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Notes of a Journey in Karateghin and Darwaz in 1882.

By M. KOSSIAKOF, Military Topographer.* Translated from the Russian
and annotated by E. DELMAR MORGAN.

Map, p. 64.†

I.—FROM PENJKEND VIA HISSAR TO KOBADIAN.‡

THE expedition of Dr. Regel to Shughnan, to which I was appointed in the quality of topographer, having completed its outfit, set out in the middle of June 1882 from the town of Penjkend. §

The road lay at first along the left bank of the Zarafshan over level ground well suited for arbas,|| but at the sixth verst ¶ led to a sudden though well-contrived descent. At the ninth verst is the hamlet ** of Sudjan, situated on both banks of the river Maghian, here spanned by a bridge. One verst before reaching the hamlet of Guzar †† I met with a second descent as steep as the first and 1060 feet long. From Guzar to the hamlet of Kshtut for a distance of seven versts the road is level and passes through a cultivated valley, but soon after crosses a ravine 450 feet wide, and again enters the valley, passing on the right the hamlet of Sauran. From Varzikand, a hamlet at the ninth verst, the traveller ascends a small pass, and then turning in a south-easterly direction descends somewhat abruptly to the river Voru, along the left bank of which lies the road. Before reaching Kshtut, however, it recrosses to the right bank of the Voru, and about 500 yards farther enters a small defile. Both these passages of the river are bridged. It is only after descending the pass to the Voru that vegetation, such as the wild almond tree, the wild cherry, and the sweet-briar, is met with. The road from Varzikand to Kshtut is only fit for pack animals, carts may not pass that way. Kshtut lies on both banks of the Voru, and is surrounded by lofty mountains capped with snow. At this place the Voru receives two tributaries, the Karaibak on the right and the Busardagu on the left. Upon the upper waters of the last named is the hamlet of Paganà.

From Kshtut I proceeded to Lake Kul-i-Kalam by the right bank of the Karaibak, part of the way along the edge of a narrow ravine. Before reaching the hamlet of Panjirat the river is crossed and recrossed, the road lying occasionally

* Translated from the *Isvetiga*, vol. xx., No. 6; for general map the reader is referred to Supplementary Papers R. G. S., vol. i. part 2.

† The map we give in the present No. is reproduced from the author's survey map accompanying the Russian article.

‡ This road is referred to in 'Journal R. G. S.,' vol. xliii. p. 271. It crosses a mountainous district, generally known under the name of Kohistan. Cf. Schuyler's 'Turkistan,' vol. i. p. 279.

§ Penjkend (Panjkent, lit. the five towns), in N. lat. 39° 35', E. long. 67° 38', according to Arrowsmith's map, is a town or fortress situate in the Zarafshan valley. It was formerly the capital of a bek-ship, till it was subjugated by Bokhara. When the Russians took Samarkand Penjkend declared itself independent, and afterwards voluntarily submitted to Russia. 'Journal R. G. S.,' vol. xl. p. 449.

|| Arbas are the native high carts on two wheels in universal use in Turkistan.

¶ A verst is equal to 1166 English yards, or about two-thirds of a mile.

** We have rendered the native word *kishlak* by hamlet throughout the paper.

†† It is at the village of Guzar that there is a remarkable bridge across the Zarafshan, where the river cuts its way in two channels between precipitous walls of conglomerate. Cf. 'Journal R. G. S.,' vol. xl. p. 453.

along cornices, and now and again over cultivated land. At the seventh verst the Karaibak receives a tributary—the Artutch; at the ninth verst on the right bank of the last-named rivulet stands the hamlet of Madára, and a little beyond, that of Artutch. Two versts from here is a bridge, and the road after crossing it follows the right bank. For about 500 yards farther it lies along a grassy valley before ascending a steep mountain, perfectly easy, however, for horsemen. The scenery here is very picturesque; water falling from a height of 700 feet strikes the rocks with a noise so loud that it is difficult to hear any one speaking to you. At the ascent the road crosses to the right bank and continues along it for two versts as far as the confluence of the Turosh with the Karaibak, then it recrosses to the left bank by a bridge, and scales the mountain by a rugged though not very lofty ascent, becoming very steep for the last 500 yards. The nights are so cold here that as evening closed in we were glad to put on our fur *beshmets* * and sleep under wadded quilts. The banks of the Karaibak and Turosh, particularly the latter, are covered with a most varied flora. We first came to apple trees, peach trees, *uriuk*,† but as we went higher the less frequent did they become, till at length their place was taken by the white, red, and yellow briar rose, the juniper, the nettle, and the guelder rose. A second ascent has to be made through a narrow valley for about 500 yards, then up the mountain. At the summit is a small pass which gives birth to two streamlets flowing into the Turosh. From this point a short and very narrow rocky descent leads to Lake Kul-i-Kalam,‡ which lies in a valley or hollow extending three to four versts from east to west and a little over one verst from north to south. All the lakes (two good-sized and deep, besides several smaller in this valley) are chiefly fed by the Cham-targa on the south-east and the Ruzi-ravat on the north-east. From the easternmost lake there is an outlet to that on the west, while another small watercourse flowing in a northerly direction is the beginning of the river Turosh. Lake Kul-i-Kalam is nearly 9800 feet above sea-level. On the south and south-east of it rise snowy ranges upwards of 12,000 feet high, and ice may be seen in some of their crevasses.

During the whole of my stay at Kul-i-Kalam a north-westerly wind prevailed, and on the 22nd and 23rd of June a little rain fell. There is only one road from this lake to the hamlet of Marguzar over the Ruz-i-ravat § Pass (10,000 feet)|| thinly coated with snow. The ascent to this pass, two versts long, is steep throughout, and the descent on the opposite side is equally long and steep but less rocky. It is accomplished by a series of zigzags leading to the left bank of the Sarga rivulet, which rises in the mountains encompassing the lake. To the right of Lake Kul-i-Kalam there is a deep depression filled with snow which will probably lie till a fresh

* The *beshmet* is a close-fitting tunic.

† *Uriuk* is the native name for a small peach, which is dried and sold in all the bazaars, and exported to Russia.

‡ Lake Kul-i-Kalam was mentioned but not seen by M. Lehmann, who confounds it with Lake Iskander-kul (as apparently does M. Fedchenko, who places his second lake, which he calls “Alauddin,” at the source of the Kshut river), the two being quite distinct, as our text shows. Cf. ‘Journal R. G. S.,’ vol. xl. p. 450.

§ This name looks as if it had something to do with the Russians (ravat or rabat signifying house), the whole name therefore meaning, house of the Russians. There is a village in the Zarafshan valley called *Uruss*, which is said to have derived its name from Russian deserters who settled in it centuries ago. Cf. Reclus, tom. vi. p. 537.

|| There is some mistake here in the heights: that of the lake is given as 9800 feet, while the pass is represented to be 10,000 feet, or only 200 feet above the lake; the ascent, however, from the lake to the pass is described to be two versts long and steep throughout.

fall. In descending from the pass we found at the same elevation as the lake a temperature at night of $7^{\circ}\cdot6$ Cels. [15° Fahr.], and in the early morning (3 A.M.) it was so cold that we had to warm hands and feet over the fire, a proof of the proximity of snow. Less than half-way up the pass all vegetation ceases, and only reappears at the descent, when an occasional poplar and juniper may be seen and the banks of the stream are covered with grass. On descending from the pass I rode for seven versts along the left bank of the Sarga, mostly along cornices, and a little way farther came to a small valley cultivated in many places and sown with rye. At the thirteenth verst the valley terminates and the road descends by zigzags. Here the river falls in cascades between steep banks and presents a beautiful picture. About one mile and a half farther the road again enters a small valley, from the end of which the river Surkhab* issues from the hills, and uniting with the Sarga, continues to flow under its former name. About 500 yards from their confluence we crossed to the right bank and descended among rocks to a natural stone bridge. This has been formed by the displacement of an overhanging crag, which in falling has blocked the river channel, yet so huge was it that it caught on either bank and left free space for the river to flow underneath. The hand of man completed nature's work, and thus produced a solid and serviceable bridge. From Lake Kul-i-Kalam on our right there rose a very beautiful snowy range. This is known near the lake by the name of *Gou-Khan*, but towards the Surkhab it bears that of *Bad-Khan* or "place of the winds," a literal translation of the somewhat poetical native name.

The inhabitants of these mountain hamlets are of Tadjik race, presenting a distinct and peculiar type, for among them an occasional fair complexion may be seen. Their occupation is chiefly husbandry, and they rarely follow a pastoral life. Their houses or huts are mostly built of rock, the interstices being filled with clay, but now and then unburnt bricks are used in their construction.

The hamlet of Marguzar lies on the left bank of the Surkhab, under the shelter of the mountain. A short distance below it the Uzgur rivulet falls into the Surkhab on the right, having its source in the snowy mountains in the vicinity. About 500 yards above its confluence with that river it falls from a perfectly precipitous ledge of rock 35 feet high, forming a pretty waterfall. At the junction of the Uzgur and Surkhab a bridge has been built; beyond it the valley closes and the waters of the river confined within banks rush with a terrible noise over the rocks beneath. The route from Kshtut to Marguzar may serve for pack animals, but is not everywhere suitable even for this purpose. From the confluence of the Sarga and Surkhab the mountains are rocky and but scantily clothed with vegetation. The juniper disappears altogether, and only along the banks of the Surkhab and the sloping sides of the valleys does one meet with bushes and an occasional birch tree.

From Marguzar the road crosses the last-mentioned bridge and ascends a rocky spur with a somewhat abrupt descent on the reverse side; it then enters a narrow valley sown with rye, barley, wheat, a few beans and peas. Three versts from Marguzar on the left bank of the Surkhab lies the hamlet of Pasrut, where there are no less than four bridges. By the third of these the road crosses to the left bank of the Surkhab, and at the end of the hamlet returns to the right bank, along which it runs for two versts. Before reaching the hamlet of Pinion, however, it again crosses to the left bank. Pinion is situated among rocky hills aligning the left bank of the Surkhab; north-east of it may be seen the hamlet of Fan, standing on a hill. From Pinion to Lake Iskander-kul the road follows the left bank of the Surkhab for a

* This river must not be confounded with its namesake, the well-known right affluent of the Upper Oxus.

distance of $2\frac{1}{2}$ versts to its confluence with the Fan, near which are the ruins of the old fortress of Sardab.* Having crossed the Surkhab by a bridge, it takes a south-westerly direction along the left bank of the Fan, formed by the junction of the Yagnob† and the Iskander-daria. Near their confluence the last-mentioned stream is bridged. A road leads hence up the Yagnob to the pass of Utch-turgardan (Zigdi). Fifteen versts from Pinion and one verst from the right bank of the Iskander-daria lies the hamlet of Makshevat, a little way beyond is the hamlet of Kairanbit, at the sixteenth verst is Jijik, and three versts farther, Narvat. Here the road crosses to the right bank by a bridge, and after continuing along it $4\frac{1}{2}$ versts recrosses to the left. A steep and difficult ascent has then to be accomplished, followed by a descent to the bank of the river which is never left to Iskander-kul. From Pinion the slopes are mostly stony and covered with inferior grasses. But from Jijik, and especially from Narvat, the banks of the Iskander-daria abound with various bushes and trees. Here may be seen the birch, the poplar, the willow, the guelder rose, the woodbine, the wild rose, the juniper, and others. From Pinion to Lake Iskander-kul the traveller may ride, but not without danger. At the third verst from the confluence of the Surkhab with the Fan we were obliged to take the saddlebags off our horses and carry them on our arms, for on one side was the cliff and on the other a frightful precipice with the river rushing below.

Lake Iskander-kul ‡ lies in the midst of mountains whose peaks are bare of vegetation, while their slopes are wooded with juniper and covered with grass. The lake is 7120 feet above sea-level and is 3 versts long by $1\frac{1}{2}$ wide. On the north-west the little river Obi-saryma falls into it, having its source in the snowy mountains, and forming not far from its junction with the lake a lovely valley covered with rich grass and dense underwood of birch, willow, and poplar. In the north-eastern part of this valley there is a small lake, into which falls the Khazar-mysh flowing from the east and the Sary-tagh rivulet from the south. This, the largest of the three streams, forms at its confluence with the lake a valley about a mile in length and breadth. The banks of Iskander-kul and the other two rivers, particularly near their mouth, are covered with rich grass and bushes, among which are a few apple trees.

The road from Iskander-kul to the Mura Pass skirts the western shore of the lake, and then follows the Sary-tagh rivulet. About one mile from the lake is a very sudden and difficult ascent, followed by a descent into a valley, at the end of which a bridge has to be crossed to the right bank before the hamlet of Sary-tagh can be reached. The road then continues along the bank of this river for three versts before turning southward up the pass. The banks of the Sary-tagh from the hamlet are wooded and grassy. Half-way up, the road had been spoilt by the spring rains, though the surveyor of the commune had taken pains to repair it. The repairs had nevertheless been badly executed, and the work had evidently been hurriedly finished, for on one of the cornices damaged by the rains lay a loose piece of timber upon which stones and earth had been thrown. I rode first, behind me followed a Cossack and interpreter, each leading a pack-horse, while the guide walked behind. I,

* Or Sarvad, visited by Lehmann the botanist: cf. 'Journal R. G. S.', vol. xl. p. 450.

† The Yagnob or Yagnau-ab flows for the greater part of its course parallel with the Zarafshan, from which river however it is separated by the Zarafshan range. The Yagnau-ab rises in a glacier in about long. $69^{\circ} 30'$ E. Cf. Schuyler's 'Turkistan,' i. 277.

‡ M. Lehmann in 1841 passed within 17 miles of Lake Iskander-kul without knowing it. For a curious legend connecting this lake with Alexander the Great, see Schuyler, op. cit., pp. 277-8. An engraving of this lake, after a sketch by Madame Olga Fedchenko, may be seen in Reclus' 'Nouvelle Géographie Universelle,' tome vi. p. 396.

the Cossack, and interpreter crossed safely this improvised bridge, but the interpreter's pack-horse unwarily trod on the edge of the beam and in a moment fell headlong down. The poor animal rolled over and over like a wheel for more than 200 feet, and at length struck against a large rock which stopped it, but its pack was torn off and fell 140 feet lower. With great difficulty the injured horse was rescued, and with still greater efforts we saved the pack. I immediately hastened to warn Dr. Regel who rode behind, but his first horse had already stepped on the same piece of timber and shared a similar fate to that which had overtaken the steed of my interpreter, and the Doctor having decided to postpone the passage till morning, it being already dark, had returned to the lake. From the point where the road turns to the south, or strictly speaking from the confluence of the Khoshgofis with the Sary-tagh, we followed the right bank of the last-named stream. Two versts and a half farther, the Khoshgofis is joined by the Khosh-pishvar, which has its source at the pass, and the road continues along its left bank. The ascent of the Mura Pass is steep, and for two versts we had to walk through snow. There was no snow, however, at the pass itself, though in descending we came to some more. Having rounded a steep bluff and ridden one verst farther, I ascended a second pass, and descended by zigzags through deep snow for a distance of two versts. The descent was precipitous and very difficult. At the pass the river Khosh-assan takes its rise invisible at first beneath the snow, but clearly coming in view at the third verst in a steep part of the descent. At the fifth verst a snow bridge has to be crossed, and the road henceforward lies along the right bank over rocks. At the eighth verst the Khosh-assan is joined on the right by the Dikhan-daria. Here juniper and various herbaceous plants make their appearance, but the grass is unsuitable for horses. At the confluence of the Dikhan-daria with the Khosh-assan, which here takes the name of Khakimi, the road crosses by a bridge to the left bank of the last-named river, and is carried along a stony mountain slope, partly supported on wooden props, a very difficult and perilous part of the journey. The northern slopes of the mountains as far as the Mura Pass are mostly limestone and slate; granite also occurs, and its debris covers the whole road. Vegetation is luxuriant. Here may be seen the nut, the maple, the apple, the willow, the ash, the honeysuckle, and several others. Higher up, the juniper, the maple, and the nut, are the prevailing kinds. At the second verst from the pass the Khakimi receives a left tributary, the Yaichin, and at the fifth verst the Temir-daria on the right. Bridges are frequent as the road crosses from bank to bank of the Khakimi, which receives two more left affluents, the Parian and Ak-tash. Twenty versts from the Mura Pass lies the hamlet of Khakimi on the right bank of the river, containing twenty clay-built houses inhabited by Tadjiks, who are chiefly engaged in agriculture.

The Kara-tagh Mountains are 23 versts from the village of Khakimi, whence the road lies along the right bank of the river and afterwards enters a rocky defile eight versts long. Two versts beyond, the Khakimi is joined by the Sarbin, and at the fifth verst the road crosses to the left bank, and after following this for about two versts, recrosses to the right bank, along which it continues to the hamlet of Liabijai, entering a small valley, the right side of which is cultivated and the left wooded with willow. Liabijai lies on the right bank of the Khakimi, on a low spur of the range. The mountains here are less rugged and rocky, most of their slopes being either cultivated or wooded. From this point the road is much better. Opposite Liabijai it crosses to the left bank of the Khakimi, and after following this for some distance, recrosses to the right bank, on which is situated the hamlet of Abdu. Between this and Kara-tagh there are three hamlets: Kuran on the right bank, Pushtijan and Sari-pul on the left. From the last-named there are no villages, only solitary huts to Kara-tagh.

The town of Kara-tagh lies on both banks of the Khakimi. The bazaar and most of the buildings, which are said to number 700, are on the left bank, while the fortress, or more correctly the former residence of the once independent beks, stands on the right bank. At present the fortress and buildings inside it are in a dilapidated state and uninhabited, the present bek preferring to live in the town. Kara-tagh is famed for its cutlery,* but the people are mostly agriculturists, as the slopes of the neighbouring hills testify. Corn grows here without artificial irrigation, a circumstance greatly in favour of the agriculturist; and we met with but few irrigating dykes, and these only close to the villages.

At Kara-tagh the Khakimi changes its name for that of the town, which it continues to bear as it flows southward till it is joined by the Ak-jar, which rises in the snowy mountains on the north-west.

From Kara-tagh to Hissar the distance by road is 24 versts, the direction generally south-east. Crossing to the left bank of the river in the town near the bazaar, we continued to follow this bank, passing Kalta-juvar at the third verst and Shur-ab at the sixth verst. A little way farther a road branches off to the left, leading direct to Dushambe. At the ninth verst we crossed by a bridge the Kalta-juvar dyke, and at the tenth came to the hamlet of Chuji. At Katerma on the 13th verst the road is crossed by another leading from the town of Denau to Dushambe. After passing several small irrigating dykes and fording the Changa-ab or Khan-i-keh-daria, we reached Hissar, having found the road good and suitable for wheeled traffic the whole way from Kara-tagh.

The town of Hissar† is surrounded by a small clay wall ruined in many places, and contains a large fortress built on a high hill. Its walls are also of clay, some 30 feet high, of no great thickness, while high towers built of burnt bricks guard the gates, but there is no moat. Inside is the large palace of Bek Jan, which he occupies only in winter, as in the summer he retreats to Kara-tagh.

From Hissar to Kobadian the distance is 115 versts (77 miles). The road takes a south-westerly direction along the right bank of the Kafirnahan‡ and may be traversed by cavalry and infantry; with a few repairs artillery might even pass that way. Six versts from Hissar is the hamlet of Khanchi, astride on both banks of the river, which is crossed by the people on inflated skins (*tursuki*), for there are neither bridges nor fords here. At the 20th verst lies Khatch-gardab, and at the 23rd, on the right bank, the salt mines of Khanchi; at the 29th verst are the ruins of Turakh, and at the 48th the wintering station of Ak-Mechet. The names of the other hamlets along this part of the route are Sokhta, Jartiva, Karanga-kul, and Tarpayak. From Ak-Mechet there is a road across the mountains to Denau, but this is not particularly good if the inhabitants are to be believed. From Hissar to Ak-Mechet the road lies the whole way by the right bank of the Kafirnahan, along a valley varying in width from 700 yards to 1½ mile, and is frequently intersected by ravines formed by the spring and summer rains. At the eighth verst beyond Ak-Mechet the road leaves the river and takes a south-westerly direction over undulating ground much cut up by ravines. At the 17th verst it turns to the south-east and follows a ravine to the river, along the bank

* This is also the case with Hissar: cf. Reclus, p. 500.

† Hissar, in the time of Hwen Tshang, the Buddhist monk traveller, formed part of the empire of the Ephthalites or White Huns, whom he calls the *Tukhara*, and its district was known under the name of *Chagania*, modified by the Arabs into *Shagania*. After the rise of the Uzbek power, this region of Tukharistan was split up into a number of petty beks, Hissar, owing to its strong position, being the principal. It was here that the Emperor Baber took refuge after his defeat near Bokhara in 1512 A.D.

‡ I. e. cave of infidels.

of which it continues. At the 95th verst is a nomad camping-ground and burial place bearing the name of Tart-ku. At the 107th verst is the hamlet Bash-chârvak, where there is a ferry, a small canoe being kept here for this purpose; horses have to swim the river, which is 140 feet wide here, with a rapid current. Two versts from the ferry is the hamlet of Chaparek, on a dyke which leaves the river one verst from the ferry, and supplies the town of Kobadian with water. All the inhabitants of the valley of the Kafirnahan are of either Turkish or Tajik race; they are mostly engaged in pastoral pursuits, for which this district, abounding as it does in excellent grazing grounds, is very favourable. Between Hissar and Turakh the mountains on the left bear the name of Kui-Karchi, on the right, Baba-tagh. Farther on the left a second and much higher range is known as Khodja-bakan, while on the right are the Hazret-baba mountains. At Kobadian itself the mountains on the right are called Khodja-gaziman, after a Mahomedan saint who once lived here, and tradition says was slain by a Kafir, those on the right—Kaiki. Near Kobadian the river Kafirnahan divides into two branches, both of which are some little distance from the river. Besides these two principal arms of the river, smaller channels separate from the easternmost arm and form islands covered with cane brake and bushes, the haunt of tigers and pheasants, as the bek informed us. The environs of Kobadian are infested by jackals, which make a horrible noise by night, and the bek keeps people to drive them away.

Kobadian stands on the left bank of the Kafirnahan, two versts from the bifurcation of its channel. On the north-east and south it is environed by a clay wall about 10 feet high and 4 feet thick at the foundation. In the centre of the town is the fortress occupying an area 560 feet square, built on a low hill, with walls 30 to 50 feet high. The palace of the bek is within this fortress, adjoining on its eastern side the remains of an older fort, of which hardly anything is left, its site being now occupied by the bek's garden and clover field. The streets of Kobadian are narrow; there are no carts, horses and mules being chiefly employed for transport. Besides these, wooden sleighs not unlike our own (Russian) are used.

II.—FROM KOBADIAN, VIA KULAB, TO FORT KALA-I-KHUMB IN DARWAZ.

From the town of Kobadian to the town of Kurgan-tiube the distance is about 76 versts. The road at first goes to the north-east, and at the third verst intersects a stony valley, along the right side of which it passes, for $3\frac{1}{2}$ versts. After crossing a small col, it again enters a defile and runs along it for four versts. At the tenth verst the ground is almost level, and bears the name of Ishak-rabat,* where remains of buildings may be seen. Four versts further, a hill has to be ascended; on the left is a deep ravine, along the edge of which lies the road, which at the seventeenth verst descends into it and follows along the bottom or by the right flank. At the twenty-second verst, having surmounted the ascent and crossed a small pass, the traveller enters the valley of the Vaksh by a steep descent cut into the rocks. The road from Kobadian to the Vaksh is good throughout, except in the first defile of the last descent, where artillery cannot pass. It then runs east for about five versts to the ferry, at first by a grassy valley, and afterwards through thickets and canebrake. The ferry is near the Turkoman hamlet of Jili-kul, and has only a small kayuk or boat in which men and baggage are taken across, while horses have to swim. The breadth of the Vaksh at the ferry is 700 feet, but in other places it is more than four times as wide. From Jili-kul the road runs north-east along the left bank of the Vaksh, over a plain country at a distance of about two versts or more from the river. At the fifth verst from the hamlet, the ruins of fort Afganchi are passed; at

* I. e. Asses' caravanserai.

the fifteenth, to the right of the road, is the Turkoman encampment of Tobili Lekhman, and at the eighteenth verst the winter settlement of Mullah-Rakhman. At the nineteenth and twenty-first verst, two hamlets bearing the name of Lekhman are situate, whilst to the left on the river bank are the ruins of a fort and an encampment of the same name, and one verst higher up the hamlet of Jugalan. At the twenty-second verst, not far from the road, is the hamlet of Kizil-tushuk, and a place to the north of it, called Urtaburg. At the twenty-third verst [the road crosses an irrigating dyke by a ford, and ascends to a small defile; it then follows a tableland for $4\frac{1}{2}$ versts, and then again descends to the valley. At the twenty-ninth verst it crosses an old irrigating dyke, lying north-west and south-east. At the thirty-first verst, it recrosses it. At the thirty-third, another dyke has to be forded, after which the road lies along its right bank to the hamlet of Abdrakhman, which stands on the left bank of the dyke, five versts from the town of Kurghan-tiube. Beyond the hamlet, the road crosses a bridge to the left of the dyke, which it follows to the town. From Jili-kul to Kurgan-tiube the road is fairly good, even for arbas, there is sufficient forage, and in the valley of the Vaksh, fuel. The inhabitants are mostly Turkomans, who migrated hither about seven years ago.

The town of Kurgan-tiube is situate near the left bank of the river Vaksh, two versts from it, on an irrigating canal led from the river. It is a small town with a fortress, built on a hillock about 70 feet high, occupying an area about 700 feet long by 280 feet wide. There is no moat, but the walls are 35 feet high and $5\frac{1}{2}$ feet wide at the foundation. Inside the fortress, on the northern side, are the remains of an old dilapidated wall, the residence of the bek and his retainers. The road skirts the fortress separating it from the bek's garden on the east side. Kurgan-tiube has a small bazaar, and a very insignificant trade.

From Kurgan-tiube to Kulab, via Tash-robot, the distance is 106 versts. The direction of the road is south-east along a level, cultivated valley. At the fourth verst it crosses a dyke, on which to the right of the road is the hamlet of Ilta, and on the left the ruins of an old fort. At the seventh verst, to the right and left of the road, stands the hamlet of Charbul-tiube, and five versts to the south of it, that of Hodja-bulgun. At the ninth verst the road crosses a dry ravine, and a little way beyond ascends by a defile to a smooth tableland, not irrigated. By this it continues for five versts and then crosses a small pass, beyond which it lies chiefly through ravines over undulating ground to Tash-robot spring. The water here is brackish, but is nevertheless used by the nomads for preparing their food, and for drinking purposes. The road now follows the left bank of the spring for two versts before ascending the stony but not steep Tash-robot pass. At the ascent on the left side, it is said, are the ruins of an old fortress, but this was apparently a stone building which served for an outpost. The whole range on either side is covered with pistachio trees. The descent is neither steep nor stony. Six versts from the pass to the left of the road, in a deep glen, is a well, but the water is too salt for horses to drink. Beyond it, the road lies through and along the edges of glens, the mountains are not high, and their slopes are fissured by ravines; one ridge, however, stands out more boldly than the rest, with some ruins, and a pass over it bearing the name of Terekli, from the pistachio trees covering it, while the other hills are covered with grass. At the sixtieth verst a road branches off the Kulab road leading to Baljuan, and this, according to the guides, is easy of passage, but waterless. At the second verst a brackish brook is crossed, flowing from north to south, its source being two versts from the road; the water, though unfit for human beings, is drunk by horses. 700 feet to the left of the road are some salt mines, almost neglected, owing to the fact of there being other nearer Kulab containing salt of a better quality. The road here ascends the mountain in a slanting direction, and then

follows some shallow glens. Two versts farther is a small pass, whence the road descends by a gradual incline at first, then by a ravine. At the seventy-fifth verst it crosses a glen of no great depth, then ascends a small ridge and descends into the valley of the Kichi-Surkhab* to the hamlet of Khul-bakh situate on the right bank of this river.

From Khul-bakh three roads diverge, one northwards to Baljuan, a second south to Yangi-kala,† which lies on the left bank of the Panj, and the third to Kulab. That to Kulab from Khul-bakh runs west, and at the second verst crosses the Kichi-Surkhab by a ford, for the water here is not high. At the fourth verst the road approaches a mountain, and lies along its foot for rather over a verst before ascending to high tableland in a north-easterly direction, and then descending into the valley of the Ak-su. Having forded this river, it follows the left bank for about two versts through small scrub. At the first verst it crosses a second arm, and leads through the hamlet of Kaptar-khan to Kulab, only five versts off. Here the ground is at first marshy and reed-covered, and two more arms of the Ak-su have to be crossed, both shallow, and the last flowing past Kulab.

The town of Kul-ab‡ (i.e. lake-water) is situate on the left bank of the river Ak-su, on a flat-topped hill. It is fairly populous, and has more trade than Kobadian and Kurgan-tiube. Its fortress is in the southern part of the town, and is 420 feet long by 280 wide. Its walls are of clay, four arshines (9 feet) high by one (2 feet) thick. Inside are unoccupied buildings, and the place itself is out of repair, the bek residing in the town.

The whole way from Kurgan-tiube to Khul-bakh is at present suitable for baggage animals, but there is every indication of its having lately served for wheeled traffic. Between Hodja-bulghun and the foot of the mountains, and to the north and south of this hamlet, as far even as Tash-robot brook, Kirghiz nomadise, having removed hither from the Turkistan district.

The road from Kul-ab runs north, at first over high level ground for about two versts, and then descends to the valley of the Ak-su, keeping the same direction. At the end of the third verst, to the left of the road, are two hamlets on either side of a desiccated arm of the Ak-su; that on the right bank is Mullah-sultani, that on the left, Koreh. At the fifth verst, to the left of the road, lies the hamlet of Ostablik, at the eighth verst Zerekli, at the ninth Hodja-isok, at the tenth Jar-kala, at the thirteenth and fourteenth Dagáua. On the right bank of the valley of the Ak-su are four hamlets, the southernmost of these is Imam-taristi, the other three are named Pushan. From Dagana the road turns east, and preserves this direction for four versts; it then turns to north-east, and follows a ravine which takes the name of Hodja-inur, from a hamlet situate to the north of it, watered by a small brook. Passing along this brook for 2½ versts, the road again turns to the east, and ascends by the glen to a small pass. From the summit, the traveller sees before him the beautiful Muminabad valley, forming a distinct canton, ruled by an *amliakdar*, and comprising twenty hamlets. From the summit, the traveller, after taking an easterly direction, for 1½ versts, turns to the north-east, and after crossing a small col descends into the valley near the hamlet of Muminabad. All the hamlets in this valley stand on brooks or springs which are abundant. The distance from Kulab to Muminabad is 25 versts, and the road good throughout. The inhabitants of this valley are Tadjiks, who occupy themselves with husbandry. Along the eastern edge of the valley, from north to south, extends a ridge which bears the name of Kuran on the south and Peri on the north, and separates the

* I. e. Little Surkhab.

† I. e. new fortress.

‡ Chief place of a district formerly known as Khotlan.]

Muminabad valley from that of Dara. From Muminabad, the road towards Dara runs for about $2\frac{1}{2}$ versts north along the valley, then north-east, ascending a hill to the hamlet of Charga, and after going half through the village, again renews the steep ascent, turning south. At the summit it turns east and lies along the southern slope of a spur of the Peri ridge to Sari-kash-ban pass; the ascent, though steep, is not particularly difficult, being free from stones. The western slope of the ridge is for the most part covered with underwood. The descent from the pass is much worse, being steeper than the ascent, besides being stony. A small stream takes its rise at the pass, and crosses the road at the third verst. At the fourth verst a second rivulet issues forth. The road crosses this, and follows the left bank down to Liangar, a village on the Obi-niaz, 20 versts from Muminabad, and accessible for pack animals.

The region of Dara forms a small separate province, under the jurisdiction of Sho, i. e. a prince, subject to the bek of Kulab. There are twenty-five villages in Dara, situate on either bank of the Obi-niaz, which rises in snowy mountains in the north, and flows south for a distance of nineteen versts to its confluence with the Panj, at Tagnau, opposite the village of Khuvan. Dara is mostly inhabited by Tadjiks, who are chiefly engaged in agricultural pursuits, and supply the province of Shikai with corn.

The road to Shikai, from Liangar, follows the right bank of the Obi-niaz in a northerly direction. At the second verst, on the left bank, is the village of Vashel; at the third verst, to the right of the road, is Auja, and on the left bank, Khambel; at the sixth verst, Dashi-Kolon. Here the road crosses to the left bank of the river, and takes the direction of Gren, on the left bank of a rivulet of the same name, which rises in the Kui-frush, snowy mountains. From Gren the road ascends the mountain, and, after passing the small hamlet of Serengan, turns to the east, passing along the northern slope of one of the spurs of the Kui-frush. At the third verst it crosses to the southern slope of the spur by the small col of Polokh. It then continues along the southern slope to the Val-Valiak pass, which it ascends by steep zigzags, difficult for pack animals, and only to be accomplished by men on foot, necessitating stopping every 100 or 150 feet to recover breath. The descent is even worse, being more stony. On either side of the road, leading from the pass, is a brook, and when we crossed the ravines were full of snow. After a verst of descent, Jari-sai-dan is reached. Here the rivulet Sari-bogio starts from the north-east to unite with another stream which comes from Vai-Valiak pass, their united waters forming the little river of Obi-sanghi-shaun, which has a south-easterly course to the Panj. From Jari-saidan the road keeps along the right bank of the Sari-bogio for two versts and upwards over snow at least 14 feet thick. One and a half verst from the pass, the road crosses to a small spur, and keeps along it to the pass of Bandikul by a series of zigzags over a rocky soil. The descent must be performed through snow; at the bottom is a small lake, half covered with ice when we saw it. From the lake there is another ascent to the Kalendar-kush-dagi pass. A ravine leading from the lake in a northerly direction is called Kadiravnau. From the pass of Kalendar-kush-dagi there is a descent into a deep ravine, into which fall streams to the right and left, forming the little river of Obi-sarijar. The road crosses to its left bank over snow, a verst from the pass, and a verst further recrosses to the right bank. The whole bed of this river is blocked by enormous masses of fallen rock, over which horses have difficulty in picking their way. At the following verst the road crosses to the left bank by a poor little bridge, and after following it half a verst down, returns to the right bank. The road then ascends a small pass, and descends in a slanting direction to the village of Jar, on the river Panj. Below the second bridge the Sari-jar-dara is joined by the Varjutch rivulet, and after its union with

this stream takes the name of Jar and Mar, two hamlets divided by it. Mount Kui-frush serves as the border between Shikai and Dara. The road from Val-Valiak is very inconvenient, and only practicable on foot, or with asses which ply with corn between Shikai and Dara. On arriving at Shikai by this road the governor was greatly astonished at my march and appearance, as no Russian had passed this way before.

From Shikai the road, starting at the hamlet of Jar, runs to Kala-i-Khumb by the right bank of the Panj, and to Kuf by the left bank. At the third verst, on the left bank, stands Fort Jorf, on either side of which is a hamlet of the same name; and above the fort, on a small plateau, the hamlet of Moi-maiak.

Fort Jorf is 350 feet long by 210 wide; its wall, on the side of the river, has a height of $1\frac{1}{2}$ arshine ($3\frac{1}{2}$ feet); the other three sides and the corner bastions are four arshines high (9 feet) by $1\frac{1}{2}$ thick ($3\frac{1}{2}$ feet). All the walls and towers are built of clay, mixed with stones. The governor of Shikai resides here. Five versts from Jar lies the hamlet of Milvan; at the 6th, on the right bank, is Puni-than, and on the left, Sang-lel; at the 8th, Gumai, on the left bank; at the 10th, Zingarín, on the same bank; at the 13th, on the right bank, Ishkef; at the 15th, Yeghit; at the 18th, on the left bank, Shilgovan; at the 22nd, on the same bank, Khuvan; at the 24th, on the right, Patkinau; at the 26th, Ravat; at the 28th, Sengen; at the 35th, Zypk; at the 36th, Umak; and at the 38th, Fort Kala-i-Khumb. The whole way from Jar to Kala-i-Khumb the road follows the bank of the Panj with a north-easterly direction, for the most part along slopes, but in several places along cornices, overhanging bridges and balconies, fastened to precipitous cliffs, and supported by various expedients. In many places we had to take the packs off the animals and carry them in our hands; for the bridges and balconies were too narrow to allow a laden horse to pass.

The province of Shikai numbers some 500 houses or farms; the inhabitants are Tadjiks, doing but little agriculture, and in some parts none at all; for the surrounding mountains are too steep and stony to admit of it. The herds are all driven into the mountains for the summer, and remain there till late in autumn; for there is no good pasturage near the villages. The inhabitants make butter and cheese (kurt) of milk, and dry it for winter use. As only some of the hamlets have a small quantity of corn, the inhabitants of Shikai make bread of the fruit of the mulberry-tree, which is largely cultivated, and attains a good size; whilst other fruit trees—for instance, the pomegranate—grow as bushes among the rocks. The buildings of Shikai are mostly of stone and clay; but in some places they are occasionally to be met with entirely of clay, plastered and whitewashed, and the roofs covered with alabaster, though thatched roofs are not uncommon. The latter resemble the Russian double-sloped roofs. Such roofs are common all over Hissar, Kobadian, Kurgan-tiube, and in parts of Kulab. The villages of Shikai are remarkably clean—all the courtyards and open spaces between the buildings being kept swept and free from dirt; perhaps owing to their having no cattle to soil them. Nearly all these villages stand on brooks bearing the names of the respective villages they water.

Fort Kala-i-Khumb* lies on the right bank of the Panj, and on the left bank of the Khumb-au, which here falls into the Panj from the north. The fort is 280 feet long, and about 200 feet wide; it is built of rock and timber, laid in clay, and

* I. e. fort of Khumb, the chief place of Darwaz. In this name we have probably a trace of *Kumidha* of Hwen Thsang and *Comedæ* of Ptolemy. Cf. Col. Yule's introductory essay to Wood's 'Oxus,' p. xxxix. Kala-i-Khumb is said to contain 100 houses, i. e. about 500 inhabitants.

plastered over with this material. The walls are six arshines (14 feet) high by $2\frac{1}{2}$ ($5\frac{1}{2}$ feet) thick; they have six towers built in the same way. Inside is the residence of the bek, and about it is his garden of fruit trees, surrounded by a wall, also made of clay and stone, with a height of four arshines (9 feet). Near the fort is the bazaar and a barrack for soldiers, of whom the bek has 1000; though, according to my information, there are not more than 400, and the same number at Baljuan. One verst higher up the Panj stands another fortress, 175 feet long by 140 wide, built of the same material as Kala-i-Khumb, and now deserted.

III.—FROM KALA-I-KHUMB VIA TAVIL-DARA TO BALA-VAKHIA AND BACK.

From Kala-i-Khumb to Fort Tavail-dara (on the Vakhia)* is about 50 versts (33 miles). For 10 versts the road goes in a north-easterly direction; $3\frac{1}{2}$ versts beyond it lies along the right bank of the river Khumb-au, where it crosses by a bridge to the left bank. At the seventh verst to the left of the road is the hamlet of Zif, but at the eighth verst the road again crosses to the right bank, which it follows to the confluence of the Obi-Khimon with the Khumb-au, the former of these streams taking its source at the pass of Tangi-murghabi, where it is fed by springs from the snowy mountains. Above the junction of these rivulets up the Gushan are four hamlets, Khasht, Apchat, Ugurk, and Gushan. The road to Tavail-dara lies along the rivulet Obi-kham-ravat, crossing it several times, at first by small bridges and then merely by fords. At the fourth verst above the junction of the rivers to the left of the road, on a mountain, is the hamlet of Hope; at the sixth verst, to the right, also on a mountain, is the hamlet of Ribot. The ascent to the pass† is not steep, and the road generally is easy for horsemen, but too narrow and rocky for artillery, especially in two defiles, which are quite impassable. The descent from the pass is also not steep, and lies over softer ground. At the fifth verst beyond the pass, to the right of the road, is the hamlet of Sagri-dasht, situate on a brook.

To the north of Sagri-dasht, and a verst from it, is the hamlet of Kulumbak, and to the east of this, two versts from it, in a glen, the hamlet of Kamchak. At the eighth verst the road crosses by a bridge a brook flowing in a deep ravine. To the right of the road on both sides of the brook lies the hamlet of Tautan-sailiau, and to the left, a verst off on the left bank of the same brook, the hamlet of Chulumbak. From the bridge a road branches off in the direction of Baljuan, ascending the brook. The road to Tavail-dara after crossing the bridge suddenly ascends a mountain in a northerly direction. The ascent is steep but not rocky. The pass is called Zoogussi, and the descent from it leads into a deep glen, which the road follows for six versts to the hamlet of Lesser Tavail-dara, over difficult and rocky ground. From the lesser Tavail-dara to Fort Tavail-dara the distance is four versts. Fort Tavail-dara stands on the left bank of the river Vakhia; it has a length of 210 feet and a width of 175 feet; it is built of stone and timber laid in clay. The walls are four arshines (9 feet) high and two arshines ($4\frac{1}{2}$ feet) thick. The corners are protected by square bastions, but there is no moat round the fortress; within are some buildings occupied by the commander, who is also considered bek of Vakhia. From Tavail-dara the road to Gharm‡ crosses a bridge 105 feet long, built over the Vakhia. This bridge is too

* We have ventured to alter the name of this river to *Vakhia* throughout the narrative though Dr. Regel prefers calling it *Vaksh*, this name being given on all maps hitherto published to the Surkhab, the river of Karateghin and one of the chief headwaters of the Oxus.

† The mountains crossed by this pass are known under the name of the Darwaz range and form the watershed between the Panj and the Surkhab.

‡ Chief place of Karateghin.

narrow to admit of vehicles, and must be crossed on horseback, but it is usual to dismount and lead your horse over. Having crossed the bridge the road for a distance of twenty versts lies along the right bank of the Vakhia to Fort Chil-dara, and along this part the following hamlets are situate :—on the right side, at the sixth verst, Yezgan; at the seventh, on the left bank, Jira; at the ninth, on the same bank, Dashta-khosan. Lower down, at the twelfth verst, on the left bank, lies Kham-dara; at the thirteenth verst, on the right bank, is the hamlet of Ribodnal, and to the left that of Ghirdau. At the seventeenth verst is the hamlet of Shur, on the right bank; and at the twentieth, on the right bank, Fort Chil-dara, while facing it on the left bank is Pator. All the before-mentioned hamlets stand on brooks, which bear the same names as the hamlets situated on them. The whole road, twenty versts in length, is suitable for baggage animals, but too narrow and difficult for artillery, especially where it is carried along cornices. Both banks of the river are covered chiefly with bushes of various kinds, amongst which occurs the wild maple. From Fort Chil-dara there are two roads: one, northwards to Gharm viâ the hamlet of Shakaú—there are no more hamlets as far as the pass; the other lies along the right bank of the Vakhia to the hamlet of Surkh-ab. There is a road along the left bank of the Vakhia, but it is not so convenient.

The road from Tavi-dara up the Vakhia follows the right bank of this river in a north-easterly direction at an angle of 52° , and passes the following hamlets: at the third verst, Liangar; at the fifth, on the left bank, Sikhuni; at the seventh, on the right bank, Ghurkham; at the ninth, Yeftam; at the eleventh, Khur; at the fifteenth, Gurum; on the left bank, Pashtyr, at the confluence of the Sagri-dasht with the Vakhia. From Pashtyr a road leads to Sagri-dasht, but it is not very easy to travel. At the seventeenth verst, on the left bank, is the hamlet of Marga; at the nineteenth, on the right, Sayat; at the twenty-first, Vudjun; at the twenty-seventh, Zapsi-kharp, situate on the Obi-shuraf; up its left bank lies the road to Karateghin. At the thirtieth verst is the hamlet of Yufan; at the thirty-second, Punar-bak; at the thirty-fifth, Shipilien; at the thirty-seventh, Liukharvi, on a rivulet of the same name; up its left bank runs another road to Karateghin, across a pass of the same name. On the left bank of the Liukharvi are the ruins of an old fortress. At the fortieth verst is the hamlet of Khul, on the left bank; and at the forty-third, on the right bank, Khipshu; at the forty-seventh verst is the hamlet of Argan-kun; and on the left bank, on a very picturesque high tableland, above which rise the snowy mountains bearing the name of Chalim-dara, is the hamlet of Minadu straggling along five versts of ground. At the fifty-first verst is Liangun, and at the fifty-third Lesser Liangun, both on the right bank. Here the road crosses a bridge constructed over the Ravnau rivulet, one of the chief tributaries of the Vakhia. From this a road lies up the left bank to Karateghin across the Ravnau Pass. From Tavi-dara as far as the hamlet of Lesser Liangun the road is good, except in a few places, but beyond it becomes very bad. After crossing the bridge the road ascends by a somewhat steep slope, which terminates in a small but smooth plain. The road then again rises over a steep spur, along which it goes for half a verst, and then descends to the Vakhia by a steep slope. At the fifty-fifth verst is the hamlet of Gobinas, at the fifty-eighth Avraniyi, at the sixtieth Gavdi-balian, all on the left bank of the Vakhia. At the sixty-third, on the right bank, is the hamlet of Nigai-gudi, at the sixty-seventh Liangar. Hence the road to Karateghin follows the right bank of the Obi-Liangar across the Kaptar-gardan (dove's neck) Pass. There is a bridge on the Liangar. At the seventy-second verst is Kurgan-liajur, on the left bank of the river Obi-uzman, the place of residence of Kurgan-bek. At the seventy-fifth verst is the hamlet of Liajur, and on the left bank Sarkha. At the eightieth verst, on the right, is Rekhtch, and on the left Psoda, on a river of the same

name. At the eighty-second verst is the hamlet of Urfat, at the eighty-sixth, on the right, Sykak, and at the eighty-eighth, Sanvar. Beyond this, according to Kurghan-bek, there are no hamlets, only encampments of Kirghiz.

According to the bek of Darwaz, the valley called Bala-Vakhia opens out beyond and affords rich pasturages for cattle. The inhabitants of Vakhia are Tadjiks. They speak a mixed Persian and Uzbek dialect, and are engaged in husbandry and horticulture as far as circumstances will permit. I found here pears and apples growing wild, and the fruit was equal in taste to those grown in European Russia.*

Underwood is also abundant here. The mountains are only covered with vegetation near Tavi-dara, and beyond it there is none to be seen. The river Vakhia has a great flow of water; in several places where it divides into branches the width of its channel is as much as 2100 feet, and during the spring floods the whole of this is under water. There are no fords, ferries, or bridges along the above route. Intercourse between the hamlets is kept up on *amat*s (leather bags), but I did not see any crossings effected in this way. Along the whole distance traversed by me along the Vakhia there is only one bridge, viz. that at Tavi-dara, which is built in the narrowest part of the river, and is (as already stated) 105 feet long. At this spot the water dashes along with extraordinary violence. The chief affluents of the Vakhia are, taking them in order according to their size: the Obi-Shurava, Moli-Kharva, Obi-Ravnau, the largest in size, the Obi-liangar and Obi-uzman, all flowing into the Vakhia on the right side. On the left only the Sagri-dasht and Psoda join this river. Besides the above tributaries a number of small streams join the Vaksh, for every village or hamlet stands on its separate brook. According to the inhabitants the winter here is very severe; snow falls in such quantities as to bury buildings, and the inhabitants have to climb out by the roof. When I was at Kurghan-liajur at the end of August, the cold was such that I was obliged to clothe myself warmly. But according to Kurghan-bek, with whom I spoke on the subject, the end of August is their hottest time, their regular summer. Snow here lies almost down to the hamlet itself. Fruit was only just ripening during my stay, and corn was still green. They told me, in answer to my question, that it would be ready to cut in three weeks, i.e. at the end of September.

IV.—FROM KALA-I-KHUMB TO THE HEAD-WATERS OF THE VANJ† AND BACK.

The road from Kala-i-Khumb follows the right bank of the Panj, mostly along cornices and balconies; it is rocky and narrow, and in spring quite impassable. At the second verst, on the left side, lies the hamlet of Dekhtilitch; at the fourth verst, on the right, Razyvai; at the fifth, the pass and ruins of Madu-kakai. On the left the rivulet Javai falls into the Panj, having the hamlet of Dagana situate a verst from its bank. At the tenth verst is the hamlet of Kibrak, on the right; at the thirteenth, Jumar, on the left; at the fifteenth, Kutali-kaivan Pass; at the nineteenth, Fort Jorf; at the twenty-third, the hamlet of Vitch-kharf; at the twenty-eighth, Uz-kharf, with its brook; at the thirty-first, Sho-ada, both the last-mentioned being situate on the right side. At the thirty-fourth verst, on the left side, the large village of Moi-mai. One verst from this village the road ascends

* Wood heard that the hill states of Roshan, Shugnan, and Darwaz abounded in stone fruit, and that the mulberry was plentiful. Cf. Wood's 'Oxus,' p. 249.

† The Vanj flows into the Panj at Fort Jumarj, 30 miles below the mouth of the Ak-su or Murghab. The southern elbow shown in the map in Suppl. Papers R.G.S., vol. i. part 2, drawn according to Dr. Regel's surveys, and not shown on any other map of the Upper Oxus regions where they have been surveyed by native Indian explorers, is probably a mistake.

somewhat abruptly to the pass of Dash-tyro, descending again by an equally steep gradient to the hamlet of Khargovat. At the forty-sixth verst is the hamlet of Yegitan, on the left side; at the forty-ninth, on the right, Pish-kharf, on a brook of the same name, and on the left the hamlet of Moi-mayak. At the fifty-sixth verst is the Uz-kharf rivulet, across which a bridge has been thrown; at the fifty-seventh verst, on the left, is the Khos-dara rivulet. At the sixty-first, on the same side, lies the hamlet of Var-fat; at the sixty-third, Vot-khosh, on both banks; at the sixty-fifth, on the right side, Vor-khur; at the sixty-eighth, Vot-khil; and at the sixty-ninth, on the left bank, Jumarj. Here the road to Shughnan crosses to the left bank of the Panj, and from Jumarj ascends a mountain. On the right bank of the Panj there is no road. Opposite Jumarj the river Vanj falls into the Panj.

The road to Vanj follows the right bank of the river of the same name, keeping a north-easterly direction. At the fourth verst, at Vot-khil, it crosses a small pass and continues further along the edge of the valley of the river Panj. At the seventh verst, on the left side, is the hamlet of Vitch-kharf; at the tenth, Ráú; at the eleventh, Skot; at the fourteenth, Ish-khan, on the left side; at the seventeenth, the village and fortress of Vanj. The river Vanj higher up its course, as far as the hamlet of Mazar, has a north-easterly direction, the compass-bearing as far as the hamlet of Mdekhar being 45° , and from Mdekhar to Mazar 65° . The bed of the Vanj from its confluence with the Panj as far as Mazar is rocky, with a breadth of 700 to 2100 feet. The Vanj in many places divides into numerous channels, so as to be fordable in autumn. At Mazar the valley narrows and forms a defile, and at the ninth verst above Mazar the Vanj takes its source from the confluence of two brooks—the Kasho-laiak coming from the north-east, and the Dara-abduka from the south-west. Beyond the meeting of these streams is the beginning of a great snowy range, which extends from north to south.

The road from Fort Vanj up the river of this name passes the following hamlets: at the third verst, Bóú; at the fourth, on the left side, Gum-maiak; at the eighth verst, on the right, Bulai, where the road crosses to the left bank by a ford to the hamlet of Ráú. At the eighteenth verst, on the right side, is Patau; on the left, Jaul; at the twenty-first is Ubdo; at the twenty-third, on the right side, is Sadivar; at the twenty-sixth, Sif; at the twenty-eighth, Tekhar; at the twenty-ninth, Breshi, and on the left side Chihaf; at the thirty-first verst, Udob, and on the left side Rafgada; at the thirty-fifth verst, Khirgovat, and on the left side Rjavatch; at the thirty-ninth verst, Mdekhar, and on the left side Ush-kharvag; at the fortieth, on the left side, Gumas; at the forty-third verst, on the right side, Satar. Hence the road follows the Obi-sitar to Bala-Vahia across Akba-isturgi Pass. This road is only accessible to pedestrians in June and July; in August and September it becomes impassable, owing to the crevasses and holes in the ice, across which it is impossible to make one's way. On the left bank, opposite Sitar, lies the hamlet of Liangar; at the forty-fifth verst is Marjutka, and on the left side Gharm-cheshma; at the fifty-second verst is Vanj-vanj, and Sungat on the left bank. Here the beaten track disappears, and Mazar is reached by riding over the rocks in the valley of the Vanj. Beyond this there are no roads. With reference to the one shown on the map which goes over Kiangla Pass, and another from the iron-mines in Karateghin, of these roads, as well as of the Kiangla Pass, the inhabitants know nothing. According to the oldest inhabitants of Mazar, nobody ever went by them during their lifetime. Hunters who have gone two tash, i.e. 15 verst (10 miles) further, say there is no possibility of going beyond. Huge ice-fields and masses of snow cover all the ravines and defiles which give birth to the Dara-abduka and Kashe-laiak. As to the road into Karateghin, in my opinion the Bala-Vahia must first be crossed, and only then if there are roads can the traveller enter Karateghin.

On my return from Fort Vanj to Kala-i-Khumb I happened to travel in company with the former bek of Vanj, who held this post when Darwaz was still independent of Bokhara. At one of the passes we were talking about routes from the river Panj to the Vakhia, and he told me of a tolerably good road from Uz-kharf, on a brook of the same name, to Kurghan-liadjur, and from Psoda to the Vakhia across Akbai-uzkharf Pass. As my interpreter was suffering greatly from fever I started for Viskari-bolo, whence I reckoned upon at all events reaching the pass, but my guide positively refused to take me thither. None of the inhabitants of Viskari-bolo, whether from fear of giving offence to the bek or for some other cause, would guide me to that pass, and I had to return without visiting it to Kala-i-Khumb, where I began to suffer agonies from mountain fever, which had been in my system about two months. The want of any medicinal relief obliged me to return to Samarkand.

GEOGRAPHICAL NOTES.

Further Explorations of Congo Tributaries by the Rev. G. Grenfell.
—In a letter dated October 30th, from Stanley Pool (communicated to us by our Associate, Mr. A. T. Bowser), Mr. Grenfell gives a brief account of another voyage of exploration in the steamer *Peace*, of ten weeks' duration, which he had just completed. The trip was devoted to the examination of two tributaries of the left bank, the only rivers of any importance that remained unexplored between the mouth of the Kasai and that of the Lomame or Lubiranzi. The more northerly of the two, named Lulongo, falls into the Congo in $18^{\circ} 42'$ E. long. and $0^{\circ} 41'$ N. lat. Mr. Grenfell ascended it as far as $22^{\circ} 32'$ E. long. and $10'$ N. lat.; it therefore follows a course nearly parallel to the main stream. The more southerly stream, called the Boruki, or Black river ($18^{\circ} 36'$ E. long., $0^{\circ} 6'$ N. lat.) was found to be formed by the union of three streams, of which the Boruki, properly so called, is one, and joins at a point three miles from the mouth. It is not navigable for more than six or eight miles. The other two join in $19^{\circ} 7'$ E. long., and $0^{\circ} 20'$ N. lat., and the one ascended, named Juapa, was navigated as far as $23^{\circ} 14'$ E. long. and $1^{\circ} 1'$ S. lat., when it was still an open water-way 100 yards wide, 12 feet deep, and having a current of nearly 200 feet per minute.—The same mail which brought the above-mentioned letter, brought also the missing sheets* of the chart of the Mobangi, the great northern tributary, the exploration of which was one of Mr. Grenfell's most brilliant feats. The chart is in ten sheets and is drawn on the scale of half an inch to the mile. We hope next month to be able to publish a reduction of this map.—It appears to be agreed that this fine river, which if the Wellè is its upper course or one of its tributaries, as appears to be the growing belief, offers a navigable water-way to the heart of the continent, falls within the frontier of the Congo Free State, quite clear of the French boundary.

* Vide 'Proceedings R. G. S.', vol. vii. 1885, p. 538.

SURVEY MAP OF ROUTE IN KARATEGHIN AND DARWAZ

MADE DURING THE EXPEDITION OF DR REGEL

BY M. KOSSIAKOF (MILITARY TOPOGRAPHER)

between the 4th June and 11th October

1882.

Author's Route in Red.

SCALE OF ENGLISH MILES

15 VERSTS TO THE INCH

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