts I am about to put before you have been prominently brought to light, and their significance demonstrated.

It is well known that the greater part of the large island of New Guinea, and of the chain of islands extending eastwards and southwards from it, including the Solomon Islands, the New Hebrides, and New Caledonia, and also the Fijis, are still inhabited mainly by people of dark colour, frizzly hair, and many characters alluding them to the Negroes of Africa. These constitute the race to which the term Melanesian is commonly applied in this country, or Oceanic Negroes, the "Papouas" of Quatrefages. Their area at one time was more extensive than it is now, and has been greatly encroached upon by the brown, straight-haired Polynesian race with Malay affinities, now inhabiting many of the more important islands of the Pacific, and the mingling of which with the more aboriginal Melanesians in various proportions has been a cause, among others, of the diverse aspect of the population on many of the islands in this extensive region. These Papouas, or Melanesians, however, differ greatly from the Andamanese in many easily defined characters; which are, especially, their larger stature, their long, narrow, and high skulls, and their coarser and more Negro-like features. Although undoubtedly allied, we cannot look to them as the nearest relations of our little Andamanese.

When the Spaniards commenced the colonization of the Philippines, they met with, in the mountainous region in the interior of the Island of Luzon, besides the prevailing native population, consisting of Tagals of Malay origin, very small people, of black complexion, with the frizzly hair of the African Negroes. So struck were they with the resemblance, that they called them "Negritos del Monte" (little Negroes of the mountain). Their local name was Aigtas, or Inagtas, said to signify "black," and from which the word Aëta, generally now applied to them, is derived. These people have lately been studied by two French travellers, M. Marche and Dr. Montano; the result of their measurements gives 4 feet 8½ inches as the average height of the men, and 4 feet 6½ inches the average for the women. In many of their moral characteristics they resemble the Andamanese. The Aëtats are faithful to their marriage vows, and have but one wife. The affection of parents for children is very strong, and the latter have for their father and mother as much love and respect. The marriage ceremony, according to M. Montano, is very remarkable. The affianced pair climb two flexible trees placed near to each other. One of the elders of the tribe bends them towards each other. When