JULY 24, 1885.]

SCIENCE.

SIR PETER LUMSDEN ON THE TRIBES UPON THE AFGHAN BOUNDARY.

In speaking before the Royal geographical society of London on the 22d of June last, on the country and tribes bordering on the Koh-i-Baba Range, Sir Peter Lumsden, the chief of the Afghan boundary commission, on the part of England, said that on the 25th of November last the commission crossed over the Koh-i-Baba Mountains by the Chashma Saby Pass; and in drawing attention to the country, and to the tribes inhabiting the slopes of this range, he proposed to confine himself to the relation of such matter as had not hitherto been brought before the marking the period when they were swept into slavery or destroyed. For instance: in the tract of country between Gulran and the Kushk River, the last inhabitants were Usbeg and Hazara, and on the tombstones of their dead were dates extending as nearly as possible over a century; viz., from A.D. 1650 to 1750. Another difficulty to the geographer is that there are generally two names for each stream or location, — the first, the traditional one, known to Afghan and Persian, and frequently of Arab or Persian origin; the second, that by which it may be known to the Turcoman shepherds or sirdars, who alone traverse these little-frequented routes. Along the northern base of the Koh-i-Baba are a succession



GATEWAY OF BALA MURGHAB. (Ill. London graphic.)

public. Touching, at the outset, on the difficulties presented to the geographer in such a region, he pointed out that to us, happily ignorant of all the horrors involved in the dreaded 'Alaman' or Turcoman raid, a map of a country swept by these raids is difficult to comprehend. In such a district names do not signify towns or villages, but merely the sites where they once existed, marked, perhaps, by mounds delineating the ground-plan of forts, caravansérais, houses, or tanks, but of which no other traces now remain. Of the former inhabitants, frequently the only records are the tombstones of their burialplaces, from some of which data may be secured in ancient channels, while in many places karezes (that is, subterranean canals) indicate a state of past prosperity and extensive cultivation. Towers and walls of still existing forts show, that, even in those far distant days, property required protection; and, as on the site of the old castle of Gulran, the skulls and skeletons scattered over it seem to indicate that indiscriminate slaughter must frequently have attended the destruction of local cities long since untenanted. At Bala Murghab, Karawal Khana, Meruchak, and Penj Deh, besides in several other places, there are foundations marking the existence of former permanent bridges across the Murghab; and extensive remains of large towns at Penj Deh, Killa-i-Maur, Meruchak, and Karawal Khana indicate a state of prosperity once existing in these valleys which has long passed away.

Passing from the physical features of the country to describe the character and mode of life of the population, he said there was a marked difference between the Afghans and Turcomans. In Penj Deh, the principal valley of Bagdis, they scarcely ever saw an armed man, and found the Sariks, instead of being the dreaded alaman-sweeping and slave-dealing people they came to see, an industrious, hard-working race, at that time busy from morning to night in the excavation and clearing of their canals, always moving about with a spade having a somewhat triangularshaped blade continually across their shoulders. The Sariks were stalwart men of good physique, resembling very much in character the Turks. A shrewd, from 4s. 6d. to 6s. With regard to the Turcoman horses, the conclusion arrived at by the officers with him, and he believed also by the Russians, was that the Turcoman horse has altogether been overrated, and that in many respects he is inferior to the numerous herds bred in more mountainous tracts, such as the Kuttighanie of Afghan Turkestan. The Turcoman women do a vast amount of work: they fabricate carpets, purdahs for doors, work-bags, horse-clothing, nummads, and blankets; and, when a young woman is engaged, it is thought to be the right thing for her to work all the kibitka domestic carpets and other household requisites before she is married. When, however, they do marry without having completed this task, it is expected from them, that as soon as practicable, by their own labor, they may refund in cash or kind, to their husbands, the dowry paid to parents on marriage. Such dowry generally consists



Jamshedi.

Hazara. SOME TYPES OF AFGHAN TRIBES. (Ill. London graphic.)

Sarik Turcoman.

hard-headed, practical people, they continually expressed their desire for security and permanent settlement. These Sariks, along with their brethren of the Tekke, Salor, and other Turcoman tribes, had been for a century the scourge of northern Persia: they had swept the inhabitants away from valley after valley down the Hari-Rud, almost as far as Seistan and westward, within a hundred and fifty miles of Teheran itself. From the slave-trade and plunder secured in these raids they had amassed comparatively great wealth, and they certainly seemed better off than most Asiatic races. The slave-trade and raiding having been entirely abolished, owing to the action of Russia and the closing of the markets, these Turcomans now eagerly seek for a source from which they can secure wealth, and maintain their present prosperity. They own great herds of sheep, amounting in 1884 to an aggregate of 194,250, divided into flocks of from 700 to 1,500 each. They have hitherto generally disposed of their sheep in the Bokhara and Oorgunj markets. On the spot the price of sheep is from 4s. to 8s. 6d., according to age and quality, the latter sum being the price for a four-year-old; camels fetch about £6 10s.; horses, from £13 to £25; bullocks, £2 10 s. to £3; cows, £2 to £2 10 s.; and goats, of 100 sheep and 40 tillas, which the bridegroom either pays down in a lump sum to the parents of the bride or by stipulated instalments. The trade of Penj Deh is carried on entirely by Jews, of which there are some twenty families settled here: they are offshoots from the Jewish colony at Herat. They number something like three hundred and fifty families, and have in their hands most of the trade with Balkh, Bokhara, Khiva, and Merv.

After quoting copious extracts from Capt. Maitland's description of the hitherto little-known tract lying between the Murghab and Hari-Rud Rivers along the Gumbegli route, as well as Capt. Yate's account of the interesting natural feature of the Nomaksar, or salt lakes of Yar-oilan, he summed up by saying that the country was one capable of great resources. The climate is good; the winter is cold; and great storms are not unfrequent during the winter months, indeed the commission experienced oneas late as the 2d of April; the spring and autumn, however, are beautiful; and the summer, though hot, is nothing to the extremes of heat to which one is accustomed in the plains of India. It is possible even to live in tents, or kibitkas; and, under the shelter of a roof, such luxuries as punkahs would be superfluous.

With a settled government and increased population, there is no reason why this should not become one of the most prosperous tracts of central Asia.

GEOGRAPHICAL NOTES.

THE fifth expedition of the Belgian international African association, which started with the view of connecting by a chain of stations the east coast with the interior basin, has returned, the expense proving too great to render the project profitable. The Zanzibar agent of the society has returned to Europe. The efforts of the association at present will probably be confined to the Kongo watershed.

The death of Mirambo, the noted chief of Unyamuezi, is confirmed. His principal rival, Kapira, is also dead. The power of the former was so great an element in securing peace and security of travel, that his death seems a public misfortune. The son of M'tesa is reported to have succeeded his father. He is young and intelligent, and favorably disposed toward Europeans. He was for several years a pupil of Father Levinhac, recently consecrated bishop of Uganda.

Lieut. Hovgaard intends to visit the east coast of Greenland next year at the expense of the Danish government. Herr August Gamel, the owner of the steamer Dimfna, has placed it at his disposal. The majority of copies of the work known as 'Meddelser om Grönland,' published by the Danish government, and which received one of the annual medals of the Paris société de géographie, were burned in the recent conflagration at the palace of Christianborg in Copenhagen.

Caspari has reported on the station of Sheik Said at Cape Bab-el-Mandeb, claimed by France. It appears to be a desert spot, with an exposed roadstead, severe heats, no vegetation, and the fresh water scarce and bad. There is a shallow lagoon containing many fish, out of which a small community of Arabs manage to gain a living. Altogether it would seem a most unpromising spot for a European colony.

La société des études historiques, Paris, offers a prize of one thousand francs, or a medal of equal value, to the author of the best memoir on the following subject: "A study of the consequences, from the point of view of political economy, of the new relations between Europe and West America, eastern Asia and Polynesia, which would follow the completion of the Panama canal." For conditions, competitors should address M. L. Racine, administrator of the society, 62 boulevard de Courcelles.

Assan Khan Saniéduleh, minister to the shah of Persia, has sent to the Paris geographical society a memoir on the district and town of Maybaud, another on the region of Kelat-i-Nadiri, with a map, and the first volume of a series of three, to be devoted to Khorassan, all in the Persian language.

A steamer called the Industrie, of 513 tons, has arrived at Cologne, March 18, being the first vessel to enter that port direct from an ocean voyage. It is expected that she will prove the forerunner of an important commerce.

The missionaries of Uzigay in the equatorial lake region of Africa report that the use of a sort of beer made of bananas has been used by them with excellent results as a prophylactic against malarial fevers. Owing, as they suppose, to its use, they have enjoyed in that pestilent region the best of health. The matter seems worthy of investigation.

Teisserenc de Bort writes, that, midway between Khurd-Rumed and Beresof, his party had discovered a depression called by the inhabitants Sebkha Zeita, six or eight kilometres in extent, which forms a lake during the wet season. It is surrounded by an almost circular chain of dunes, between which and the lake are found very numerous chipped flints and other vestiges of man, including hundreds of hearths where the stones show traces of fire.

ASTRONOMICAL PROGRESS IN 1884.

PROFESSOR NEWCOMB contributes to vol. ix. of Appletons' annual cyclopaedia, just published, an interesting article on 'Astronomical phenomena and progress during the year 1884.' In observatories and instruments, he notes the completion of the Lick observatory, with the exception of its equatorial; and the mounting of the great telescopes at the University of Virginia and at Pulkowa, the latter of thirty inches aperture, the largest refractor yet made. In solar physics, Langley's Mount-Whitney work receives first attention, and the tardy appearance of the sun-spot maximum in 1884 (one or perhaps two years behindtime) is remarked. From recent determinations of the velocity of light, the solar parallax is found to be 8.794", and the corresponding distance of the sun, in round numbers, 93,000,000 miles, "which is not likely to be altered by much more than 100,000 miles by any future discoveries."

Recent observations on Jupiter appear to show that the period of rotation at its equator is more than five minutes less than in the latitude of the great red spot, - a result which is of great interest, as tending to confirm the suspected resemblance of that planet to our sun. Saturn, during the winters of 1884, 1885, and 1886, is in an unusually favorable situation for observation; and we may expect valuable testimony on the disputed variability of the rings, and on the many interesting physical phenomena which The asteroids and comets the planet presents. of the year receive due notice. Attention is called to Professor Pickering's inventions in photometry, which have provided us with a standard catalogue of the magnitudes of over four thousand stars, - 'Harvard photometry.' By a very elaborate calculation, Professor Oppolzer has investigated the question whether the excess of the moon's apparent acceleration above its computed value may not arise from the mass of the earth being gradually increased by the falling of meteors upon its surface. He concludes that a precipitation of cosmic dust of about